

# [MS-WPFXV-2012]: WPF XAML Vocabulary Specification 2012

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# 1 Introduction

Xaml is defined in the Xaml Object Mapping Specification (referred to as '[\[MS-XAML\]](#)' for short). The [\[MS-XAML\]](#) specification enables each application that uses Xaml to define its own vocabulary. Vocabularies are formally specified using the Xaml Schema Information Set, a data model defined by [\[MS-XAML\]](#).

This specification defines the Xaml Schema Information Set information items for the Windows Presentation Foundation (WPF) Xaml Vocabulary. The information items in the Xaml Schema Information Set presented in this specification can be used in conjunction with [\[MS-XAML\]](#) to determine whether any particular Xaml instance or XML document is valid WPF Xaml.

## 2 Specification Conventions

The [\[MS-XAML\]](#) specification only defines a data model for the Xaml Schema Information Set. It does not prescribe the representation of the information items that constitute a schema. While [\[MS-XAML\]](#) does introduce a notation with which it defines its intrinsic information items, this specification does not use that notation. Instead, a more compact representation is used to minimize redundancy.

The WPF Xaml Vocabulary contains several thousand information items, many of which share much in common. The following sections describe the conventions used in this specification, which exploit this commonality to reduce the volume of text required to describe each information item, and to make it easier to see each item's distinguishing features.

### 2.1 Xaml Types

The [\[MS-XAML\]](#) specification defines a XamlType Information Item. Throughout this specification, when a XamlType Information Item is presented, only those values that do not match the default value are listed. The following table defines the default values for a XamlType Information Item.

| Property                                   | Default Value |
|--|---------------|
| <b>[is default constructible]</b>          | True          |
| <b>[is nullable]</b>                       | True          |
| <b>[text syntax]</b>                       | Null          |
| <b>[dictionary key property]</b>           | Null          |
| <b>[name property]</b>                     | Null          |
| <b>[xml lang property]</b>                 | Null          |
| <b>[trim surrounding whitespace]</b>       | False         |
| <b>[whitespace significant collection]</b> | False         |
| <b>[is list]</b>                           | False         |
| <b>[is dictionary]</b>                     | False         |
| <b>[members]</b>                           | Empty set     |
| <b>[content property]</b>                  | Null          |
| <b>[allowed types]</b>                     | Empty set     |
| <b>[allowed key types]</b>                 | Empty set     |
| <b>[is xdata]</b>                          | False         |
| <b>[is name scope]</b>                     | False         |
| <b>[constructors]</b>                      | Empty set     |
| <b>[return value type]</b>                 | Null          |

This specification denotes non-default values for the information set items with rows that begin with the relevant property name in square brackets. Each Xaml Type definition in this specification includes some non-normative information, in order to aid understanding of the type. In order to distinguish them, these rows begin with a name in parentheses.

There is a (usage) row that illustrates the way in which the type is used in XML. If the type cannot contain content, a self-closing tag will be displayed, as the following example shows:

|         |                      |
|---------|----------------------|
| (usage) | <DependencyObject /> |
|---------|----------------------|

Some types offer a choice of content. The following example indicates that the three fixed string values shown are acceptable as content:

|         |  |
|---------|--|
| (usage) | OnLastWindowClose   OnMainWindowClose   OnExplicitShutdown |
|---------|--|

Elements that may contain string content look like the following example. Note that there are typically constraints on which strings are valid. The purpose of the (usage) row is only to provide an approximate indication of content, rather than a formal description.

|         |                                       |
|---------|---------------------------------------|
| (usage) | <PropertyPath> string </PropertyPath> |
|---------|---------------------------------------|

Types that can contain an instance of some other type show the name of the type in the usage, as shown in the following example:

|         |   |
|---------|---|
| (usage) | <BeginStoryboard> Storyboard </BeginStoryboard> |
|---------|---|

Types that can contain multiple instances of some other type indicate this with an asterisk, as shown in the following example:

|         |   |
|---------|---|
| (usage) | <XmlNamespaceMappingCollection> XmlNamespaceMapping* </XmlNamespaceMappingCollection> |
|---------|---|

Some types cannot be used directly in a Xaml document. For example, a type might be used as the [value type] of a member, but may be marked as [is default constructible] False, and have no [text syntax]. A Xaml document might contain types that list such a type in their [types assignable to] property, but the type itself cannot be used directly. (This corresponds to the idea of an abstract type in some object-oriented programming systems.) Such types have "None" in their Usage row.

Type definitions also include (description) rows, both for the type and also for the members of that type. This is also non-normative.

The (used by) row is also non-normative. Each (used by) row provides a list of types that use this type in some way. For example, it lists types that use this type as the [value type] of a member. The (used by) row is provided to make it easier to see how a type is used, and it does not translate into a property in the Xaml Schema Information Set.

Some types that are used as the [value type] of a member, but which are not typically used directly as objects have a (types assignable from) row. This is non-normative, and is provided as a guide to the role of the type. Note that this list is necessarily not complete, because the set of types from which a type is assignable is not closed: anyone is free to define a new Xaml vocabulary which defines types that are assignable to types in this specification.

## 2.2 Xaml Type Order

Xaml types in this specification are ordered in an alphabetical way. The WPF Xaml Vocabulary uses the [types assignable to] property in a way that corresponds to inheritance in object-oriented programming. On the row above each type name is a list of 'Base' types. On the row below each type name are types which directly 'inherit' from that type.

The following example shows the XamlType Information Items for the Fruit, Apple, and Banana types.

|                     |       |
|---------------------|-------|
| Fruit               |       |
| <b>Fruit</b>        |       |
| <b>Apple Banana</b> |       |
| <b>(usage)</b>      | Value |
| ...                 | ...   |
| <b>property N</b>   | Value |

|                   |       |
|-------------------|-------|
| Fruit> Apple      |       |
| <b>Apple</b>      |       |
| <b>(usage)</b>    | Value |
| ...               | ...   |
| <b>property N</b> | Value |

|                      |       |
|----------------------|-------|
| Fruit> <b>Banana</b> |       |
| <b>Banana (4.5)</b>  |       |
| <b>(usage)</b>       | Value |
| ...                  | ...   |
| <b>property N</b>    | Value |

Since this specification models typical object-oriented inheritance, a 'derived' type inherits all members from a 'base' type. This is not made explicit. For each type, only additional members are listed. The [\[MS-XAML\]](#) specification does not require this inheritance-like style. In the Xaml Schema Information Set data model, each type lists its members exhaustively. Therefore, the correct interpretation of a type definition in this specification is that the corresponding XamlType Information Item's [members] property should include not just the listed members, but also all of the [members] of each type listed in its [types assignable to] property.

The "Banana" type, in the example above, has "(4.5)" listed after it to indicate that this type was introduced in this XAML Vocabulary's version 4.5 release. All types or members without a version number after it were released in versions previous to that.

XamlMember Information Items have numerous properties, and in this specification, members are more similar than they are different. So a notation is used to minimize redundancy. Some XamlMember Information Item properties may be omitted. Unless specified otherwise, the default values described in the following table apply.

| Property                  | Default Value |
|---------------------------|---------------|
| <b>[text syntax]</b>      | Null          |
| <b>[is read only]</b>     | False         |
| <b>[is static]</b>        | False         |
| <b>[is attachable]</b>    | False         |
| <b>[target type]</b>      | Null          |
| <b>[allowed location]</b> | Any           |
| <b>[is event]</b>         | False         |
| <b>[is directive]</b>     | False         |

Members are not defined in distinct sections of this specification - they are listed inside their defining type following a row named (properties). This means that the [owner type] member defined by [\[MS-XAML\]](#) is never specified explicitly in this specification. The [owner type] is always the type in which the member definition appears. Likewise, the [members] property of the defining type is never explicitly defined - it always contains all of the members listed for that type. The [name] and [value type] are specified on the first line of the property description. This line may be followed by non-default values for other properties. The following example shows the XamlType Information Item for the Satsuma type, which defines a member named SegmentCount of type Int32.

|                      |   |
|----------------------|---|
| Fruit > Satsuma      |   |
| <b>Satsuma</b>       |   |
| <b>(usage)</b>       | <Satsuma />                             |
| <b>(description)</b> | Specifies a small, orange citrus fruit. |
| <b>(properties)</b>  |   |
| <b>SegmentCount</b>  | Int32                                   |
| <b>(description)</b> | The number of segments in this satsuma. |

If all of the XamlMember Information Item properties had been listed in full for this property, it would look like the following table.

| Property            | Value        |
|---------------------|--------------|
| <b>[name]</b>       | SegmentCount |
| <b>[owner type]</b> | Satsuma      |
| <b>[value type]</b> | Int32        |



| Property                  | Value |
|---------------------------|-------|
| <b>[text syntax]</b>      | Null  |
| <b>[is read only]</b>     | False |
| <b>[is static]</b>        | False |
| <b>[is attachable]</b>    | False |
| <b>[target type]</b>      | Null  |
| <b>[allowed location]</b> | Any   |
| <b>[is event]</b>         | False |

As with the type-level (description), the per-member (description) entries in this specification are non-normative.

XamlType Information Item descriptions in this document may contain up to three additional member categories: attachable members, event members, and static members. These three member categories have slightly different defaults, and are grouped separately in the type definitions for clarity. The conventions for these member categories are defined in the following sections.

### 2.3 Xaml Members where [is attachable] is True

A type that defines members whose [is attachable] property is True will list them in a section that begins with "(attachable properties)". The following FruitBowl type example defines a Children member for which the normal defaults apply. This FruitBowl type also defines an attachable member named ZIndex for which [is attachable] is True. (The other member defaults still apply for ZIndex.)

|                                |  |
|--------------------------------|--|
| Object > Bowl(T) > FruitBowl   |  |
| <b>FruitBowl</b>               |  |
| <b>(usage)</b>                 | <FruitBowl>Fruit* </FruitBowl>   |
| <b>(description)</b>           | A container of fruit.  |
| <b>[content property]</b>      | Children   |
| <b>(properties)</b>            |  |
| <b>Children</b>                | FruitCollection  |
| <b>(description)</b>           | The items of fruit   |
| <b>(attachable properties)</b> |  |
| <b>FruitBowl.ZIndex</b>        | Int32  |
| <b>(description)</b>           | Indicates how deeply buried within the fruit bowl a piece of fruit is. |
| <b>[target type]</b>           | Fruit  |

The name for an attachable member is specified as *TypeName.MemberName*. This is a syntactical convention to make it clear that this is an attachable property, and to illustrate how the property will

look in a Xaml document. The [name] property of the XamlMember Information Item will only contain the *MemberName* part (the part after the period).

## 2.4 Xaml Types where [is generic] is True

A type whose [is generic] property is True will be represented with a (T) notation following the [type name]. "Bowl(Fruit)" would be describing a generic Bowl type, with Fruit as the type argument.

|                        |   |
|------------------------|---|
| Object > Bowl(T)       |   |
| <b>Bowl(T)</b>         |   |
| <b>FruitBowl</b>       |   |
| <b>(usage)</b>         | <Bowl x:TypeArguments="T" >                 |
| <b>(description)</b>   | A container for different types of objects. |
| <b>[is collection]</b> | True  |

## 2.5 Xaml Members where [is event] is True

A type that defines members whose [is event] property is True will list them in a section that begins with "(events)". For members in this section, the default value for [value type] is the x:XamlEvent type defined in Section 5 "[Intrinsic Schema Information Items](#)" of [\[MS-XAML\]](#). (The other defaults still apply.)

## 2.6 Xaml Members where [is static] is True

A type that defines members whose [is static] property is True will list them in a section that begins with "(static properties)".

## 2.7 Constructors

Types with a non-empty [constructors] property use a convention similar to that for members. This example includes a constructor:

|                               |   |
|-------------------------------|---|
| 4.97.4 BruleeToppingExtension |   |
| <b>(usage)</b>                | {BruleeToppingExtension}  |
| <b>(description)</b>          | Defines the way in which the topping on a brulée-style dessert is prepared. |
| <b>[types assignable to]</b>  | Brulee MarkupExtension Object   |
| <b>(used by)</b>              | FruitBrulee CremeBrulee   |
| <b>[return value type]</b>    | BruleeTopping   |
| <b>[constructors]</b>         |   |
| <b>(2 parameters)</b>         |   |
| <b>thickness</b>              | Double  |

|                               |  |
|-------------------------------|--|
| 4.97.4 BruleeToppingExtension |  |
| <b>(description)</b>          | The thickness of the topping in 1/96th of an inch.                     |
| <b>burnFactor</b>             | Double   |
| <b>(description)</b>          | The extent to which the sugar is burnt: 0 for raw sugar, 1 for carbon. |

Unlike members, which are identified by names, a constructor for a type is distinguished only by the number of parameters it has. This type has a single constructor that takes two parameters. This is interpreted as a Constructor Information Item, whose [arguments] contains one entry per parameter. The [arguments] list contains just XamlType Information Items - both the Double type in this case. Note that the type is the only formal part of the constructor argument - the name and description are only provided for informational purposes.

### 3 The WPF Xaml Schema Information Set

The WPF Xaml Schema Information Item is a Xaml Schema Information Item (as defined in Section 3 "[Xaml Schema Information Set](#)" of [\[MS-XAML\]](#)). Its properties are defined in the following table.

| Property                         | Value   |
|----------------------------------|---|
| <b>[target namespace]</b>        | "http://schemas.microsoft.com/winfx/2006/xaml/presentation"   |
| <b>[types]</b>                   | All of the XamlType Information Items defined in the " <a href="#">WPF XamlType Information Items</a> " section of this specification.                      |
| <b>[assignable types]</b>        | All of the XamlType Information Items defined in the " <a href="#">WPF XamlType Information Items for Assignable Types</a> " section of this specification. |
| <b>[directives]</b>              | The XamlMember Information Items defined in this specification for which the [is directive] property is True.   |
| <b>[compatible with schemas]</b> | Empty   |

A WPF Xaml instance MUST be well-formed and valid with respect to this schema, using the rules for 'well-formed' and 'valid' defined in [\[MS-XAML\]](#).

An XML document that is a WPF Xaml document MUST yield a WPF Xaml instance when the processing rules in Section 6 "[Creating a Xaml Information Set from XML](#)" are applied using this schema.

## 4 WPF XamlType Information Items

### 4.1 AccessText

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [AccessText](#),  
[IInputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <AccessText> <a href="#">x:String</a> </AccessText>  |
| (description)       | Specifies with an underscore the character that is used as the access key.                   |
| [content property]  | Text   |
| [name property]     | Name   |
| [xml lang property] | Language   |
| (properties)        |  |
| Background          | <a href="#">Brush</a>  |
| (description)       | The Brush that fills the content area.   |
| BaselineOffset      | <a href="#">x:Double</a>   |
| (description)       | A value that adjusts the baseline offset position of text in an AccessText element.          |
| FontFamily          | <a href="#">FontFamily</a>   |
| (description)       | The font family to use with the AccessText element.  |
| FontSize            | <a href="#">x:Double</a>   |
| (description)       | The font size to use with the AccessText element.  |
| [text syntax]       | <a href="#">FontSizeSyntax</a>   |
| FontStretch         | <a href="#">FontStretch</a>  |
| (description)       | A FontStretch property that selects a normal, condensed, or expanded font from a FontFamily. |
| FontStyle           | <a href="#">FontStyle</a>  |
| (description)       | The font style to use with the AccessText element.   |
| FontWeight          | <a href="#">FontWeight</a>   |
| (description)       | The font weight to use with the AccessText element.  |
| Foreground          | <a href="#">Brush</a>  |
| (description)       | The Brush that draws the text content of the element.  |
| LineHeight          | <a href="#">x:Double</a>   |
| (description)       | The height of each line box.   |

|                      |   |
|----------------------|---|
| (usage)              | <AccessText> <a href="#">x:String</a> </AccessText>   |
| [text syntax]        | <a href="#">LengthSyntax</a>  |
| LineStackingStrategy | <a href="#">LineStackingStrategy</a>  |
| (description)        | How the LineHeight property is enforced.  |
| Text                 | <a href="#">x:String</a>  |
| (description)        | The text that is displayed by the AccessText element.   |
| TextAlignment        | <a href="#">TextAlignment</a>   |
| (description)        | The horizontal alignment of the content.  |
| TextDecorations      | <a href="#">TextDecorationCollection</a>  |
| (description)        | The decorations that are added to the text of an AccessText element.                          |
| TextEffects          | <a href="#">TextEffectCollection</a>  |
| (description)        | The effects that are added to the text of an AccessText element.                              |
| TextTrimming         | <a href="#">TextTrimming</a>  |
| (description)        | How the textual content of an AccessText element is clipped if it overflows the line box.     |
| TextWrapping         | <a href="#">TextWrapping</a>  |
| (description)        | Whether the textual content of an AccessText element is wrapped if it overflows the line box. |

## 4.2 AdornedElementPlaceholder

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > AdornedElementPlaceholder, [InputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <AdornedElementPlaceholder> <a href="#">UIElement</a> </AdornedElementPlaceholder>   |
| (description)       | Represents the element used in a ControlTemplate to specify where a decorated control is placed relative to other elements in the ControlTemplate. |
| [content property]  | Child  |
| [name property]     | Name   |
| [xml lang property] | Language   |
| (properties)        |  |
| Child               | <a href="#">UIElement</a>  |
| (description)       | The single child object of this AdornedElementPlaceholder object.  |

### 4.3 AdornerDecorator

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Decorator](#) > AdornerDecorator, [InputElement](#)

|                     |   |
|---------------------|---|
| (usage)             | <AdornerDecorator> <a href="#">UIElement</a> </AdornerDecorator>    |
| (description)       | Provides an AdornerLayer for the child elements in the visual tree. |
| [content property]  | Child   |
| [name property]     | Name  |
| [xml lang property] | Language  |
| (properties)        |   |
| Child               | <a href="#">UIElement</a>   |
| (description)       | The single child of an AdornerDecorator.                            |

### 4.4 AffineTransform3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform3D](#) > [Transform3D](#) > AffineTransform3D

|   |  |
|---|--|
| <a href="#">RotateTransform3D</a> <a href="#">ScaleTransform3D</a> <a href="#">TranslateTransform3D</a> |  |
| (usage)   | None.  |
| (description)   | Base type from which all concrete affine 3-D transforms--translations, rotations, and scale transformations--derive. |
| [is default constructible]  | false  |

### 4.5 AlignmentX

[x:Object](#) > AlignmentX

|               |  |
|---------------|--|
| (usage)       | <b>Left  Center  Right</b>                                       |
| (description) | Describes how content is positioned horizontally in a container. |
| (used by)     | <a href="#">TileBrush</a>  |
| [is nullable] | false  |
| [text syntax] | <a href="#">AlignmentXSyntax</a>                                 |

### 4.6 AlignmentY

[x:Object](#) > AlignmentY

|         |                            |
|---------|----------------------------|
| (usage) | <b>Top  Center  Bottom</b> |
|---------|----------------------------|

|                      |  |
|----------------------|--|
| (usage)              | <b>Top</b>   <b>Center</b>   <b>Bottom</b>                     |
| <b>(description)</b> | Describes how content is positioned vertically in a container. |
| <b>(used by)</b>     | <a href="#">TileBrush</a>                                      |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">AlignmentYSyntax</a>                               |

## 4.7 AlternationConverter

[x:Object](#) > AlternationConverter, [IValueConverter](#)

|                           |   |
|---------------------------|---|
| (usage)                   | <AlternationConverter> <a href="#">x:Object</a> *</AlternationConverter>                                      |
| <b>(description)</b>      | Converts an integer to and from an object by applying the integer as an index to a list of objects.           |
| <b>[content property]</b> | Values  |
| <b>(properties)</b>       |   |
| <b>Values</b>             | <a href="#">IList</a>   |
| <b>(description)</b>      | A list of objects that the AlternationConverter returns when an integer is passed to the CultureInfo) method. |
| <b>[read only]</b>        | true  |

## 4.8 AmbientLight

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Model3D](#) > [Light](#) > AmbientLight

|                      |  |
|----------------------|--|
| (usage)              | <AmbientLight />   |
| <b>(description)</b> | Light object that applies light to objects uniformly, regardless of their shape. |

## 4.9 AnchoredBlock

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > AnchoredBlock, [IInputElement](#)

|                                   |  |
|-----------------------------------|--|
| <a href="#">Figure Floater</a>    |  |
| <b>(usage)</b>                    | None.  |
| <b>(description)</b>              | A base type that provides a base for Inline elements that are used to anchor Block elements to flow content. |
| <b>[is default constructible]</b> | false  |
| <b>[content property]</b>         | Blocks   |



|                                |  |
|--------------------------------|--|
| <a href="#">Figure Floater</a> |  |
| <b>[name property]</b>         | Name   |
| <b>[xml lang property]</b>     | Language   |
| <b>(properties)</b>            |  |
| <b>Blocks</b>                  | <a href="#">BlockCollection</a>  |
| <b>(description)</b>           | A BlockCollection containing the top-level Block elements that comprise the contents of the element. |
| <b>[read only]</b>             | true   |
| <b>BorderBrush</b>             | <a href="#">Brush</a>  |
| <b>(description)</b>           | A Brush to use when painting the element's border.   |
| <b>BorderThickness</b>         | <a href="#">Thickness</a>  |
| <b>(description)</b>           | The border thickness for the element.  |
| <b>LineHeight</b>              | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The height of each line of content.  |
| <b>[text syntax]</b>           | <a href="#">LengthSyntax</a>   |
| <b>LineStackingStrategy</b>    | <a href="#">LineStackingStrategy</a>   |
| <b>(description)</b>           | The mechanism by which a line box is determined for each line of text within the text element.       |
| <b>Margin</b>                  | <a href="#">Thickness</a>  |
| <b>(description)</b>           | The margin thickness for the element.  |
| <b>Padding</b>                 | <a href="#">Thickness</a>  |
| <b>(description)</b>           | The padding thickness for the element.   |
| <b>TextAlignment</b>           | <a href="#">TextAlignment</a>  |
| <b>(description)</b>           | A value that indicates the horizontal alignment of text content.                                     |

## 4.10 Animatable

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Animatable

|  |       |
|--|-------|
| <a href="#">Brush</a> <a href="#">CacheMode</a> <a href="#">Camera</a> <a href="#">DashStyle</a> <a href="#">Drawing</a> <a href="#">DrawingCollection</a> <a href="#">Effect</a> <a href="#">GeneralTransform</a> <a href="#">GeneralTransform3D</a> <a href="#">GeneralTransform3DCollection</a> <a href="#">GeneralTransformCollection</a> <a href="#">Geometry</a> <a href="#">Geometry3D</a> <a href="#">GeometryCollection</a> <a href="#">GradientStop</a> <a href="#">GradientStopCollection</a> <a href="#">GuidelineSet</a> <a href="#">ImageSource</a> <a href="#">Material</a> <a href="#">MaterialCollection</a> <a href="#">MediaPlayer</a> <a href="#">Model3D</a> <a href="#">Model3DCollection</a> <a href="#">PathFigure</a> <a href="#">PathFigureCollection</a> <a href="#">PathSegment</a> <a href="#">PathSegmentCollection</a> <a href="#">Pen</a> <a href="#">PixelShader</a> <a href="#">Rotation3D</a> <a href="#">TextDecoration</a> <a href="#">TextDecorationCollection</a> <a href="#">TextEffect</a> <a href="#">TextEffectCollection</a> <a href="#">Timeline</a> <a href="#">TimelineCollection</a> <a href="#">Transform3DCollection</a> <a href="#">TransformCollection</a> |       |
| <b>(usage)</b>   | None. |

|  |  |
|--|--|
| <a href="#">Brush</a> <a href="#">CacheMode</a> <a href="#">Camera</a> <a href="#">DashStyle</a> <a href="#">Drawing</a> <a href="#">DrawingCollection</a> <a href="#">Effect</a> <a href="#">GeneralTransform</a> <a href="#">GeneralTransform3D</a> <a href="#">GeneralTransform3DCollection</a> <a href="#">GeneralTransformCollection</a> <a href="#">Geometry</a> <a href="#">Geometry3D</a> <a href="#">GeometryCollection</a> <a href="#">GradientStop</a> <a href="#">GradientStopCollection</a> <a href="#">GuidelineSet</a> <a href="#">ImageSource</a> <a href="#">Material</a> <a href="#">MaterialCollection</a> <a href="#">MediaPlayer</a> <a href="#">Model3D</a> <a href="#">Model3DCollection</a> <a href="#">PathFigure</a> <a href="#">PathFigureCollection</a> <a href="#">PathSegment</a> <a href="#">PathSegmentCollection</a> <a href="#">Pen</a> <a href="#">PixelShader</a> <a href="#">Rotation3D</a> <a href="#">TextDecoration</a> <a href="#">TextDecorationCollection</a> <a href="#">TextEffect</a> <a href="#">TextEffectCollection</a> <a href="#">Timeline</a> <a href="#">TimelineCollection</a> <a href="#">Transform3DCollection</a> <a href="#">TransformCollection</a> |  |
| <b>(description)</b>   | A base type that provides animation support. |
| <b>[is default constructible]</b>  | false  |

#### 4.11 AnimationTimeline

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > AnimationTimeline

|  |  |
|--|--|
| <a href="#">BooleanAnimationBase</a> <a href="#">ByteAnimationBase</a> <a href="#">CharAnimationBase</a> <a href="#">ColorAnimationBase</a> <a href="#">DecimalAnimationBase</a> <a href="#">DoubleAnimationBase</a> <a href="#">Int16AnimationBase</a> <a href="#">Int32AnimationBase</a> <a href="#">Int64AnimationBase</a> <a href="#">MatrixAnimationBase</a> <a href="#">ObjectAnimationBase</a> <a href="#">Point3DAnimationBase</a> <a href="#">PointAnimationBase</a> <a href="#">QuaternionAnimationBase</a> <a href="#">RectAnimationBase</a> <a href="#">Rotation3DAnimationBase</a> <a href="#">SingleAnimationBase</a> <a href="#">SizeAnimationBase</a> <a href="#">StringAnimationBase</a> <a href="#">ThicknessAnimationBase</a> <a href="#">Vector3DAnimationBase</a> <a href="#">VectorAnimationBase</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | Defines a segment of time over which output values are produced. These values are used to animate a target property. |
| <b>[is default constructible]</b>  | false  |
| <b>[name property]</b>   | Name   |

#### 4.12 Application

[x:Object](#) > Application

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <Application />  |
| <b>(description)</b> | Encapsulates an application.   |
| <b>(properties)</b>  |  |
| <b>MainWindow</b>    | <a href="#">Window</a>   |
| <b>(description)</b> | The main window of the application.                                      |
| <b>Properties</b>    | <a href="#">IDictionary</a>  |
| <b>(description)</b> | A collection of application-scope properties.                            |
| <b>[read only]</b>   | true   |
| <b>Resources</b>     | <a href="#">ResourceDictionary</a>                                       |
| <b>(description)</b> | A collection of application-scope resources, such as styles and brushes. |

|                                     |  |
|-------------------------------------|--|
| (usage)                             | <Application />  |
| <b>ShutdownMode</b>                 | <a href="#">ShutdownMode</a>   |
| <b>(description)</b>                | The condition that causes the Shutdown method to be called.  |
| <b>StartupUri</b>                   | <a href="#">x:Uri</a>  |
| <b>(description)</b>                | A UI that is automatically shown when an application starts.   |
| <b>(attachable properties)</b>      |  |
| <b>Application.Cookie</b>           | <a href="#">x:String</a>   |
| <b>(description)</b>                |  |
| <b>[target type]</b>                | <a href="#">x:Uri</a>  |
| <b>(static properties)</b>          |  |
| <b>Current</b>                      | Application  |
| <b>(description)</b>                | The Application object for the current AppDomain.  |
| <b>(events)</b>                     |  |
| <b>Activated</b>                    | Occurs when an application becomes the foreground application.   |
| <b>Deactivated</b>                  | Occurs when an application stops being the foreground application.   |
| <b>DispatcherUnhandledException</b> | Occurs when an exception is thrown by an application but not handled.  |
| <b>Exit</b>                         | Occurs just before an application shuts down, and cannot be canceled.  |
| <b>FragmentNavigation</b>           | Occurs when a navigator in the application begins navigation to a content fragment, Navigation occurs immediately if the desired fragment is in the current content, or after the source XAML content has been loaded if the desired fragment is in different content. |
| <b>LoadCompleted</b>                | Occurs when content that was navigated to by a navigator in the application has been loaded, parsed, and has begun rendering.  |
| <b>Navigated</b>                    | Occurs when the content that is being navigated to by a navigator in the application has been found, although it may not have completed loading.   |
| <b>Navigating</b>                   | Occurs when a new navigation is requested by a navigator in the application.   |
| <b>NavigationFailed</b>             | Occurs when an error occurs while a navigator in the application is navigating to the requested content.   |
| <b>NavigationProgress</b>           | Occurs periodically during a download that is being managed by a navigator in the application to provide navigation progress information.  |
| <b>NavigationStopped</b>            | Occurs when the StopLoading method of a navigator in the application is called, or when a new navigation is requested by a   |

|                      |   |
|----------------------|---|
| (usage)              | <Application />   |
|                      | navigator while a current navigation is in progress.  |
| <b>SessionEnding</b> | Occurs when the user ends the Windows session by logging off or shutting down the operating system. |
| <b>Startup</b>       | Occurs when the Run method of the Application object is called.                                     |

## 4.13 ApplicationCommands

[x:Object](#) > ApplicationCommands

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static ApplicationCommands.StaticPropertyName}        |
| <b>(description)</b>              | Provides a standard set of application related commands. |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>CancelPrint</b>                | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Cancel Print command.      |
| <b>Close</b>                      | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Close command.             |
| <b>ContextMenu</b>                | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Context Menu command.      |
| <b>Copy</b>                       | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Copy command.              |
| <b>CorrectionList</b>             | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Correction List command.   |
| <b>Cut</b>                        | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Cut command.               |
| <b>Delete</b>                     | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Delete command.            |
| <b>Find</b>                       | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Find command.              |
| <b>Help</b>                       | <a href="#">RoutedUICommand</a>                          |
| <b>(description)</b>              | The value that represents the Help command.              |
| <b>New</b>                        | <a href="#">RoutedUICommand</a>                          |

|                      |  |
|----------------------|--|
| (usage)              | {x:Static ApplicationCommands.StaticPropertyName}    |
| <b>(description)</b> | The value that represents the New command.           |
| <b>NotACommand</b>   | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | Represents a command which is always ignored.        |
| <b>Open</b>          | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Open command.          |
| <b>Paste</b>         | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Paste command.         |
| <b>Print</b>         | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Print command.         |
| <b>PrintPreview</b>  | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Print Preview command. |
| <b>Properties</b>    | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Properties command.    |
| <b>Redo</b>          | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Redo command.          |
| <b>Replace</b>       | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Replace command.       |
| <b>Save</b>          | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Save command.          |
| <b>SaveAs</b>        | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Save As command.       |
| <b>SelectAll</b>     | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Select All command.    |
| <b>Stop</b>          | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Stop command.          |
| <b>Undo</b>          | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Undo command.          |

#### 4.14 ApplicationGesture

[x:Object](#) > ApplicationGesture

|                      |   |
|----------------------|---|
| (usage)              | <b>AllGestures  ArrowDown  ArrowLeft  ArrowRight  ArrowUp  Check  ChevronDown  ChevronLeft  ChevronRight...</b> |
| <b>(description)</b> | Specifies the available application-specific .  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ApplicationGestureSyntax</a>  |

## 4.15 ArcSegment

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [PathSegment](#) > ArcSegment

|                       |   |
|-----------------------|---|
| (usage)               | <ArcSegment />  |
| <b>(description)</b>  | Represents an elliptical arc between two points.  |
| <b>(properties)</b>   |   |
| <b>IsLargeArc</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether the arc should be greater than 180 degrees.                      |
| <b>Point</b>          | <a href="#">Point</a>   |
| <b>(description)</b>  | The endpoint of the elliptical arc.   |
| <b>RotationAngle</b>  | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The amount (in degrees) by which the ellipse is rotated about the x-axis.                       |
| <b>Size</b>           | <a href="#">Size</a>  |
| <b>(description)</b>  | The x- and y-radius of the arc as a Size structure.   |
| <b>SweepDirection</b> | <a href="#">SweepDirection</a>  |
| <b>(description)</b>  | A value that specifies whether the arc is drawn in the Clockwise or Counterclockwise direction. |

## 4.16 AutomationProperties

[x:Object](#) > AutomationProperties

|  |   |
|--|---|
| (usage)                                    | None.   |
| <b>(description)</b>                       | Provides a way to manipulate the value of the associated properties of the AutomationPeer element instance. |
| <b>[is default constructible]</b>          | false   |
| <b>(attachable properties)</b>             |   |
| <b>AutomationProperties.AcceleratorKey</b> | <a href="#">x:String</a>  |

|   |  |
|---|--|
| (usage)   | None.  |
| <b>(description)</b>                            | The accelerator key for the specified element.   |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |
| <b>AutomationProperties.AccessKey</b>           | <a href="#">x:String</a>   |
| <b>(description)</b>                            | The access key for the specified element.  |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |
| <b>AutomationProperties.AutomationId</b>        | <a href="#">x:String</a>   |
| <b>(description)</b>                            | The string that uniquely identifies the specified element.   |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |
| <b>AutomationProperties.HelpText</b>            | <a href="#">x:String</a>   |
| <b>(description)</b>                            | The help text for the specified element. The help text generally is the same text that is provided in the tooltip for the control. |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |
| <b>AutomationProperties.IsColumnHeader</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                            | A value indicating whether the specified element is a column header.   |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |
| <b>AutomationProperties.IsOffscreenBehavior</b> | <a href="#">IsOffscreenBehavior</a>  |
| <b>(description)</b>                            |  |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |
| <b>AutomationProperties.IsRequiredForForm</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                            | A value that indicates whether the specified element is required to be filled out on a form.                                       |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |
| <b>AutomationProperties.IsRowHeader</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                            | A value indicating whether the specified element is a row header.  |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |
| <b>AutomationProperties.ItemStatus</b>          | <a href="#">x:String</a>   |
| <b>(description)</b>                            | A description of the status of an item within an element.  |
| <b>[target type]</b>                            | <a href="#">DependencyObject</a>   |

|                                       |   |
|---------------------------------------|---|
| (usage)                               | None.   |
| <b>AutomationProperties.ItemType</b>  | <a href="#">x:String</a>  |
| <b>(description)</b>                  | A description of the type of the specified element.                 |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>                                    |
| <b>AutomationProperties.LabeledBy</b> | <a href="#">UIElement</a>   |
| <b>(description)</b>                  | The element that contains the text label for the specified element. |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>                                    |
| <b>AutomationProperties.Name</b>      | <a href="#">x:String</a>  |
| <b>(description)</b>                  | The name of the element.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>                                    |

#### 4.17 AutoToolTipPlacement

[x:Object](#) > AutoToolTipPlacement

|                      |   |
|----------------------|---|
| (usage)              | <b>None   TopLeft   BottomRight</b>   |
| <b>(description)</b> | Describes the means by which the automatic ToolTip is positioned on a Slider control. |
| <b>(used by)</b>     | <a href="#">Slider</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">AutoToolTipPlacementSyntax</a>  |

#### 4.18 AxisAngleRotation3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Rotation3D](#) > AxisAngleRotation3D

|                      |  |
|----------------------|--|
| (usage)              | <AxisAngleRotation3D />  |
| <b>(description)</b> | Represents a 3-D rotation of a specified angle about a specified axis. |
| <b>(properties)</b>  |  |
| <b>Angle</b>         | <a href="#">x:Double</a>   |
| <b>(description)</b> | The angle of a 3-D rotation, in degrees.                               |
| <b>Axis</b>          | <a href="#">Vector3D</a>   |
| <b>(description)</b> | The axis of a 3-D rotation.  |

#### 4.19 BackEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > BackEase, [IEasingFunction](#)



|                      |  |
|----------------------|--|
| (usage)              | <BackEase />   |
| <b>(description)</b> | Represents an easing function that retracts the motion of an animation slightly before it begins to animate in the path indicated. |
| <b>(properties)</b>  |  |
| <b>Amplitude</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b> | The amplitude of retraction associated with a BackEase animation.  |

## 4.20 BaselineAlignment

[x:Object](#) > BaselineAlignment

|                      |  |
|----------------------|--|
| (usage)              | <b>Top  Center  Bottom  Baseline  TextTop  TextBottom  Subscript  Superscript</b>  |
| <b>(description)</b> | Describes how the baseline for a text-based element is positioned on the vertical axis, relative to the established baseline for text. |
| <b>(used by)</b>     | <a href="#">Inline</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">BaselineAlignmentSyntax</a>  |

## 4.21 BaseValueSource

[x:Object](#) > BaseValueSource

|                      |  |
|----------------------|--|
| (usage)              | <b>Unknown  Default  Inherited  DefaultStyle  DefaultStyleTrigger  <a href="#">Style</a>  TemplateTrigger  StyleTrigger  ImplicitStyleReference...</b> |
| <b>(description)</b> | Identifies the property system source of a particular property value.  |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">BaseValueSourceSyntax</a>  |

## 4.22 BeginStoryboard

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > BeginStoryboard

|                           |  |
|---------------------------|--|
| (usage)                   | <BeginStoryboard> <a href="#">Storyboard</a> </BeginStoryboard>  |
| <b>(description)</b>      | A trigger action that begins a Storyboard and distributes its animations to their targeted objects and properties. |
| <b>[content property]</b> | <a href="#">Storyboard</a>   |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |

|                        |   |
|------------------------|---|
| (usage)                | <BeginStoryboard> <a href="#">Storyboard</a> </BeginStoryboard>   |
| <b>HandoffBehavior</b> | <a href="#">HandoffBehavior</a>   |
| <b>(description)</b>   | The proper hand-off behavior to start an animation clock in this storyboard   |
| <b>Name</b>            | <a href="#">x:String</a>  |
| <b>(description)</b>   | The name of the BeginStoryboard object. By naming the BeginStoryboard object, the Storyboard can be controlled after it is started. |
| <b>Storyboard</b>      | <a href="#">Storyboard</a>  |
| <b>(description)</b>   | The Storyboard that this BeginStoryboard starts.  |

## 4.23 BezierSegment

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [PathSegment](#) > BezierSegment

|                      |   |
|----------------------|---|
| (usage)              | <BezierSegment />   |
| <b>(description)</b> | Represents a cubic Bezier curve drawn between two points. |
| <b>(properties)</b>  |   |
| <b>Point1</b>        | <a href="#">Point</a>                                     |
| <b>(description)</b> | The first control point of the curve.                     |
| <b>Point2</b>        | <a href="#">Point</a>                                     |
| <b>(description)</b> | The second control point of the curve.                    |
| <b>Point3</b>        | <a href="#">Point</a>                                     |
| <b>(description)</b> | The end point of the curve.                               |

## 4.24 Binding

[x:Object](#) > [x:MarkupExtension](#) > [BindingBase](#) > Binding

|                            |   |
|----------------------------|---|
| (usage)                    | {Binding }   <Binding />  |
| <b>(description)</b>       | Provides high-level access to the definition of a binding, which connects the properties of binding target objects, and any data source (for example, a database, an XML file, or any object that contains data). |
| <b>[return value type]</b> | <a href="#">x:Object</a>  |
| <b>[constructors]</b>      |   |
| <b>(1 parameter)</b>       |   |
| <b>path</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>       | The initial Path for the binding.   |

|                                |  |
|--------------------------------|--|
| (usage)                        | {Binding }   <Binding />   |
| <b>(properties)</b>            |  |
| <b>AsyncState</b>              | <a href="#">x:Object</a>   |
| <b>(description)</b>           | Opaque data passed to the asynchronous data dispatcher.  |
| <b>BindsDirectlyToSource</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A value that indicates whether to evaluate the Path relative to the data item or the DataSourceProvider object.                            |
| <b>Converter</b>               | <a href="#">IValueConverter</a>  |
| <b>(description)</b>           | The converter to use.  |
| <b>ConverterCulture</b>        | <a href="#">CultureInfo</a>  |
| <b>(description)</b>           | The culture in which to evaluate the converter.  |
| <b>[text syntax]</b>           | <a href="#">CultureInfoIetfLanguageTagSyntax</a>   |
| <b>ConverterParameter</b>      | <a href="#">x:Object</a>   |
| <b>(description)</b>           | The parameter to pass to the Converter.  |
| <b>ElementName</b>             | <a href="#">x:String</a>   |
| <b>(description)</b>           | The name of the element to use as the binding source object.   |
| <b>IsAsync</b>                 | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A value that indicates whether the Binding should get and set values asynchronously.   |
| <b>Mode</b>                    | <a href="#">BindingMode</a>  |
| <b>(description)</b>           | A value that indicates the direction of the data flow in the binding.  |
| <b>NotifyOnSourceUpdated</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A value that indicates whether to raise the SourceUpdated event when a value is transferred from the binding target to the binding source. |
| <b>NotifyOnTargetUpdated</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A value that indicates whether to raise the TargetUpdated event when a value is transferred from the binding source to the binding target. |
| <b>NotifyOnValidationError</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A value that indicates whether to raise the Error attached event on the bound object.  |
| <b>Path</b>                    | <a href="#">PropertyPath</a>   |
| <b>(description)</b>           | The path to the binding source property.   |

|  |   |
|--|---|
| (usage)                                  | {Binding }   <Binding />  |
| <b>RelativeSource</b>                    | <a href="#">RelativeSource</a>  |
| <b>(description)</b>                     | The binding source by specifying its location relative to the position of the binding target.   |
| <b>Source</b>                            | <a href="#">x:Object</a>  |
| <b>(description)</b>                     | The object to use as the binding source.  |
| <b>UpdateSourceTrigger</b>               | <a href="#">UpdateSourceTrigger</a>   |
| <b>(description)</b>                     | A value that determines the timing of binding source updates.   |
| <b>ValidatesOnDataErrors</b>             | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that indicates whether to include the DataErrorValidationRule.  |
| <b>ValidatesOnExceptions</b>             | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that indicates whether to include the ExceptionValidationRule.  |
| <b>ValidatesOnNotifyDataErrors (4.5)</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that indicates whether to include the NotifyDataErrorValidationRule.  |
| <b>ValidationRules</b>                   | <a href="#">Collection(ValidationRule)</a>  |
| <b>(description)</b>                     | A collection of rules that check the validity of the user input.  |
| <b>[read only]</b>                       | true  |
| <b>XPath</b>                             | <a href="#">x:String</a>  |
| <b>(description)</b>                     | An XPath query that returns the value on the XML binding source to use.   |
| <b>(attachable properties)</b>           |   |
| <b>Binding.XmlNamespaceManager</b>       | <a href="#">XmlNamespaceManager</a>   |
| <b>(description)</b>                     | The XmlNamespaceManager used to perform namespace-aware XPath queries in XML bindings.  |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>(attachable events)</b>               |   |
| <b>Binding.SourceUpdated</b>             | Occurs when a value is transferred from the binding target to the binding source, but only for bindings with the NotifyOnSourceUpdated value set to true. |
| <b>Binding.TargetUpdated</b>             | Occurs when a value is transferred from the binding source to the binding target, but only for bindings with the NotifyOnTargetUpdated value set to true. |

## 4.25 BindingBase

[x:Object](#) > [x:MarkupExtension](#) > BindingBase

|  |  |
|--|--|
| <a href="#">Binding</a> <a href="#">MultiBinding</a> <a href="#">PriorityBinding</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | A base type for binding types.   |
| <b>(used by)</b>   | <a href="#">Condition</a> <a href="#">DataGridBoundColumn</a> <a href="#">DataGridColumn</a> <a href="#">DataGridComboBoxColumn</a> <a href="#">DataGridHyperlinkColumn</a> <a href="#">DataTrigger</a> <a href="#">GridViewColumn</a> <a href="#">HierarchicalDataTemplate</a> <a href="#">MultiBinding</a> <a href="#">PriorityBinding</a> |
| <b>[is default constructible]</b>  | false  |
| <b>[return value type]</b>   | <a href="#">x:Object</a>   |
| <b>(properties)</b>  |  |
| <b>BindingGroupName</b>  | <a href="#">x:String</a>   |
| <b>(description)</b>   | The name of the BindingGroup to which this binding belongs.  |
| <b>Delay (4.5)</b>   | <a href="#">x:Int32</a>  |
| <b>(description)</b>   | The amount of time, in milliseconds, to wait before updating the binding source after the value on the target changes.   |
| <b>FallbackValue</b>   | <a href="#">x:Object</a>   |
| <b>(description)</b>   | The value to use when the binding is unable to return a value.   |
| <b>StringFormat</b>  | <a href="#">x:String</a>   |
| <b>(description)</b>   | A string that specifies how to format the binding if it displays the bound value as a string.  |
| <b>TargetNullValue</b>   | <a href="#">x:Object</a>   |
| <b>(description)</b>   | The value that is used in the target when the value of the source is null.   |

## 4.26 BindingGroup

[x:Object](#) > [DependencyObject](#) > BindingGroup

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <BindingGroup />   |
| <b>(description)</b> | Contains a collection of bindings and ValidationRule objects that are used to validate an object.  |
| <b>(used by)</b>     | <a href="#">FrameworkContentElement</a> <a href="#">FrameworkElement</a> <a href="#">HierarchicalDataTemplate</a> <a href="#">ItemsControl</a> |
| <b>(properties)</b>  |  |
| <b>Items</b>         | <a href="#">IList</a>  |

|   |  |
|---|--|
| (usage)                                 | <BindingGroup />   |
| <b>(description)</b>                    | The sources that are used by the Binding objects in the BindingGroup.  |
| <b>[read only]</b>                      | true   |
| <b>Name</b>                             | <a href="#">x:String</a>   |
| <b>(description)</b>                    | The name that identifies the BindingGroup, which can be used to include and exclude Binding objects in the BindingGroup. |
| <b>NotifyOnValidationError</b>          | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | Whether the Error event occurs when the state of a ValidationRule changes.   |
| <b>SharesProposedValues</b>             | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | A value that indicates whether the BindingGroup reuses target values that have not been committed to the source.         |
| <b>ValidatesOnNotifyDataError (4.5)</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | A value that indicates whether to include the NotifyDataErrorValidationRule.   |
| <b>ValidationRules</b>                  | <a href="#">Collection(ValidationRule)</a>   |
| <b>(description)</b>                    | A collection of ValidationRule objects that validate the source objects in the BindingGroup.                             |
| <b>[read only]</b>                      | true   |

## 4.27 BindingMode

[x:Object](#) > BindingMode

|                      |   |
|----------------------|---|
| (usage)              | <b>TwoWay   OneWay   OneTime   OneWayToSource   Default</b> |
| <b>(description)</b> | Describes the direction of the data flow in a binding.      |
| <b>(used by)</b>     | <a href="#">Binding</a> <a href="#">MultiBinding</a>        |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">BindingModeSyntax</a>                           |

## 4.28 BindingOperations

[x:Object](#) > BindingOperations

|                      |   |
|----------------------|---|
| (usage)              | {x:Static BindingOperations.StaticPropertyName}   |
| <b>(description)</b> | Provides static methods to manipulate bindings, including Binding, MultiBinding, and PriorityBinding objects. |

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static BindingOperations.StaticPropertyName}   |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |
| <b>DisconnectedSource (4.5)</b>   | <a href="#">x:Object</a>  |
| <b>(description)</b>              | An object that replaces the DataContext when an item container is removed from the visual tree. |

## 4.29 BindingStatus

[x:Object](#) > BindingStatus

|                      |   |
|----------------------|---|
| (usage)              | <b>Unattached  Inactive  Active  Detached  AsyncRequestPending  PathError  UpdateTargetError  UpdateSourceError</b> |
| <b>(description)</b> | Describes the status of a binding.  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">BindingStatusSyntax</a>   |

## 4.30 BitmapCache

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [CacheMode](#) > BitmapCache

|                            |   |
|----------------------------|---|
| (usage)                    | <BitmapCache> string </BitmapCache>   |
| <b>(description)</b>       | Creates and caches a bitmap representation of a UIElement.                      |
| <b>(used by)</b>           | <a href="#">BitmapCacheBrush</a>  |
| <b>[text syntax]</b>       | <a href="#">CacheModeSyntax</a>   |
| <b>(properties)</b>        |   |
| <b>EnableClearType</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the bitmap is rendered with ClearType activated. |
| <b>RenderAtScale</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that indicates the scale that is applied to the bitmap.                 |
| <b>SnapsToDevicePixels</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the bitmap is rendered with pixel snapping.      |

## 4.31 BitmapCacheBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > BitmapCacheBrush

|                          |   |
|--------------------------|---|
| (usage)                  | <BitmapCacheBrush> string </BitmapCacheBrush>                                   |
| (description)            | Paints an area with cached content.   |
| [text syntax]            | <a href="#">BrushSyntax</a>   |
| (properties)             |   |
| <b>AutoLayoutContent</b> | <a href="#">x:Boolean</a>   |
| (description)            | A value that indicates whether layout is applied to the contents of this brush. |
| <b>BitmapCache</b>       | <a href="#">BitmapCache</a>   |
| (description)            | A CacheMode that represents cached content.                                     |
| <b>Target</b>            | <a href="#">Visual</a>  |
| (description)            | The target visual to cache.   |

## 4.32 BitmapCacheOption

[x:Object](#) > BitmapCacheOption

|               |   |
|---------------|---|
| (usage)       | <b>Default  OnDemand  OnLoad  None</b>                          |
| (description) | Specifies how a bitmap image takes advantage of memory caching. |
| (used by)     | <a href="#">BitmapImage</a>                                     |
| [is nullable] | false   |
| [text syntax] | <a href="#">BitmapCacheOptionSyntax</a>                         |

## 4.33 BitmapCreateOptions

[x:Object](#) > BitmapCreateOptions

|               |   |
|---------------|---|
| (usage)       | <b>None  PreservePixelFormat  DelayCreation  IgnoreColorProfile  IgnoreImageCache</b> |
| (description) | Specifies initialization options for bitmap images.                                   |
| (used by)     | <a href="#">BitmapImage</a>   |
| [is nullable] | false   |
| [text syntax] | <a href="#">BitmapCreateOptionsSyntax</a>   |

## 4.34 BitmapEncoder

[x:Object](#) > BitmapEncoder

[BmpBitmapEncoder](#) [GifBitmapEncoder](#) [JpegBitmapEncoder](#) [PngBitmapEncoder](#) [TiffBitmapEncoder](#)  
[WmpBitmapEncoder](#)



|   |   |
|---|---|
| <a href="#">BmpBitmapEncoder</a> <a href="#">GifBitmapEncoder</a> <a href="#">JpegBitmapEncoder</a> <a href="#">PngBitmapEncoder</a> <a href="#">TiffBitmapEncoder</a> <a href="#">WmpBitmapEncoder</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | Encodes a collection of BitmapFrame objects to an image stream.                 |
| <b>[is default constructible]</b>   | false   |
| <b>(properties)</b>   |   |
| <b>ColorContexts</b>  | <a href="#">ReadOnlyCollection</a> ( <a href="#">ColorContext</a> )             |
| <b>(description)</b>  | A value that represents the color profile that is associated with this encoder. |
| <b>Frames</b>   | <a href="#">IList</a> ( <a href="#">BitmapFrame</a> )                           |
| <b>(description)</b>  | The individual frames within an image.  |
| <b>Preview</b>  | <a href="#">BitmapSource</a>  |
| <b>(description)</b>  | A BitmapSource that represents the global preview of a bitmap, if there is one. |
| <b>Thumbnail</b>  | <a href="#">BitmapSource</a>  |
| <b>(description)</b>  | A BitmapSource that represents the global embedded thumbnail.                   |

#### 4.35 BitmapFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > BitmapFrame

|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | <BitmapFrame> string </BitmapFrame>                                   |
| <b>(description)</b>              | Represents image data returned by a decoder and accepted by encoders. |
| <b>(used by)</b>                  | <a href="#">BitmapEncoder</a>   |
| <b>[is default constructible]</b> | false   |
| <b>[text syntax]</b>              | x:Uri, from <a href="#">[MS-XAML]</a>                                 |
| <b>(properties)</b>               |   |
| <b>BaseUri</b>                    | <a href="#">x:Uri</a>   |
| <b>(description)</b>              | A value that represents the base Uri of the current context.          |

#### 4.36 BitmapImage

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > BitmapImage

|                |                                     |
|----------------|-------------------------------------|
| <b>(usage)</b> | <BitmapImage> string </BitmapImage> |
|----------------|-------------------------------------|

|                   |  |
|-------------------|--|
| (usage)           | <BitmapImage> string </BitmapImage>  |
| (description)     | Provides a specialized BitmapSource that is optimized for loading images using XAML. |
| [text syntax]     | x:Uri, from <a href="#">[MS-XAML]</a>  |
| (properties)      |  |
| BaseUri           | <a href="#">x:Uri</a>  |
| (description)     | A value that represents the base Uri of the current BitmapImage context.             |
| CacheOption       | <a href="#">BitmapCacheOption</a>  |
| (description)     | The BitmapCacheOption to use for this instance of BitmapImage.                       |
| CreateOptions     | <a href="#">BitmapCreateOptions</a>  |
| (description)     | The BitmapCreateOptions for a BitmapImage.   |
| DecodePixelHeight | <a href="#">x:Int32</a>  |
| (description)     | The height, in pixels, that the image is decoded to.                                 |
| DecodePixelWidth  | <a href="#">x:Int32</a>  |
| (description)     | The width, in pixels, that the image is decoded to.                                  |
| Rotation          | <a href="#">Rotation</a>   |
| (description)     | The angle that this BitmapImage is rotated to.                                       |
| SourceRect        | <a href="#">Int32Rect</a>  |
| (description)     | The rectangle that is used as the source of the BitmapImage.                         |
| UriCachePolicy    | <a href="#">RequestCachePolicy</a>   |
| (description)     | A value that represents the caching policy for images that come from an HTTP source. |
| [text syntax]     | <a href="#">RequestCachePolicySyntax</a>   |
| UriSource         | <a href="#">x:Uri</a>  |
| (description)     | The Uri source of the BitmapImage.   |

### 4.37 BitmapScalingMode

[x:Object](#) > BitmapScalingMode

|               |   |
|---------------|---|
| (usage)       | <b>Unspecified   LowQuality   HighQuality   Linear   Fant   NearestNeighbor</b> |
| (description) | Specifies which technique is used to scale bitmap images.                       |
| (used by)     | <a href="#">RenderOptions</a>   |
| [is nullable] | false   |

|               |  |
|---------------|--|
| (usage)       | <b>Unspecified  LowQuality  HighQuality  Linear  Fant  NearestNeighbor</b> |
| [text syntax] | <a href="#">BitmapScalingModeSyntax</a>                                    |

### 4.38 BitmapSource

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > BitmapSource

|  |  |
|--|--|
| <a href="#">BitmapFrame</a> <a href="#">BitmapImage</a> <a href="#">CachedBitmap</a> <a href="#">ColorConvertedBitmap</a> <a href="#">CroppedBitmap</a> <a href="#">FormatConvertedBitmap</a> <a href="#">RenderTargetBitmap</a> <a href="#">TransformedBitmap</a> <a href="#">WriteableBitmap</a> |  |
| (usage)  | <BitmapSource> string </BitmapSource>  |
| (description)  | Represents a single, constant set of pixels at a certain size and resolution.  |
| (used by)  | <a href="#">BitmapEncoder</a> <a href="#">ColorConvertedBitmap</a> <a href="#">CroppedBitmap</a> <a href="#">FormatConvertedBitmap</a> <a href="#">TransformedBitmap</a> |
| [is default constructible]   | false  |
| [text syntax]  | x:Uri, from <a href="#">[MS-XAML]</a>  |
| (events)   |  |
| <b>DecodeFailed</b>  | Occurs when the image fails to load, due to a corrupt image header.  |
| <b>DownloadCompleted</b>   | Occurs when the bitmap content has been completely downloaded.   |
| <b>DownloadFailed</b>  | Occurs when the bitmap content failed to download.   |
| <b>DownloadProgress</b>  | Occurs when the download progress of the bitmap content has changed.   |

### 4.39 Block

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > Block, [InputElement](#)

|   |   |
|---|---|
| <a href="#">BlockUIContainer</a> <a href="#">List</a> <a href="#">Paragraph</a> <a href="#">Section</a> <a href="#">Table</a> |   |
| (usage)   | None.   |
| (description)   | A base type that provides a base for all block-level flow content elements. |
| (used by)   | <a href="#">BlockCollection</a>   |
| [is default constructible]  | false   |
| [name property]   | Name  |
| [xml lang property]   | Language  |
| (properties)  |   |
| <b>BorderBrush</b>  | <a href="#">Brush</a>   |

| <a href="#">BlockUIContainer List Paragraph Section Table</a> |   |
|---|---|
| <b>(description)</b>  | A Brush to use when painting the element's border.  |
| <b>BorderThickness</b>  | <a href="#">Thickness</a>   |
| <b>(description)</b>  | The border thickness for the element.   |
| <b>BreakColumnBefore</b>                                      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether to automatically insert a column-break before this element in cases where the element participates in a column-based presentation. |
| <b>BreakPageBefore</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether to automatically insert a page-break before this element.  |
| <b>ClearFloaters</b>  | <a href="#">WrapDirection</a>   |
| <b>(description)</b>  | The direction in which any Floater elements contained by a Block element should be repositioned.  |
| <b>FlowDirection</b>  | <a href="#">FlowDirection</a>   |
| <b>(description)</b>  | The relative direction for flow of content within a Block element.  |
| <b>IsHyphenationEnabled</b>                                   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether automatic hyphenation of words is enabled or disabled.   |
| <b>LineHeight</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The height of each line of content.   |
| <b>[text syntax]</b>  | <a href="#">LengthSyntax</a>  |
| <b>LineStackingStrategy</b>                                   | <a href="#">LineStackingStrategy</a>  |
| <b>(description)</b>  | How a line box is determined for each line of text within the block-level flow content element.   |
| <b>Margin</b>   | <a href="#">Thickness</a>   |
| <b>(description)</b>  | The margin thickness for the element.   |
| <b>Padding</b>  | <a href="#">Thickness</a>   |
| <b>(description)</b>  | The padding thickness for the element.  |
| <b>SiblingBlocks</b>  | <a href="#">BlockCollection</a>   |
| <b>(description)</b>  | A collection of Block elements that are siblings to the current Block element.  |
| <b>[read only]</b>  | true  |
| <b>TextAlignment</b>  | <a href="#">TextAlignment</a>   |

| <a href="#">BlockUIContainer</a> <a href="#">List</a> <a href="#">Paragraph</a> <a href="#">Section</a> <a href="#">Table</a> |   |
|---|---|
| <b>(description)</b>  | The horizontal alignment of text content.   |
| <b>(attachable properties)</b>  |   |
| <b>Block.IsHyphenationEnabled</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether automatic hyphenation of words is enabled or disabled.           |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>Block.LineHeight</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The height of each line of content.   |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>[text syntax]</b>  | <a href="#">LengthSyntax</a>  |
| <b>Block.LineStackingStrategy</b>   | <a href="#">LineStackingStrategy</a>  |
| <b>(description)</b>  | How a line box is determined for each line of text within the block-level flow content element. |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>Block.TextAlignment</b>  | <a href="#">TextAlignment</a>   |
| <b>(description)</b>  | The horizontal alignment of text content.   |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |

#### 4.40 BlockCollection

[x:Object](#) > [TextElementCollection](#)([Block](#)) > BlockCollection

|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | None.   |
| <b>(description)</b>              | Represents a collection of Block elements. BlockCollection defines the allowable child content of the FlowDocument, Section, ListItem, TableCell, Floater, and Figure elements. |
| <b>(used by)</b>                  | <a href="#">AnchoredBlock</a> <a href="#">Block</a> <a href="#">FlowDocument</a> <a href="#">ListItem</a> <a href="#">Section</a> <a href="#">TableCell</a>                     |
| <b>[is default constructible]</b> | false   |
| <b>[is list]</b>                  | true  |
| <b>[allowed types]</b>            | <a href="#">Block</a>   |

#### 4.41 BlockUIContainer

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Block](#) > BlockUIContainer, [InputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <BlockUIContainer> <a href="#">UIElement</a> </BlockUIContainer>   |
| <b>(description)</b>       | A block-level flow content element which enables UIElement elements (i.e. a Button) to be embedded (hosted) in flow content. |
| <b>[content property]</b>  | Child  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Child</b>               | <a href="#">UIElement</a>  |
| <b>(description)</b>       | The UIElement hosted by the BlockUIContainer.  |

#### 4.42 BlurEffect

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Effect](#) > BlurEffect

|                      |  |
|----------------------|--|
| (usage)              | <BlurEffect />   |
| <b>(description)</b> | A bitmap effect that blurs the target texture.   |
| <b>(properties)</b>  |  |
| <b>KernelType</b>    | <a href="#">KernelType</a>   |
| <b>(description)</b> | A value representing the curve that is used to calculate the blur.                             |
| <b>Radius</b>        | <a href="#">x:Double</a>   |
| <b>(description)</b> | A value that indicates the radius of the blur effect's curve.                                  |
| <b>RenderingBias</b> | <a href="#">RenderingBias</a>  |
| <b>(description)</b> | A value that indicates whether the system renders an effect with emphasis on speed or quality. |

#### 4.43 BmpBitmapEncoder

[x:Object](#) > [BitmapEncoder](#) > BmpBitmapEncoder

|                      |   |
|----------------------|---|
| (usage)              | <BmpBitmapEncoder />  |
| <b>(description)</b> | Defines an encoder that is used to encode bitmap (BMP) format images. |

#### 4.44 Bold

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > [Span](#) > Bold, [IInputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <Bold> <a href="#">[Inline UIElement x:String]*</a> </Bold>                                  |
| (description)       | An inline-level flow content element which causes content to appear with a bold font weight. |
| [content property]  | Inlines  |
| [name property]     | Name   |
| [xml lang property] | Language   |

#### 4.45 BooleanAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > BooleanAnimationBase

|  |  |
|--|--|
| <a href="#">BooleanAnimationUsingKeyFrames</a> |  |
| (usage)  | None.                                      |
| (description)                                  | A base type that animates a Boolean value. |
| [is default constructible]                     | false                                      |
| [name property]                                | Name                                       |

#### 4.46 BooleanAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [BooleanAnimationBase](#) > BooleanAnimationUsingKeyFrames

|                    |   |
|--------------------|---|
| (usage)            | <BooleanAnimationUsingKeyFrames> <a href="#">BooleanKeyFrame</a> *</BooleanAnimationUsingKeyFrames>       |
| (description)      | Animates the value of a property that takes a Boolean along a set of KeyFrames over a specified Duration. |
| [content property] | KeyFrames   |
| [name property]    | Name  |
| (properties)       |   |
| KeyFrames          | <a href="#">BooleanKeyFrameCollection</a>   |
| (description)      | The collection of BooleanKeyFrame objects that define the animation.                                      |

#### 4.47 BooleanKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > BooleanKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteBooleanKeyFrame</a> |  |
| <b>(usage)</b>                          | None.  |
| <b>(description)</b>                    | A base type that defines a segment with its own target value and interpolation technique for a BooleanAnimationUsingKeyFrames. |
| <b>(used by)</b>                        | <a href="#">BooleanKeyFrameCollection</a>  |
| <b>[is default constructible]</b>       | false  |
| <b>(properties)</b>                     |  |
| <b>KeyTime</b>                          | <a href="#">KeyTime</a>  |
| <b>(description)</b>                    | The time at which the key frame's target Value should be reached   |
| <b>Value</b>                            | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | The key frame's target value.  |

#### 4.48 BooleanKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > BooleanKeyFrameCollection

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <BooleanKeyFrameCollection> <a href="#">BooleanKeyFrame</a> *</BooleanKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of BooleanKeyFrame objects.                                       |
| <b>(used by)</b>           | <a href="#">BooleanAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true  |
| <b>[allowed types]</b>     | <a href="#">BooleanKeyFrame</a>   |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | BooleanKeyFrameCollection   |
| <b>(description)</b>       | An empty BooleanKeyFrameCollection.   |

#### 4.49 BooleanToVisibilityConverter

[x:Object](#) > BooleanToVisibilityConverter, [IValueConverter](#)

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <BooleanToVisibilityConverter />   |
| <b>(description)</b> | Represents the converter that converts Boolean values to and from Visibility enumeration values. |

#### 4.50 Border

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Decorator](#) > Border, [IInputElement](#)



|                            |  |
|----------------------------|--|
| (usage)                    | <Border> <a href="#">UIElement</a> </Border>   |
| <b>(description)</b>       | Draws a border, background, or both around another element.                                  |
| <b>[content property]</b>  | Child  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Background</b>          | <a href="#">Brush</a>  |
| <b>(description)</b>       | The Brush that fills the area between the bounds of a Border.                                |
| <b>BorderBrush</b>         | <a href="#">Brush</a>  |
| <b>(description)</b>       | The Brush that draws the outer border color.   |
| <b>BorderThickness</b>     | <a href="#">Thickness</a>  |
| <b>(description)</b>       | The relative Thickness of a Border.  |
| <b>CornerRadius</b>        | <a href="#">CornerRadius</a>   |
| <b>(description)</b>       | A value that represents the degree to which the corners of a Border are rounded.             |
| <b>Padding</b>             | <a href="#">Thickness</a>  |
| <b>(description)</b>       | A Thickness value that describes the amount of space between a Border and its child element. |

#### 4.51 BorderGapMaskConverter

[x:Object](#) > BorderGapMaskConverter, [IMultiValueConverter](#)

|                      |   |
|----------------------|---|
| (usage)              | <BorderGapMaskConverter />  |
| <b>(description)</b> | Represents a converter that converts the dimensions of a GroupBox control into a VisualBrush. |

#### 4.52 BounceEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > BounceEase, [IEasingFunction](#)

|                      |   |
|----------------------|---|
| (usage)              | <BounceEase />  |
| <b>(description)</b> | Represents an easing function that creates an animated bouncing effect. |
| <b>(properties)</b>  |   |
| <b>Bounces</b>       | <a href="#">x:Int32</a>   |
| <b>(description)</b> | The number of bounces.  |

|                      |   |
|----------------------|---|
| (usage)              | <BounceEase />  |
| <b>Bounciness</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b> | A value that specifies how bouncy the bounce animation is. Low values of this property result in bounces with little lose of height between bounces (more bouncy) while high values result in dampened bounces (less bouncy). |

### 4.53 Brush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Brush

|  |   |
|--|---|
| <a href="#">BitmapCacheBrush</a> <a href="#">GradientBrush</a> <a href="#">SolidColorBrush</a> <a href="#">TileBrush</a> |   |
| <b>(usage)</b>   | AliceBlue   AntiqueWhite   Aqua   Aquamarine   Azure   Beige   Bisque   Black   BlendedAlmond ...   |
| <b>(description)</b>   | Defines objects used to paint graphical objects. Types that derive from Brush describe how the area is painted.   |
| <b>(used by)</b>   | <a href="#">AccessText</a> <a href="#">AnchoredBlock</a> <a href="#">Block</a> <a href="#">Border</a> <a href="#">BulletDecorator</a> <a href="#">ContainerVisual</a> <a href="#">Control</a> <a href="#">DataGrid</a> <a href="#">DataGridColumnHeader</a> <a href="#">DataGridRowHeader</a> <a href="#">DataGridTextColumn</a> <a href="#">DiffuseMaterial</a> <a href="#">DrawingGroup</a> <a href="#">EmissiveMaterial</a> <a href="#">FixedPage</a> <a href="#">FlowDocument</a> <a href="#">FlowDocumentPageViewer</a> <a href="#">FlowDocumentReader</a> <a href="#">FlowDocumentScrollViewer</a> <a href="#">GeometryDrawing</a> <a href="#">GlyphRunDrawing</a> <a href="#">Glyphs</a> <a href="#">InkCanvas</a> <a href="#">ListItem</a> <a href="#">Page</a> <a href="#">Panel</a> <a href="#">PasswordBox</a> <a href="#">Pen</a> <a href="#">Ribbon</a> <a href="#">RibbonButton</a> <a href="#">RibbonCheckBox</a> <a href="#">RibbonControlService</a> <a href="#">RibbonGalleryItem</a> <a href="#">RibbonGroup</a> <a href="#">RibbonMenuButton</a> <a href="#">RibbonMenuItem</a> <a href="#">RibbonRadioButton</a> <a href="#">RibbonSplitButton</a> <a href="#">RibbonTabHeader</a> <a href="#">RibbonTextBox</a> <a href="#">RibbonToggleButton</a> <a href="#">RibbonTwoLineText</a> <a href="#">Shape</a> <a href="#">SpecularMaterial</a> <a href="#">TableCell</a> <a href="#">TableColumn</a> <a href="#">TextBlock</a> <a href="#">TextBoxBase</a> <a href="#">TextEffect</a> <a href="#">TextElement</a> <a href="#">TickBar</a> <a href="#">ToolBarTray</a> <a href="#">UIElement</a> <a href="#">Viewport3DVisual</a> |
| <b>[is default constructible]</b>  | false   |
| <b>[text syntax]</b>   | <a href="#">BrushSyntax</a>   |
| <b>(properties)</b>  |   |
| <b>Opacity</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>   | The degree of opacity of a Brush.   |
| <b>RelativeTransform</b>   | <a href="#">Transform</a>   |
| <b>(description)</b>   | The transformation that is applied to the brush using relative coordinates.   |
| <b>Transform</b>   | <a href="#">Transform</a>   |
| <b>(description)</b>   | The transformation that is applied to the brush. This transformation is applied after the brush's output has been mapped and positioned.  |

### 4.54 Brushes

[x:Object](#) > Brushes

|         |                                       |
|---------|---------------------------------------|
| (usage) | {x:Static Brushes.StaticPropertyName} |
|---------|---------------------------------------|

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static Brushes.StaticPropertyName}                           |
| <b>(description)</b>              | Implements a set of predefined SolidColorBrush objects.         |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |
| <b>AliceBlue</b>                  | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FFF0F8FF. |
| <b>AntiqueWhite</b>               | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FFFAEBD7. |
| <b>Aqua</b>                       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FF00FFFF. |
| <b>Aquamarine</b>                 | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FF7FFFD4. |
| <b>Azure</b>                      | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FFF0FFFF. |
| <b>Beige</b>                      | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FFF5F5DC. |
| <b>Bisque</b>                     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FFF0E4C4. |
| <b>Black</b>                      | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FF000000. |
| <b>BlanchedAlmond</b>             | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FFF0EBCD. |
| <b>Blue</b>                       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FF0000FF. |
| <b>BlueViolet</b>                 | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FF8A2BE2. |
| <b>Brown</b>                      | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FFA52A2A. |
| <b>BurlyWood</b>                  | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>              | The solid fill color that has a hexadecimal value of #FFDEB887. |
| <b>CadetBlue</b>                  | <a href="#">SolidColorBrush</a>                                 |

|                       |  |
|-----------------------|--|
| (usage)               | {x:Static Brushes.StaticPropertyName}                            |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FF5F9EA0.  |
| <b>Chartreuse</b>     | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FF7FFF00.  |
| <b>Chocolate</b>      | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FFD2691E.  |
| <b>Coral</b>          | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FFFF7F50.  |
| <b>CornflowerBlue</b> | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FF6495ED.  |
| <b>Cornsilk</b>       | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FFFFFF8DC. |
| <b>Crimson</b>        | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FFDC143C.  |
| <b>Cyan</b>           | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FF00FFFF.  |
| <b>DarkBlue</b>       | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FF00008B.  |
| <b>DarkCyan</b>       | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FF008B8B.  |
| <b>DarkGoldenrod</b>  | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FFB8860B.  |
| <b>DarkGray</b>       | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FFA9A9A9.  |
| <b>DarkGreen</b>      | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FF006400.  |
| <b>DarkKhaki</b>      | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FFBDB76B.  |
| <b>DarkMagenta</b>    | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>  | The solid fill color that has a hexadecimal value of #FF8B008B.  |
| <b>DarkOliveGreen</b> | <a href="#">SolidColorBrush</a>                                  |

|                      |   |
|----------------------|---|
| (usage)              | {x:Static Brushes.StaticPropertyName}                           |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF556B2F. |
| <b>DarkOrange</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFF8C00. |
| <b>DarkOrchid</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF9932CC. |
| <b>DarkRed</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF8B0000. |
| <b>DarkSalmon</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFE9967A. |
| <b>DarkSeaGreen</b>  | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF8FBC8F. |
| <b>DarkSlateBlue</b> | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF483D8B. |
| <b>DarkSlateGray</b> | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF2F4F4F. |
| <b>DarkTurquoise</b> | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF00CED1. |
| <b>DarkViolet</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF9400D3. |
| <b>DeepPink</b>      | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFF1493. |
| <b>DeepSkyBlue</b>   | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF00BFFF. |
| <b>DimGray</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF696969. |
| <b>DodgerBlue</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF1E90FF. |
| <b>Firebrick</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFB22222. |
| <b>FloralWhite</b>   | <a href="#">SolidColorBrush</a>                                 |

|                      |   |
|----------------------|---|
| (usage)              | {x:Static Brushes.StaticPropertyName}                           |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFFFA0. |
| <b>ForestGreen</b>   | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF228B22. |
| <b>Fuchsia</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFF00FF. |
| <b>Gainsboro</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFDCDCDC. |
| <b>GhostWhite</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFF8F8FF. |
| <b>Gold</b>          | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFD700. |
| <b>Goldenrod</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFDAA520. |
| <b>Gray</b>          | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF808080. |
| <b>Green</b>         | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF008000. |
| <b>GreenYellow</b>   | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFADFF2F. |
| <b>Honeydew</b>      | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFF0FFF0. |
| <b>HotPink</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFF69B4.  |
| <b>IndianRed</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFCD5C5C. |
| <b>Indigo</b>        | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF4B0082. |
| <b>Ivory</b>         | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFFFF0. |
| <b>Khaki</b>         | <a href="#">SolidColorBrush</a>                                 |

|                             |  |
|-----------------------------|--|
| (usage)                     | {x:Static Brushes.StaticPropertyName}                            |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFF0E68C.  |
| <b>Lavender</b>             | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFE6E6FA.  |
| <b>LavenderBlush</b>        | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFFFFF0F5. |
| <b>LawnGreen</b>            | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FF7CFC00.  |
| <b>LemonChiffon</b>         | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFFFFFACD. |
| <b>LightBlue</b>            | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFADD8E6.  |
| <b>LightCoral</b>           | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFF08080.  |
| <b>LightCyan</b>            | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFE0FFFF.  |
| <b>LightGoldenrodYellow</b> | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFFAFAD2.  |
| <b>LightGray</b>            | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFD3D3D3.  |
| <b>LightGreen</b>           | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FF90EE90.  |
| <b>LightPink</b>            | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFFB6C1.   |
| <b>LightSalmon</b>          | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FFFA07A.   |
| <b>LightSeaGreen</b>        | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FF20B2AA.  |
| <b>LightSkyBlue</b>         | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b>        | The solid fill color that has a hexadecimal value of #FF87CEFA.  |
| <b>LightSlateGray</b>       | <a href="#">SolidColorBrush</a>                                  |

|                          |   |
|--------------------------|---|
| (usage)                  | {x:Static Brushes.StaticPropertyName}                           |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF778899. |
| <b>LightSteelBlue</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FFB0C4DE. |
| <b>LightYellow</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FFFFFFE0. |
| <b>Lime</b>              | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF00FF00. |
| <b>LimeGreen</b>         | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF32CD32. |
| <b>Linen</b>             | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FFFAF0E6. |
| <b>Magenta</b>           | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FFFF00FF. |
| <b>Maroon</b>            | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF800000. |
| <b>MediumAquaMarine</b>  | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF66CDAA. |
| <b>MediumBlue</b>        | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF0000CD. |
| <b>MediumOrchid</b>      | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FFBA55D3. |
| <b>MediumPurple</b>      | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF9370DB. |
| <b>MediumSeaGreen</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF3CB371. |
| <b>MediumSlateBlue</b>   | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF7B68EE. |
| <b>MediumSpringGreen</b> | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>     | The solid fill color that has a hexadecimal value of #FF00FA9A. |
| <b>MediumTurquoise</b>   | <a href="#">SolidColorBrush</a>                                 |



|                        |   |
|------------------------|---|
| (usage)                | {x:Static Brushes.StaticPropertyName}                           |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FF48D1CC. |
| <b>MediumVioletRed</b> | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFC71585. |
| <b>MidnightBlue</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FF191970. |
| <b>MintCream</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFF5FFFA. |
| <b>MistyRose</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFFFE4E1. |
| <b>Moccasin</b>        | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFFFE4B5. |
| <b>NavajoWhite</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFFFDEAD. |
| <b>Navy</b>            | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FF000080. |
| <b>OldLace</b>         | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFFD5E6.  |
| <b>Olive</b>           | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FF808000. |
| <b>OliveDrab</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FF6B8E23. |
| <b>Orange</b>          | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFFA500.  |
| <b>OrangeRed</b>       | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFFF4500. |
| <b>Orchid</b>          | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFDA70D6. |
| <b>PaleGoldenrod</b>   | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b>   | The solid fill color that has a hexadecimal value of #FFEEE8AA. |
| <b>PaleGreen</b>       | <a href="#">SolidColorBrush</a>                                 |

|                      |   |
|----------------------|---|
| (usage)              | {x:Static Brushes.StaticPropertyName}                           |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF98FB98. |
| <b>PaleTurquoise</b> | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFAFEEEE. |
| <b>PaleVioletRed</b> | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFDB7093. |
| <b>PapayaWhip</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFEFD5. |
| <b>PeachPuff</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFDAB9. |
| <b>Peru</b>          | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFCD853F. |
| <b>Pink</b>          | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFC0CB.  |
| <b>Plum</b>          | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFDDA0DD. |
| <b>PowderBlue</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFB0E0E6. |
| <b>Purple</b>        | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF800080. |
| <b>Red</b>           | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFF0000. |
| <b>RosyBrown</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFBC8F8F. |
| <b>RoyalBlue</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF4169E1. |
| <b>SaddleBrown</b>   | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF8B4513. |
| <b>Salmon</b>        | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFA8072. |
| <b>SandyBrown</b>    | <a href="#">SolidColorBrush</a>                                 |

|                      |  |
|----------------------|--|
| (usage)              | {x:Static Brushes.StaticPropertyName}                            |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFF4A460.  |
| <b>SeaGreen</b>      | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF2E8B57.  |
| <b>SeaShell</b>      | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFFF5EE. |
| <b>Sienna</b>        | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFA0522D.  |
| <b>Silver</b>        | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFC0C0C0.  |
| <b>SkyBlue</b>       | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF87CEEB.  |
| <b>SlateBlue</b>     | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF6A5ACD.  |
| <b>SlateGray</b>     | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF708090.  |
| <b>Snow</b>          | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFFFAFA. |
| <b>SpringGreen</b>   | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF00FF7F.  |
| <b>SteelBlue</b>     | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF4682B4.  |
| <b>Tan</b>           | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFD2B48C.  |
| <b>Teal</b>          | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF008080.  |
| <b>Thistle</b>       | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFD8BFD8.  |
| <b>Tomato</b>        | <a href="#">SolidColorBrush</a>                                  |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFF6347.  |
| <b>Transparent</b>   | <a href="#">SolidColorBrush</a>                                  |

|                      |   |
|----------------------|---|
| (usage)              | {x:Static Brushes.StaticPropertyName}                           |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #00FFFFFF. |
| <b>Turquoise</b>     | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF40E0D0. |
| <b>Violet</b>        | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFEE82EE. |
| <b>Wheat</b>         | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFF5DEB3. |
| <b>White</b>         | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFFFF.  |
| <b>WhiteSmoke</b>    | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFF5F5F5. |
| <b>Yellow</b>        | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FFFFFF00. |
| <b>YellowGreen</b>   | <a href="#">SolidColorBrush</a>                                 |
| <b>(description)</b> | The solid fill color that has a hexadecimal value of #FF9ACD32. |

#### 4.55 BrushMappingMode

[x:Object](#) > BrushMappingMode

|                      |   |
|----------------------|---|
| (usage)              | <b>Absolute</b>   <b>RelativeToBoundingBox</b>          |
| <b>(description)</b> | Specifies the coordinate system used by a Brush.        |
| <b>(used by)</b>     | <a href="#">GradientBrush</a> <a href="#">TileBrush</a> |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">BrushMappingModeSyntax</a>                  |

#### 4.56 BulletDecorator

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Decorator](#) > BulletDecorator, [IInputElement](#)

|                           |   |
|---------------------------|---|
| (usage)                   | <BulletDecorator> <a href="#">UIElement</a> </BulletDecorator>              |
| <b>(description)</b>      | Represents a layout control that aligns a bullet and another visual object. |
| <b>[content property]</b> | Child   |

|                     |  |
|---------------------|--|
| (usage)             | <BulletDecorator> <a href="#">UIElement</a> </BulletDecorator> |
| [name property]     | Name   |
| [xml lang property] | Language   |
| (properties)        |  |
| Background          | <a href="#">Brush</a>  |
| (description)       | The background color for a BulletDecorator control.            |
| Bullet              | <a href="#">UIElement</a>                                      |
| (description)       | The object to use as the bullet in a BulletDecorator.          |

## 4.57 Button

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > Button, [IInputElement](#)

|   |   |
|---|---|
| <a href="#">CalendarButton</a> <a href="#">CalendarDayButton</a> <a href="#">RibbonButton</a> |   |
| (usage)   | <Button> <a href="#">x:Object</a> </Button>   |
| (description)   | Represents a button control, which reacts to the Click event.   |
| [content property]  | Content   |
| [name property]   | Name  |
| [xml lang property]   | Language  |
| (properties)  |   |
| IsCancel  | <a href="#">x:Boolean</a>   |
| (description)   | A value that indicates whether a Button is a Cancel button. A user can activate the Cancel button by pressing the ESC key.  |
| IsDefault   | <a href="#">x:Boolean</a>   |
| (description)   | A value that indicates whether a Button is the default button. A user invokes the default button by pressing the ENTER key. |

## 4.58 ButtonBase

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > ButtonBase, [IInputElement](#)

|  |       |
|--|-------|
| <a href="#">Button</a> <a href="#">DataGridColumnHeader</a> <a href="#">DataGridRowHeader</a> <a href="#">GridViewColumnHeader</a> <a href="#">RepeatButton</a> <a href="#">ToggleButton</a> |       |
| (usage)  | None. |

|  |   |
|--|---|
| <a href="#">Button</a> <a href="#">DataGridColumnHeader</a> <a href="#">DataGridRowHeader</a> <a href="#">GridViewColumnHeader</a> <a href="#">RepeatButton</a> <a href="#">ToggleButton</a> |   |
| <b>(description)</b>   | Represents the base type for all Button controls.                   |
| <b>[is default constructible]</b>  | false   |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>   | Name  |
| <b>[xml lang property]</b>   | Language  |
| <b>(properties)</b>  |   |
| <b>ClickMode</b>   | <a href="#">ClickMode</a>   |
| <b>(description)</b>   | When the Click event occurs.  |
| <b>Command</b>   | <a href="#">ICommand</a>  |
| <b>(description)</b>   | The command to invoke when this button is pressed.                  |
| <b>CommandParameter</b>  | <a href="#">x:Object</a>  |
| <b>(description)</b>   | The parameter to pass to the Command property.                      |
| <b>CommandTarget</b>   | <a href="#">IInputElement</a>                                       |
| <b>(description)</b>   | The element on which to raise the specified command.                |
| <b>IsPressed</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether a ButtonBase is currently activated. |
| <b>(events)</b>  |   |
| <b>Click</b>   | Occurs when a Button is clicked.                                    |

## 4.59 ByteAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [ByteAnimationBase](#) > ByteAnimation

|                        |   |
|------------------------|---|
| <b>(usage)</b>         | <ByteAnimation />   |
| <b>(description)</b>   | Animates the value of a Byte property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name  |
| <b>(properties)</b>    |   |
| <b>By</b>              | <a href="#">x:Nullable(x:Byte)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.   |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>   |

|                      |  |
|----------------------|--|
| (usage)              | <ByteAnimation />  |
| <b>(description)</b> | The easing function applied to this animation.   |
| <b>From</b>          | <a href="#">x:Nullable(x:Byte)</a>   |
| <b>(description)</b> | The animation's starting value.  |
| <b>IsAdditive</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>            | <a href="#">x:Nullable(x:Byte)</a>   |
| <b>(description)</b> | The animation's ending value.  |

## 4.60 ByteAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [ByteAnimationBase](#)

|  |   |
|--|---|
| <b><a href="#">ByteAnimation</a> <a href="#">ByteAnimationUsingKeyFrames</a></b> |   |
| <b>(usage)</b>   | None.                                   |
| <b>(description)</b>   | A base type that animates a Byte value. |
| <b>[is default constructible]</b>  | false                                   |
| <b>[name property]</b>   | Name                                    |

## 4.61 ByteAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [ByteAnimationBase](#) > [ByteAnimationUsingKeyFrames](#)

|                           |  |
|---------------------------|--|
| (usage)                   | <ByteAnimationUsingKeyFrames> <a href="#">ByteKeyFrame</a> *</ByteAnimationUsingKeyFrames>                             |
| <b>(description)</b>      | Animates the value of a Byte property along a set of KeyFrames.  |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |

|                      |  |
|----------------------|--|
| (usage)              | <ByteAnimationUsingKeyFrames> <a href="#">ByteKeyFrame</a> *</ByteAnimationUsingKeyFrames> |
| <b>IsCumulative</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that specifies whether the animation's value accumulates when it repeats.          |
| <b>KeyFrames</b>     | <a href="#">ByteKeyFrameCollection</a>   |
| <b>(description)</b> | The collection of ByteKeyFrame objects that define the animation.                          |

## 4.62 ByteKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ByteKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteByteKeyFrame</a> <a href="#">EasingByteKeyFrame</a> <a href="#">LinearByteKeyFrame</a> <a href="#">SplineByteKeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a ByteAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">ByteKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>  |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.  |
| <b>Value</b>  | <a href="#">x:Byte</a>   |
| <b>(description)</b>  | The key frame's target value.  |

## 4.63 ByteKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ByteKeyFrameCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <ByteKeyFrameCollection> <a href="#">ByteKeyFrame</a> *</ByteKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of ByteKeyFrame objects.                                 |
| <b>(used by)</b>           | <a href="#">ByteAnimationUsingKeyFrames</a>                                      |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">ByteKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | ByteKeyFrameCollection   |
| <b>(description)</b>       | An empty ByteKeyFrameCollection.   |



## 4.64 CachedBitmap

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > CachedBitmap

|                            |  |
|----------------------------|--|
| (usage)                    | <CachedBitmap> string </CachedBitmap>              |
| (description)              | Provides caching functionality for a BitmapSource. |
| [is default constructible] | false  |
| [text syntax]              | x:Uri, from <a href="#">[MS-XAML]</a>              |

## 4.65 CacheMode

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > CacheMode

|                             |  |
|-----------------------------|--|
| <a href="#">BitmapCache</a> |  |
| (usage)                     | <CacheMode> string </CacheMode>  |
| (description)               | Provides a base implementation for caching a UIElement.                                      |
| (used by)                   | <a href="#">ContainerVisual</a> <a href="#">UIElement</a> <a href="#">Viewport2DVisual3D</a> |
| [is default constructible]  | false  |
| [text syntax]               | <a href="#">CacheModeSyntax</a>  |

## 4.66 CachingHint

[x:Object](#) > CachingHint

|               |  |
|---------------|--|
| (usage)       | <b>Unspecified  Cache</b>                      |
| (description) | Specifies whether to cache tile brush objects. |
| (used by)     | <a href="#">RenderOptions</a>                  |
| [is nullable] | false  |
| [text syntax] | <a href="#">CachingHintSyntax</a>              |

## 4.67 Calendar

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > Calendar, [InputElement](#)

|                 |   |
|-----------------|---|
| (usage)         | <Calendar />  |
| (description)   | Represents a control that enables a user to select a date by using a visual calendar display. |
| [name property] | Name  |

|                               |  |
|-------------------------------|--|
| (usage)                       | <Calendar />   |
| [xml lang property]           | Language   |
| (properties)                  |  |
| <b>BlackoutDates</b>          | <a href="#">CalendarBlackoutDatesCollection</a>                                |
| (description)                 | A collection of dates that are marked as not selectable.                       |
| [read only]                   | true   |
| <b>CalendarButtonStyle</b>    | <a href="#">Style</a>  |
| (description)                 | The Style associated with the control's internal CalendarButton object.        |
| <b>CalendarDayButtonStyle</b> | <a href="#">Style</a>  |
| (description)                 | The Style associated with the control's internal CalendarDayButton object.     |
| <b>CalendarItemStyle</b>      | <a href="#">Style</a>  |
| (description)                 | The Style associated with the control's internal CalendarItem object.          |
| <b>DisplayDate</b>            | <a href="#">x:DateTime</a>   |
| (description)                 | The date to display.   |
| <b>DisplayDateEnd</b>         | <a href="#">x:Nullable(x:DateTime)</a>   |
| (description)                 | The last date in the date range that is available in the calendar.             |
| <b>DisplayDateStart</b>       | <a href="#">x:Nullable(x:DateTime)</a>   |
| (description)                 | The first date that is available in the calendar.                              |
| <b>DisplayMode</b>            | <a href="#">CalendarMode</a>   |
| (description)                 | A value that indicates whether the calendar displays a month, year, or decade. |
| <b>FirstDayOfWeek</b>         | <a href="#">DayOfWeek</a>  |
| (description)                 | The day that is considered the beginning of the week.                          |
| <b>IsTodayHighlighted</b>     | <a href="#">x:Boolean</a>  |
| (description)                 | A value that indicates whether the current date is highlighted.                |
| <b>SelectedDate</b>           | <a href="#">x:Nullable(x:DateTime)</a>   |
| (description)                 | The currently selected date.   |
| <b>SelectedDates</b>          | <a href="#">SelectedDatesCollection</a>  |
| (description)                 | A collection of selected dates.  |
| [read only]                   | true   |
| <b>SelectionMode</b>          | <a href="#">CalendarSelectionMode</a>  |

|                             |   |
|-----------------------------|---|
| (usage)                     | <Calendar />  |
| <b>(description)</b>        | A value that indicates what kind of selections are allowed.                   |
| <b>(events)</b>             |   |
| <b>DisplayDateChanged</b>   | Occurs when the DisplayDate property is changed.                              |
| <b>DisplayModeChanged</b>   | Occurs when the DisplayMode property is changed.                              |
| <b>SelectedDatesChanged</b> | Occurs when the collection returned by the SelectedDates property is changed. |
| <b>SelectionModeChanged</b> | Occurs when the SelectionMode changes.  |

#### 4.68 CalendarBlackoutDatesCollection

[x:Object](#) > [ObservableCollection](#)([CalendarDateRange](#)) > CalendarBlackoutDatesCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Represents a collection of non-selectable dates in a Calendar. |
| <b>(used by)</b>                  | <a href="#">Calendar DatePicker</a>                            |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">CalendarDateRange</a>                              |

#### 4.69 CalendarButton

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [Button](#) > CalendarButton, [InputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <CalendarButton> <a href="#">x:Object</a> </CalendarButton> |
| <b>(description)</b>       | Represents a month or year on a Calendar object.            |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.70 CalendarDateRange

[x:Object](#) > CalendarDateRange

|                      |   |
|----------------------|---|
| (usage)              | <CalendarDateRange />                           |
| <b>(description)</b> | Represents a range of dates in a Calendar.      |
| <b>(used by)</b>     | <a href="#">CalendarBlackoutDatesCollection</a> |

|                        |  |
|------------------------|--|
| (usage)                | <CalendarDateRange />                    |
| <b>(properties)</b>    |  |
| <b>End</b>             | <a href="#">x:DateTime</a>               |
| <b>(description)</b>   | The last date in the represented range.  |
| <b>Start</b>           | <a href="#">x:DateTime</a>               |
| <b>(description)</b>   | The first date in the represented range. |
| <b>(events)</b>        |  |
| <b>PropertyChanged</b> | Occurs when a property value changes.    |

#### 4.71 CalendarDayButton

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [Button](#) > CalendarDayButton, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <CalendarDayButton> <a href="#">x:Object</a> </CalendarDayButton> |
| <b>(description)</b>       | Represents a day on a Calendar.                                   |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.72 CalendarItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > CalendarItem, [IInputElement](#)

|                                    |   |
|------------------------------------|---|
| (usage)                            | <CalendarItem />  |
| <b>(description)</b>               | Represents the currently displayed month or year on a Calendar.           |
| <b>[name property]</b>             | Name  |
| <b>[xml lang property]</b>         | Language  |
| <b>(static properties)</b>         |   |
| <b>DayTitleTemplateResourceKey</b> | <a href="#">ComponentResourceKey</a>                                      |
| <b>(description)</b>               | The resource key for the DataTemplate that displays the days of the week. |

#### 4.73 CalendarMode

[x:Object](#) > CalendarMode

|         |                            |
|---------|----------------------------|
| (usage) | <b>Month  Year  Decade</b> |
|---------|----------------------------|

|                      |   |
|----------------------|---|
| (usage)              | <b>Month  Year  Decade</b>                                      |
| <b>(description)</b> | Specifies whether a Calendar displays a month, year, or decade. |
| <b>(used by)</b>     | <a href="#">Calendar</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">CalendarModeSyntax</a>                              |

#### 4.74 CalendarSelectionMode

[x:Object](#) > CalendarSelectionMode

|                      |   |
|----------------------|---|
| (usage)              | <b>SingleDate  SingleRange  MultipleRange  None</b>                         |
| <b>(description)</b> | Specifies whether a single or multiple dates can be selected in a Calendar. |
| <b>(used by)</b>     | <a href="#">Calendar</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">CalendarSelectionModeSyntax</a>                                 |

#### 4.75 Camera

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Camera

|   |   |
|---|---|
| <a href="#">MatrixCamera</a> <a href="#">ProjectionCamera</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | Specifies what portion of the 3D scene is rendered by the Viewport3DVisual or Viewport3D element. |
| <b>(used by)</b>  | <a href="#">Viewport3D</a> <a href="#">Viewport3DVisual</a>                                       |
| <b>[is default constructible]</b>                             | false   |
| <b>(properties)</b>   |   |
| <b>Transform</b>  | <a href="#">Transform3D</a>   |
| <b>(description)</b>  | The Transform3D applied to the camera.  |

#### 4.76 Canvas

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > Canvas, [IInputElement](#)

|                      |  |
|----------------------|--|
| (usage)              | <Canvas> <a href="#">UIElement</a> *</Canvas>  |
| <b>(description)</b> | Defines an area within which you can explicitly position child elements by using coordinates that are relative to the Canvas area. |

|                                |  |
|--------------------------------|--|
| (usage)                        | <Canvas> <a href="#">UIElement</a> *</Canvas>  |
| <b>[content property]</b>      | Children   |
| <b>[name property]</b>         | Name   |
| <b>[xml lang property]</b>     | Language   |
| <b>(attachable properties)</b> |  |
| <b>Canvas.Bottom</b>           | <a href="#">x:Double</a>   |
| <b>(description)</b>           | A value that represents the distance between the bottom of an element and the bottom of its parent Canvas.         |
| <b>[target type]</b>           | <a href="#">UIElement</a>  |
| <b>[text syntax]</b>           | <a href="#">LengthSyntax</a>   |
| <b>Canvas.Left</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>           | A value that represents the distance between the left side of an element and the left side of its parent Canvas.   |
| <b>[target type]</b>           | <a href="#">UIElement</a>  |
| <b>[text syntax]</b>           | <a href="#">LengthSyntax</a>   |
| <b>Canvas.Right</b>            | <a href="#">x:Double</a>   |
| <b>(description)</b>           | A value that represents the distance between the right side of an element and the right side of its parent Canvas. |
| <b>[target type]</b>           | <a href="#">UIElement</a>  |
| <b>[text syntax]</b>           | <a href="#">LengthSyntax</a>   |
| <b>Canvas.Top</b>              | <a href="#">x:Double</a>   |
| <b>(description)</b>           | A value that represents the distance between the top of an element and the top of its parent Canvas.               |
| <b>[target type]</b>           | <a href="#">UIElement</a>  |
| <b>[text syntax]</b>           | <a href="#">LengthSyntax</a>   |

## 4.77 CaptureMode

[x:Object](#) > CaptureMode

|                      |                                       |
|----------------------|---------------------------------------|
| (usage)              | <b>None  Element  SubTree</b>         |
| <b>(description)</b> | Specifies the mouse capture policies. |
| <b>[is nullable]</b> | false                                 |
| <b>[text syntax]</b> | <a href="#">CaptureModeSyntax</a>     |

## 4.78 CharacterBufferRange

[x:Object](#) > CharacterBufferRange

|                            |                                   |
|----------------------------|-----------------------------------|
| (usage)                    | <CharacterBufferRange />          |
| <b>(description)</b>       | Describes a string of characters. |
| <b>[is nullable]</b>       | false                             |
| <b>(static properties)</b> |                                   |
| <b>Empty</b>               | CharacterBufferRange              |
| <b>(description)</b>       | An empty character string.        |

## 4.79 CharacterBufferReference

[x:Object](#) > CharacterBufferReference

|                      |  |
|----------------------|--|
| (usage)              | <CharacterBufferReference />                 |
| <b>(description)</b> | Describes a character buffer for a text run. |
| <b>[is nullable]</b> | false  |

## 4.80 CharacterCasing

[x:Object](#) > CharacterCasing

|                      |   |
|----------------------|---|
| (usage)              | <b>Normal  Lower  Upper</b>   |
| <b>(description)</b> | Specifies the case of characters typed manually into a TextBox control. |
| <b>(used by)</b>     | <a href="#">TextBox</a>   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">CharacterCasingSyntax</a>                                   |

## 4.81 CharacterHit

[x:Object](#) > CharacterHit

|                      |  |
|----------------------|--|
| (usage)              | <CharacterHit />   |
| <b>(description)</b> | Represents information about a character hit within a glyph run. |
| <b>[is nullable]</b> | false  |

## 4.82 CharacterMetrics

[x:Object](#) > CharacterMetrics

|                      |  |
|----------------------|--|
| (usage)              | <CharacterMetrics />   |
| <b>(description)</b> | Represents the metrics used to lay out a character in a device font. |
| <b>(used by)</b>     | <a href="#">CharacterMetricsDictionary</a>                           |
| <b>(properties)</b>  |  |
| <b>Metrics</b>       | <a href="#">x:String</a>   |
| <b>(description)</b> | A comma-delimited string representing metric values.                 |

#### 4.83 CharacterMetricsDictionary

[x:Object](#) > CharacterMetricsDictionary

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Represents a dictionary of CharacterMetrics objects for a device font that is indexed by Unicode scalar values. |
| <b>(used by)</b>                  | <a href="#">FamilyTypeface</a>  |
| <b>[is default constructible]</b> | false   |
| <b>[is dictionary]</b>            | true  |
| <b>[allowed types]</b>            | <a href="#">CharacterMetrics</a>  |
| <b>[allowed key types]</b>        | <a href="#">x:Int32</a>   |
| <b>(properties)</b>               |   |
| <b>Keys</b>                       | <a href="#">ICollection(x:Int32)</a>  |
| <b>(description)</b>              | A collection of character codes from CharacterMetricsDictionary.  |
| <b>[read only]</b>                | true  |
| <b>Values</b>                     | <a href="#">ICollection(CharacterMetrics)</a>   |
| <b>(description)</b>              | The collection of CharacterMetrics values in the CharacterMetricsDictionary.                                    |
| <b>[read only]</b>                | true  |

#### 4.84 CharAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > CharAnimationBase

|   |   |
|---|---|
| <a href="#">CharAnimationUsingKeyFrames</a> |   |
| <b>(usage)</b>                              | None.                                   |
| <b>(description)</b>                        | A base type that animates a Char value. |



|   |       |
|---|-------|
| <a href="#">CharAnimationUsingKeyFrames</a> |       |
| [is default constructible]                  | false |
| [name property]                             | Name  |

#### 4.85 CharAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [CharAnimationBase](#) > CharAnimationUsingKeyFrames

|                    |  |
|--------------------|--|
| (usage)            | <CharAnimationUsingKeyFrames> <a href="#">CharKeyFrame</a> *</CharAnimationUsingKeyFrames> |
| (description)      | Animates the value of a Char property along a set of KeyFrames over a specified Duration.  |
| [content property] | KeyFrames  |
| [name property]    | Name   |
| (properties)       |  |
| KeyFrames          | <a href="#">CharKeyFrameCollection</a>   |
| (description)      | The collection of CharKeyFrame objects that define the animation.                          |

#### 4.86 CharKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > CharKeyFrame

|                                      |  |
|--------------------------------------|--|
| <a href="#">DiscreteCharKeyFrame</a> |  |
| (usage)                              | None.  |
| (description)                        | A base type that defines an animation segment with its own target value and interpolation technique for a CharAnimationUsingKeyFrames. |
| (used by)                            | <a href="#">CharKeyFrameCollection</a>   |
| [is default constructible]           | false  |
| (properties)                         |  |
| KeyTime                              | <a href="#">KeyTime</a>  |
| (description)                        | The time at which the key frame's target Value should be reached.  |
| Value                                | <a href="#">x:Char</a>   |
| (description)                        | The key frame's target value.  |

#### 4.87 CharKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > CharKeyFrameCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <CharKeyFrameCollection> <a href="#">CharKeyFrame</a> *</CharKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of CharKeyFrame objects.                                 |
| <b>(used by)</b>           | <a href="#">CharAnimationUsingKeyFrames</a>                                      |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">CharKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | CharKeyFrameCollection   |
| <b>(description)</b>       | An empty CharKeyFrameCollection.   |

#### 4.88 CheckBox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [ToggleButton](#) > CheckBox, [IInputElement](#)

|                                |  |
|--------------------------------|--|
| <a href="#">RibbonCheckBox</a> |  |
| <b>(usage)</b>                 | <CheckBox> <a href="#">x:Object</a> </CheckBox>        |
| <b>(description)</b>           | Represents a control that a user can select and clear. |
| <b>[content property]</b>      | Content  |
| <b>[name property]</b>         | Name   |
| <b>[xml lang property]</b>     | Language   |

#### 4.89 CircleEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > CircleEase, [IEasingFunction](#)

|                      |  |
|----------------------|--|
| (usage)              | <CircleEase />   |
| <b>(description)</b> | Represents an easing function that creates an animation that accelerates and/or decelerates using a circular function. |

#### 4.90 ClearTypeHint

[x:Object](#) > ClearTypeHint

|                      |  |
|----------------------|--|
| (usage)              | <b>Auto  Enabled</b>   |
| <b>(description)</b> | An enumeration that specifies a hint to the rendering engine that text can be rendered with ClearType. |
| <b>(used by)</b>     | <a href="#">RenderOptions</a>  |
| <b>[is nullable]</b> | false  |
| <b>[text]</b>        | <a href="#">ClearTypeHintSyntax</a>  |

|                |                      |
|----------------|----------------------|
| (usage)        | <b>Auto  Enabled</b> |
| <b>syntax]</b> |                      |

#### 4.91 ClickMode

[x:Object](#) > ClickMode

|                      |  |
|----------------------|--|
| (usage)              | <b>Release  Press  Hover</b>                     |
| <b>(description)</b> | Specifies when the Click event should be raised. |
| <b>(used by)</b>     | <a href="#">ButtonBase</a>                       |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">ClickModeSyntax</a>                  |

#### 4.92 Clock

[x:Object](#) > Clock

|                                      |  |
|--------------------------------------|--|
| (usage)                              | None.  |
| <b>(description)</b>                 | Maintains run-time timing state for a Timeline.                                    |
| <b>(used by)</b>                     | <a href="#">ClockCollection</a>  |
| <b>[is default constructible]</b>    | false  |
| <b>(events)</b>                      |  |
| <b>Completed</b>                     | Occurs when this clock has completely finished playing.                            |
| <b>CurrentGlobalSpeedInvalidated</b> | Occurs when the clock's speed is updated.  |
| <b>CurrentStateInvalidated</b>       | Occurs when the clock's CurrentState property is updated.                          |
| <b>CurrentTimeInvalidated</b>        | Occurs when this clock's CurrentTime becomes invalid.                              |
| <b>RemoveRequested</b>               | Occurs when the Remove method is called on this Clock or one of its parent clocks. |

#### 4.93 ClockCollection

[x:Object](#) > ClockCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Represents an ordered collection of Clock objects. |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">Clock</a>                              |

## 4.94 ClockState

[x:Object](#) > ClockState

|               |  |
|---------------|--|
| (usage)       | <b>Active  Filling  Stopped</b>                              |
| (description) | Describes the potential states of a timeline's Clock object. |
| [is nullable] | false  |
| [text syntax] | <a href="#">ClockStateSyntax</a>                             |

## 4.95 CollectionContainer

[x:Object](#) > [DependencyObject](#) > CollectionContainer

|               |  |
|---------------|--|
| (usage)       | <CollectionContainer />  |
| (description) | Holds an existing collection structure, such as an ObservableCollection or a DataSet, to be used inside a CompositeCollection. |

## 4.96 CollectionView

[x:Object](#) > CollectionView

|                                |   |
|--------------------------------|---|
| <a href="#">ItemCollection</a> |   |
| (usage)                        | {x:Static CollectionView.StaticPropertyName}  |
| (description)                  | Represents a view for grouping, sorting, filtering, and navigating a data collection.                             |
| [is default constructible]     | false   |
| (properties)                   |   |
| Culture                        | <a href="#">CultureInfo</a>   |
| (description)                  | The culture information to use during sorting.  |
| [text syntax]                  | <a href="#">CultureInfoIetfLanguageTagSyntax</a>  |
| GroupDescriptions              | <a href="#">ObservableCollection</a> (GroupDescription)   |
| (description)                  | A collection of GroupDescription objects that describes how the items in the collection are grouped in the view.  |
| [read only]                    | true  |
| SortDescriptions               | <a href="#">SortDescriptionCollection</a>   |
| (description)                  | A collection of SortDescription structures that describes how the items in the collection are sorted in the view. |
| [read only]                    | true  |

|                                |   |
|--------------------------------|---|
| <a href="#">ItemCollection</a> |   |
| <b>(static properties)</b>     |   |
| <b>NewItemPlaceholder</b>      | <a href="#">x:Object</a>                                      |
| <b>(description)</b>           | The object that is in the collection to represent a new item. |
| <b>(events)</b>                |   |
| <b>CurrentChanged</b>          | Occurs after the CurrentItem has changed.                     |
| <b>CurrentChanging</b>         | Occurs when the CurrentItem is changing.                      |

## 4.97 CollectionViewSource

[x:Object](#) > [DependencyObject](#) > CollectionViewSource

|                                       |  |
|---------------------------------------|--|
| <b>(usage)</b>                        | <CollectionViewSource />   |
| <b>(description)</b>                  | The XAML proxy of a CollectionView type.   |
| <b>(properties)</b>                   |  |
| <b>CollectionViewType</b>             | <a href="#">x:XamlType</a>   |
| <b>(description)</b>                  | The desired view type.   |
| <b>Culture</b>                        | <a href="#">CultureInfo</a>  |
| <b>(description)</b>                  | The culture that is used for operations such as sorting and comparisons.   |
| <b>[text syntax]</b>                  | <a href="#">CultureInfoIetfLanguageTagSyntax</a>   |
| <b>GroupDescriptions</b>              | <a href="#">ObservableCollection</a> (GroupDescription)  |
| <b>(description)</b>                  | A collection of GroupDescription objects that describes how the items in the collection are grouped in the view. |
| <b>[read only]</b>                    | true   |
| <b>IsLiveFilteringRequested (4.5)</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                  | A value that indicates whether CollectionViewSource should filter the data in real time if it can.               |
| <b>IsLiveGroupingRequested (4.5)</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                  | A value that indicates whether CollectionViewSource should group the data in real time if it can.                |
| <b>IsLiveSortingRequested (4.5)</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                  | A value that indicates whether CollectionViewSource should sort the data in real time if it can.                 |

|                                      |  |
|--------------------------------------|--|
| (usage)                              | <CollectionViewSource />   |
| <b>LiveFilteringProperties (4.5)</b> | <a href="#">ObservableCollection(x:String)</a>   |
| <b>(description)</b>                 | A collection of strings that specify the properties that participate in filtering data in real time.           |
| <b>[read only]</b>                   | true   |
| <b>LiveGroupingProperties (4.5)</b>  | <a href="#">ObservableCollection(x:String)</a>   |
| <b>(description)</b>                 | A collection of strings that specify the properties that participate in grouping data in real time.            |
| <b>[read only]</b>                   | true   |
| <b>LiveSortingProperties (4.5)</b>   | <a href="#">ObservableCollection(x:String)</a>   |
| <b>(description)</b>                 | A collection of strings that specify the properties that participate in sorting data in real time.             |
| <b>[read only]</b>                   | true   |
| <b>SortDescriptions</b>              | <a href="#">SortDescriptionCollection</a>  |
| <b>(description)</b>                 | A collection of SortDescription objects that describes how the items in the collection are sorted in the view. |
| <b>[read only]</b>                   | true   |
| <b>Source</b>                        | <a href="#">x:Object</a>   |
| <b>(description)</b>                 | The collection object from which to create this view.  |
| <b>(events)</b>                      |  |
| <b>Filter</b>                        | Provides filtering logic.  |

## 4.98 Color

[x:Object](#) > Color

|                      |   |
|----------------------|---|
| (usage)              | <b>AliceBlue  AntiqueWhite  Aqua  Aquamarine  Azure  Beige  Bisque  Black  BlanchedAlmond...</b>  |
| <b>(description)</b> | Describes a color in terms of alpha, red, green, and blue channels.   |
| <b>(used by)</b>     | <a href="#">ColorKeyFrame</a> <a href="#">DiffuseMaterial</a> <a href="#">DrawingAttributes</a> <a href="#">DropShadowEffect</a> <a href="#">EmissiveMaterial</a> <a href="#">GradientStop</a> <a href="#">Light</a> <a href="#">SolidColorBrush</a> <a href="#">SpecularMaterial</a> |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ColorSyntax</a>   |
| <b>(properties)</b>  |   |

|                      |   |
|----------------------|---|
| (usage)              | <b>AliceBlue</b>   <b>AntiqueWhite</b>   <b>Aqua</b>   <b>Aquamarine</b>   <b>Azure</b>   <b>Beige</b>   <b>Bisque</b>   <b>Black</b>   <b>BlanchedAlmond</b> ... |
| <b>A</b>             | <a href="#">x:Byte</a>  |
| <b>(description)</b> | The sRGB alpha channel value of the color.  |
| <b>B</b>             | <a href="#">x:Byte</a>  |
| <b>(description)</b> | The sRGB blue channel value of the color.   |
| <b>G</b>             | <a href="#">x:Byte</a>  |
| <b>(description)</b> | The sRGB green channel value of the color.  |
| <b>R</b>             | <a href="#">x:Byte</a>  |
| <b>(description)</b> | The sRGB red channel value of the color.  |
| <b>ScA</b>           | <a href="#">x:Single</a>  |
| <b>(description)</b> | The ScRGB alpha channel value of the color.   |
| <b>ScB</b>           | <a href="#">x:Single</a>  |
| <b>(description)</b> | The ScRGB blue channel value of the color.  |
| <b>ScG</b>           | <a href="#">x:Single</a>  |
| <b>(description)</b> | The ScRGB green channel value of the color.   |
| <b>ScR</b>           | <a href="#">x:Single</a>  |
| <b>(description)</b> | The ScRGB red channel value of the color.   |

## 4.99 ColorAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [ColorAnimationBase](#) > ColorAnimation

|                        |  |
|------------------------|--|
| (usage)                | <ColorAnimation />   |
| <b>(description)</b>   | Animates the value of a Color property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">x:Nullable(Color)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>   | The easing function applied to this animation.   |
| <b>From</b>            | <a href="#">x:Nullable(Color)</a>  |

|                      |  |
|----------------------|--|
| (usage)              | <ColorAnimation />   |
| <b>(description)</b> | The animation's starting value.  |
| <b>IsAdditive</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>            | <a href="#">x:Nullable(Color)</a>  |
| <b>(description)</b> | The animation's ending value.  |

#### 4.100 ColorAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > ColorAnimationBase

|   |  |
|---|--|
| <a href="#">ColorAnimation</a> <a href="#">ColorAnimationUsingKeyFrames</a> |  |
| <b>(usage)</b>  | None.                                    |
| <b>(description)</b>  | A base type that animates a Color value. |
| <b>[is default constructible]</b>   | false                                    |
| <b>[name property]</b>  | Name                                     |

#### 4.101 ColorAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [ColorAnimationBase](#) > ColorAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| (usage)                   | <ColorAnimationUsingKeyFrames> <a href="#">ColorKeyFrame</a> *</ColorAnimationUsingKeyFrames>                          |
| <b>(description)</b>      | Animates the value of a Color property along a set of KeyFrames over a specified Duration.                             |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |



|                      |   |
|----------------------|---|
| (usage)              | <ColorAnimationUsingKeyFrames> <a href="#">ColorKeyFrame</a> *</ColorAnimationUsingKeyFrames> |
| <b>(description)</b> | A value that specifies whether the animation's value accumulates when it repeats.             |
| <b>KeyFrames</b>     | <a href="#">ColorKeyFrameCollection</a>   |
| <b>(description)</b> | The collection of ColorKeyFrame objects that define the animation.                            |

#### 4.102 ColorContext

[x:Object](#) > ColorContext

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Represents the International Color Consortium (ICC) or Image Color Management (ICM) color profile that is associated with a bitmap image. |
| <b>(used by)</b>                  | <a href="#">BitmapEncoder</a>   |
| <b>[is default constructible]</b> | false   |

#### 4.103 ColorConvertedBitmap

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > ColorConvertedBitmap

|                          |  |
|--------------------------|--|
| (usage)                  | <ColorConvertedBitmap> string </ColorConvertedBitmap>            |
| <b>(description)</b>     | Changes the color space of a BitmapSource.                       |
| <b>[text syntax]</b>     | x:Uri, from <a href="#">[MS-XAML]</a>                            |
| <b>(properties)</b>      |  |
| <b>DestinationFormat</b> | <a href="#">PixelFormat</a>                                      |
| <b>(description)</b>     | A value that represents the PixelFormat of the converted bitmap. |
| <b>Source</b>            | <a href="#">BitmapSource</a>                                     |
| <b>(description)</b>     | A value that identifies the source bitmap that is converted.     |

#### 4.104 ColorConvertedBitmapExtension

[x:Object](#) > [x:MarkupExtension](#) > ColorConvertedBitmapExtension

|                            |   |
|----------------------------|---|
| (usage)                    | {ColorConvertedBitmap }   <ColorConvertedBitmap />  |
| <b>(description)</b>       | Implements a markup extension that enables ColorConvertedBitmap creation. A ColorConvertedBitmap does not have an embedded profile, the profile instead being based on source and destination values. |
| <b>[return value type]</b> | <a href="#">ColorConvertedBitmap</a>  |

|                       |   |
|-----------------------|---|
| (usage)               | {ColorConvertedBitmap }   <ColorConvertedBitmap />  |
| <b>[constructors]</b> |   |
| <b>(1 parameter)</b>  |   |
| <b>image</b>          | <a href="#">x:Object</a>  |
| <b>(description)</b>  | A string that is parsed to determine three URIs: image source, source color context, and destination color context. |

#### 4.105 ColorInterpolationMode

[x:Object](#) > ColorInterpolationMode

|                      |   |
|----------------------|---|
| (usage)              | <b>ScRgbLinearInterpolation  SRgbLinearInterpolation</b>  |
| <b>(description)</b> | Determines how the colors in a gradient are interpolated. |
| <b>(used by)</b>     | <a href="#">GradientBrush</a>                             |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ColorInterpolationModeSyntax</a>              |

#### 4.106 ColorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ColorKeyFrame

|   |   |
|---|---|
| <a href="#">DiscreteColorKeyFrame</a> <a href="#">EasingColorKeyFrame</a> <a href="#">LinearColorKeyFrame</a> <a href="#">SplineColorKeyFrame</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a ColorAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">ColorKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false   |
| <b>(properties)</b>   |   |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>   |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.   |
| <b>Value</b>  | <a href="#">Color</a>   |
| <b>(description)</b>  | The key frame's target value.   |

#### 4.107 ColorKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ColorKeyFrameCollection

|         |   |
|---------|---|
| (usage) | <ColorKeyFrameCollection> <a href="#">ColorKeyFrame</a> *</ColorKeyFrameCollection> |
|---------|---|

|                            |   |
|----------------------------|---|
| (usage)                    | <ColorKeyFrameCollection> <a href="#">ColorKeyFrame</a> *</ColorKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of ColorKeyFrame objects.                                   |
| <b>(used by)</b>           | <a href="#">ColorAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true  |
| <b>[allowed types]</b>     | <a href="#">ColorKeyFrame</a>   |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | ColorKeyFrameCollection   |
| <b>(description)</b>       | An empty ColorKeyFrameCollection.   |

## 4.108 Colors

[x:Object](#) > Colors

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static Colors.StaticPropertyName}                          |
| <b>(description)</b>              | Implements a set of predefined colors.                        |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |
| <b>AliceBlue</b>                  | <a href="#">Color</a>   |
| <b>(description)</b>              | The system-defined color that has an ARGB value of #FFF0F8FF. |
| <b>AntiqueWhite</b>               | <a href="#">Color</a>   |
| <b>(description)</b>              | The system-defined color that has an ARGB value of #FFFAEBD7. |
| <b>Aqua</b>                       | <a href="#">Color</a>   |
| <b>(description)</b>              | The system-defined color that has an ARGB value of #FF00FFFF. |
| <b>Aquamarine</b>                 | <a href="#">Color</a>   |
| <b>(description)</b>              | The system-defined color that has an ARGB value of #FF7FFFD4. |
| <b>Azure</b>                      | <a href="#">Color</a>   |
| <b>(description)</b>              | The system-defined color that has an ARGB value of #FFF0FFFF. |
| <b>Beige</b>                      | <a href="#">Color</a>   |
| <b>(description)</b>              | The system-defined color that has an ARGB value of #FFF5F5DC. |
| <b>Bisque</b>                     | <a href="#">Color</a>   |
| <b>(description)</b>              | The system-defined color that has an ARGB value of #FFFE4C4.  |
| <b>Black</b>                      | <a href="#">Color</a>   |
| <b>(description)</b>              | The system-defined color that has an ARGB value of #FF000000. |

|                       |   |
|-----------------------|---|
| (usage)               | {x:Static Colors.StaticPropertyName}                          |
| <b>BlanchedAlmond</b> | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFFEBCD.  |
| <b>Blue</b>           | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF000FF.  |
| <b>BlueViolet</b>     | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF8A2BE2. |
| <b>Brown</b>          | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFA52A2A. |
| <b>BurlyWood</b>      | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFDEB887. |
| <b>CadetBlue</b>      | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF5F9EA0. |
| <b>Chartreuse</b>     | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF7FFF00. |
| <b>Chocolate</b>      | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFD2691E. |
| <b>Coral</b>          | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFF7F50.  |
| <b>CornflowerBlue</b> | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF6495ED. |
| <b>Cornsilk</b>       | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFFF8DC.  |
| <b>Crimson</b>        | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFDC143C. |
| <b>Cyan</b>           | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF0FFFF.  |
| <b>DarkBlue</b>       | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF0008B.  |
| <b>DarkCyan</b>       | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF008B8B. |

|                       |   |
|-----------------------|---|
| (usage)               | {x:Static Colors.StaticPropertyName}                          |
| <b>DarkGoldenrod</b>  | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFB8860B. |
| <b>DarkGray</b>       | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFA9A9A9. |
| <b>DarkGreen</b>      | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF006400. |
| <b>DarkKhaki</b>      | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFBDB76B. |
| <b>DarkMagenta</b>    | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF8B008B. |
| <b>DarkOliveGreen</b> | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF556B2F. |
| <b>DarkOrange</b>     | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFF8C00.  |
| <b>DarkOrchid</b>     | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF9932CC. |
| <b>DarkRed</b>        | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF8B0000. |
| <b>DarkSalmon</b>     | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FFE9967A. |
| <b>DarkSeaGreen</b>   | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF8FBC8F. |
| <b>DarkSlateBlue</b>  | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF483D8B. |
| <b>DarkSlateGray</b>  | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF2F4F4F. |
| <b>DarkTurquoise</b>  | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF00CED1. |
| <b>DarkViolet</b>     | <a href="#">Color</a>   |
| <b>(description)</b>  | The system-defined color that has an ARGB value of #FF9400D3. |

|                      |   |
|----------------------|---|
| (usage)              | {x:Static Colors.StaticPropertyName}                          |
| <b>DeepPink</b>      | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFF1493. |
| <b>DeepSkyBlue</b>   | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF00BFFF. |
| <b>DimGray</b>       | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF696969. |
| <b>DodgerBlue</b>    | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF1E90FF. |
| <b>Firebrick</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFB22222. |
| <b>FloralWhite</b>   | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFFFFA0. |
| <b>ForestGreen</b>   | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF228B22. |
| <b>Fuchsia</b>       | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFF00FF. |
| <b>Gainsboro</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFDCDCDC. |
| <b>GhostWhite</b>    | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFF8F8FF. |
| <b>Gold</b>          | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFD700.  |
| <b>Goldenrod</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFDAA520. |
| <b>Gray</b>          | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF808080. |
| <b>Green</b>         | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF008000. |
| <b>GreenYellow</b>   | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFADFF2F. |

|                             |  |
|-----------------------------|--|
| (usage)                     | {x:Static Colors.StaticPropertyName}                           |
| <b>Honeydew</b>             | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFF0FFF0.  |
| <b>HotPink</b>              | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFFF69B4.  |
| <b>IndianRed</b>            | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFCD5C5C.  |
| <b>Indigo</b>               | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FF4B0082.  |
| <b>Ivory</b>                | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFFFFFF0.  |
| <b>Khaki</b>                | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFF0E68C.  |
| <b>Lavender</b>             | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFE6E6FA.  |
| <b>LavenderBlush</b>        | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFFFFF0F5. |
| <b>LawnGreen</b>            | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FF7CFC00.  |
| <b>LemonChiffon</b>         | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFFFFFACD. |
| <b>LightBlue</b>            | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFADD8E6.  |
| <b>LightCoral</b>           | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFF08080.  |
| <b>LightCyan</b>            | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFE0FFFF.  |
| <b>LightGoldenrodYellow</b> | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFFAFAD2.  |
| <b>LightGray</b>            | <a href="#">Color</a>  |
| <b>(description)</b>        | The system-defined color that has an ARGB value of #FFD3D3D3.  |

|                         |   |
|-------------------------|---|
| (usage)                 | {x:Static Colors.StaticPropertyName}                          |
| <b>LightGreen</b>       | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF90EE90. |
| <b>LightPink</b>        | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FFFFB6C1. |
| <b>LightSalmon</b>      | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FFFA07A.  |
| <b>LightSeaGreen</b>    | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF20B2AA. |
| <b>LightSkyBlue</b>     | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF87CEFA. |
| <b>LightSlateGray</b>   | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF778899. |
| <b>LightSteelBlue</b>   | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FFB0C4DE. |
| <b>LightYellow</b>      | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FFFFFFE0. |
| <b>Lime</b>             | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF00FF00. |
| <b>LimeGreen</b>        | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF32CD32. |
| <b>Linen</b>            | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FFFAF0E6. |
| <b>Magenta</b>          | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FFFF00FF. |
| <b>Maroon</b>           | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF800000. |
| <b>MediumAquaMarine</b> | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF66CDAA. |
| <b>MediumBlue</b>       | <a href="#">Color</a>   |
| <b>(description)</b>    | The system-defined color that has an ARGB value of #FF0000CD. |



|                          |   |
|--------------------------|---|
| (usage)                  | {x:Static Colors.StaticPropertyName}                          |
| <b>MediumOrchid</b>      | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FFBA55D3. |
| <b>MediumPurple</b>      | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FF9370DB. |
| <b>MediumSeaGreen</b>    | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FF3CB371. |
| <b>MediumSlateBlue</b>   | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FF7B68EE. |
| <b>MediumSpringGreen</b> | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FF00FA9A. |
| <b>MediumTurquoise</b>   | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FF48D1CC. |
| <b>MediumVioletRed</b>   | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FFC71585. |
| <b>MidnightBlue</b>      | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FF191970. |
| <b>MintCream</b>         | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FFF5FFFA. |
| <b>MistyRose</b>         | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FFFFE4E1. |
| <b>Moccasin</b>          | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FFFFE4B5. |
| <b>NavajoWhite</b>       | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FFFFDEAD. |
| <b>Navy</b>              | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FF000080. |
| <b>OldLace</b>           | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FFFDF5E6. |
| <b>Olive</b>             | <a href="#">Color</a>   |
| <b>(description)</b>     | The system-defined color that has an ARGB value of #FF808000. |

|                      |   |
|----------------------|---|
| (usage)              | {x:Static Colors.StaticPropertyName}                          |
| <b>OliveDrab</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF6B8E23. |
| <b>Orange</b>        | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFA500.  |
| <b>OrangeRed</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFF4500. |
| <b>Orchid</b>        | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFDA70D6. |
| <b>PaleGoldenrod</b> | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFEE8AA.  |
| <b>PaleGreen</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF98FB98. |
| <b>PaleTurquoise</b> | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FAFAEEEE. |
| <b>PaleVioletRed</b> | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFDB7093. |
| <b>PapayaWhip</b>    | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFFEFD5. |
| <b>PeachPuff</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFDAB9.  |
| <b>Peru</b>          | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFCD853F. |
| <b>Pink</b>          | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFC0CB.  |
| <b>Plum</b>          | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFDDA0DD. |
| <b>PowderBlue</b>    | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFB0E0E6. |
| <b>Purple</b>        | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF800080. |

|                      |  |
|----------------------|--|
| (usage)              | {x:Static Colors.StaticPropertyName}                           |
| <b>Red</b>           | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFF0000.  |
| <b>RosyBrown</b>     | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFBC8F8F.  |
| <b>RoyalBlue</b>     | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF4169E1.  |
| <b>SaddleBrown</b>   | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF8B4513.  |
| <b>Salmon</b>        | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFA8072.  |
| <b>SandyBrown</b>    | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFF4A460.  |
| <b>SeaGreen</b>      | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF2E8B57.  |
| <b>SeaShell</b>      | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFFFF5EE. |
| <b>Sienna</b>        | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFA0522D.  |
| <b>Silver</b>        | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFC0C0C0.  |
| <b>SkyBlue</b>       | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF87CEEB.  |
| <b>SlateBlue</b>     | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF6A5ACD.  |
| <b>SlateGray</b>     | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF708090.  |
| <b>Snow</b>          | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFFFFAFA. |
| <b>SpringGreen</b>   | <a href="#">Color</a>  |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF00FF7F.  |

|                      |   |
|----------------------|---|
| (usage)              | {x:Static Colors.StaticPropertyName}                          |
| <b>SteelBlue</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF4682B4. |
| <b>Tan</b>           | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFD2B48C. |
| <b>Teal</b>          | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF008080. |
| <b>Thistle</b>       | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFD8BFD8. |
| <b>Tomato</b>        | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFF6347. |
| <b>Transparent</b>   | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #00FFFFFF. |
| <b>Turquoise</b>     | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF40E0D0. |
| <b>Violet</b>        | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFEE82EE. |
| <b>Wheat</b>         | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFF5DEB3. |
| <b>White</b>         | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFFFFFF. |
| <b>WhiteSmoke</b>    | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFF5F5F5. |
| <b>Yellow</b>        | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FFFFFF00. |
| <b>YellowGreen</b>   | <a href="#">Color</a>   |
| <b>(description)</b> | The system-defined color that has an ARGB value of #FF9ACD32. |

#### 4.109 ColumnDefinition

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [DefinitionBase](#) > ColumnDefinition, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <ColumnDefinition />  |
| <b>(description)</b>       | Defines column-specific properties that apply to Grid elements.   |
| <b>(used by)</b>           | <a href="#">ColumnDefinitionCollection</a>  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>MaxWidth</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that represents the maximum width of a ColumnDefinition.  |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>MinWidth</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that represents the minimum width of a ColumnDefinition.  |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>Width</b>               | <a href="#">GridLength</a>  |
| <b>(description)</b>       | The calculated width of a ColumnDefinition element, or sets the GridLength value of a column that is defined by the ColumnDefinition. |

#### 4.110 ColumnDefinitionCollection

[x:Object](#) > ColumnDefinitionCollection

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Provides access to an ordered, strongly typed collection of ColumnDefinition objects. |
| <b>(used by)</b>                  | <a href="#">Grid</a>  |
| <b>[is default constructible]</b> | false   |
| <b>[is list]</b>                  | true  |
| <b>[allowed types]</b>            | <a href="#">ColumnDefinition</a>  |

#### 4.111 ColumnSpaceDistribution

[x:Object](#) > ColumnSpaceDistribution

|                      |   |
|----------------------|---|
| (usage)              | <b>Left  Right  Between</b>                                   |
| <b>(description)</b> | Describes how to distribute space in columnated flow content. |
| <b>[is nullable]</b> | false   |

|               |   |
|---------------|---|
| (usage)       | <b>Left  Right  Between</b>                   |
| [text syntax] | <a href="#">ColumnSpaceDistributionSyntax</a> |

#### 4.112 CombinedGeometry

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Geometry](#) > CombinedGeometry

|                            |   |
|----------------------------|---|
| (usage)                    | <CombinedGeometry> string </CombinedGeometry>   |
| <b>(description)</b>       | Represents a 2-D geometric shape defined by the combination of two Geometry objects.                    |
| [text syntax]              | <a href="#">GeometrySyntax</a>  |
| <b>(properties)</b>        |   |
| <b>Geometry1</b>           | <a href="#">Geometry</a>  |
| <b>(description)</b>       | The first Geometry object of this CombinedGeometry object.  |
| <b>Geometry2</b>           | <a href="#">Geometry</a>  |
| <b>(description)</b>       | The second Geometry object of this CombinedGeometry object.   |
| <b>GeometryCombineMode</b> | <a href="#">GeometryCombineMode</a>   |
| <b>(description)</b>       | The way by which the two geometries (specified by the Geometry1 and Geometry2 properties) are combined. |

#### 4.113 ComboBox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [Selector](#) > ComboBox, [InputElement](#)

|                       |  |
|-----------------------|--|
| (usage)               | <ComboBox> <a href="#">x:Object</a> *</ComboBox>   |
| <b>(description)</b>  | Represents a selection control with a drop-down list that can be shown or hidden by clicking the arrow on the control. |
| [content property]    | Items  |
| [name property]       | Name   |
| [xml lang property]   | Language   |
| <b>(properties)</b>   |  |
| <b>IsDropDownOpen</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether the drop-down for a combo box is currently open.  |
| <b>IsEditable</b>     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that enables or disables editing of the text in text box of the ComboBox.                                      |

|  |   |
|--|---|
| (usage)                                      | <ComboBox> <a href="#">x:Object</a> *</ComboBox>  |
| <b>IsReadOnly</b>                            | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                         | A value that enables selection-only mode, in which the contents of the combo box are selectable but not editable. |
| <b>MaxDropDownHeight</b>                     | <a href="#">x:Double</a>  |
| <b>(description)</b>                         | The maximum height for a combo box drop-down.   |
| <b>[text syntax]</b>                         | <a href="#">LengthSyntax</a>  |
| <b>ShouldPreserveUserEnteredPrefix (4.5)</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                         | A value that indicates whether the ComboBox keeps the user's input or replaces the input with a matching item.    |
| <b>StaysOpenOnEdit</b>                       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                         | Whether a ComboBox that is open and displays a drop-down control will remain open when a user clicks the TextBox. |
| <b>Text</b>                                  | <a href="#">x:String</a>  |
| <b>(description)</b>                         | The text of the currently selected item.  |
| <b>(events)</b>                              |   |
| <b>DropDownClosed</b>                        | Occurs when the drop-down list of the combo box closes.   |
| <b>DropDownOpened</b>                        | Occurs when the drop-down list of the combo box opens.  |

#### 4.114 ComboBoxItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ListBoxItem](#) > ComboBoxItem, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <ComboBoxItem> <a href="#">x:Object</a> </ComboBoxItem> |
| <b>(description)</b>       | Implements a selectable item inside a ComboBox.         |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.115 CommandBinding

[x:Object](#) > CommandBinding

|                      |   |
|----------------------|---|
| (usage)              | <CommandBinding />  |
| <b>(description)</b> | Binds a RoutedCommand to the event handlers that implement the command. |

|                          |   |
|--------------------------|---|
| (usage)                  | <CommandBinding />  |
| <b>(used by)</b>         | <a href="#">CommandBindingCollection</a>  |
| <b>(properties)</b>      |   |
| <b>Command</b>           | <a href="#">ICommand</a>  |
| <b>(description)</b>     | The ICommand associated with this CommandBinding.   |
| <b>(events)</b>          |   |
| <b>CanExecute</b>        | Occurs when the command associated with this CommandBinding initiates a check to determine whether the command can be executed on the command target.         |
| <b>Executed</b>          | Occurs when the command associated with this CommandBinding executes.   |
| <b>PreviewCanExecute</b> | Occurs when the command associated with this CommandBinding initiates a check to determine whether the command can be executed on the current command target. |
| <b>PreviewExecuted</b>   | Occurs when the command associated with this CommandBinding executes.   |

#### 4.116 CommandBindingCollection

[x:Object](#) > CommandBindingCollection

|                        |  |
|------------------------|--|
| (usage)                | <CommandBindingCollection> <a href="#">CommandBinding</a> *</CommandBindingCollection> |
| <b>(description)</b>   | Represents a collection of CommandBinding objects.                                     |
| <b>(used by)</b>       | <a href="#">ContentElement</a> <a href="#">UIElement</a> <a href="#">UIElement3D</a>   |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">CommandBinding</a>   |

#### 4.117 ComponentCommands

[x:Object](#) > ComponentCommands

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static ComponentCommands.StaticPropertyName}  |
| <b>(description)</b>              | Provides a standard set of component-related commands, which have predefined key input gestures and Text properties. |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>ExtendSelectionDown</b>        | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>              | The value that represents the Extend Selection Down command.   |
| <b>ExtendSelectionLeft</b>        | <a href="#">RoutedUICommand</a>  |



|                             |   |
|-----------------------------|---|
| (usage)                     | {x:Static ComponentCommands.StaticPropertyName}               |
| <b>(description)</b>        | The value that represents the Extend Selection Left command.  |
| <b>ExtendSelectionRight</b> | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Extend Selection Right command. |
| <b>ExtendSelectionUp</b>    | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Extend Selection Up command.    |
| <b>MoveDown</b>             | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Down command.              |
| <b>MoveFocusBack</b>        | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Focus Back command.        |
| <b>MoveFocusDown</b>        | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Focus Down command.        |
| <b>MoveFocusForward</b>     | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Focus Forward command.     |
| <b>MoveFocusPageDown</b>    | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Focus Page Down command.   |
| <b>MoveFocusPageUp</b>      | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Focus Page Up command.     |
| <b>MoveFocusUp</b>          | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Focus Up command.          |
| <b>MoveLeft</b>             | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Left command.              |
| <b>MoveRight</b>            | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move Right command.             |
| <b>MoveToEnd</b>            | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move To End command.            |
| <b>MoveToHome</b>           | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move To Home command.           |
| <b>MoveToPageDown</b>       | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>        | The value that represents the Move To Page Down command.      |
| <b>MoveToPageUp</b>         | <a href="#">RoutedUICommand</a>                               |

|                         |  |
|-------------------------|--|
| (usage)                 | {x:Static ComponentCommands.StaticPropertyName}            |
| <b>(description)</b>    | The value that represents the Move To Page Up command.     |
| <b>MoveUp</b>           | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Move Up command.             |
| <b>ScrollByLine</b>     | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Scroll By Line command.      |
| <b>ScrollPageDown</b>   | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Scroll Page Down command.    |
| <b>ScrollPageLeft</b>   | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Scroll Page Left command.    |
| <b>ScrollPageRight</b>  | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Scroll Page Right command.   |
| <b>ScrollPageUp</b>     | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Scroll Page Up command.      |
| <b>SelectToEnd</b>      | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Select To End command.       |
| <b>SelectToHome</b>     | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Select To Home command.      |
| <b>SelectToPageDown</b> | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Select To Page Down command. |
| <b>SelectToPageUp</b>   | <a href="#">RoutedUICommand</a>                            |
| <b>(description)</b>    | The value that represents the Select To Page Up command.   |

#### 4.118 ComponentResourceKey

[x:Object](#) > [x:MarkupExtension](#) > [ResourceKey](#) > ComponentResourceKey

|                            |  |
|----------------------------|--|
| (usage)                    | {ComponentResourceKey }   <ComponentResourceKey />   |
| <b>(description)</b>       | Defines or references resource keys based on type names in external assemblies, as well as an additional identifier. |
| <b>[return value type]</b> | <a href="#">ResourceKey</a>  |
| <b>[constructors]</b>      |  |
| <b>(2 parameters)</b>      |  |

|                             |  |
|-----------------------------|--|
| (usage)                     | {ComponentResourceKey }   <ComponentResourceKey />   |
| <b>typeInTargetAssembly</b> | <a href="#">x:XamlType</a>   |
| <b>(description)</b>        | The type that defines the resource key.  |
| <b>resourceId</b>           | <a href="#">x:Object</a>   |
| <b>(description)</b>        | A unique identifier to differentiate this ComponentResourceKey from others associated with the type. |
| <b>(properties)</b>         |  |
| <b>ResourceId</b>           | <a href="#">x:Object</a>   |
| <b>(description)</b>        | A unique identifier to differentiate this key from others associated with this type.                 |
| <b>TypeInTargetAssembly</b> | <a href="#">x:XamlType</a>   |
| <b>(description)</b>        | The Type that defines the resource key.  |

#### 4.119 CompositeCollection

[x:Object](#) > CompositeCollection

|                        |  |
|------------------------|--|
| (usage)                | <CompositeCollection> <a href="#">x:Object</a> *</CompositeCollection>   |
| <b>(description)</b>   | Enables multiple collections and items to be displayed as a single list. |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">x:Object</a>   |

#### 4.120 Condition

[x:Object](#) > Condition

|                      |  |
|----------------------|--|
| (usage)              | <Condition />  |
| <b>(description)</b> | Represents a condition for the MultiTrigger and the MultiDataTrigger, which apply changes to property values based on a set of conditions. |
| <b>(used by)</b>     | <a href="#">ConditionCollection</a>  |
| <b>(properties)</b>  |  |
| <b>Binding</b>       | <a href="#">BindingBase</a>  |
| <b>(description)</b> | The binding that specifies the property of the condition. This is only applicable to MultiDataTrigger objects.                             |
| <b>Property</b>      | <a href="#">DependencyProperty</a>   |
| <b>(description)</b> | The property of the condition. This is only applicable to MultiTrigger objects.  |
| <b>SourceName</b>    | <a href="#">x:String</a>   |

|                      |   |
|----------------------|---|
| (usage)              | <Condition />   |
| <b>(description)</b> | The name of the object with the property that causes the associated setters to be applied. This is only applicable to MultiTrigger objects. |
| <b>Value</b>         | <a href="#">x:Object</a>  |
| <b>(description)</b> | The value of the condition.   |
| <b>[text syntax]</b> | This property's text syntax is the text syntax of the Property.   |

#### 4.121 ConditionCollection

[x:Object](#) > [Collection\(Condition\)](#) > ConditionCollection

|                        |   |
|------------------------|---|
| (usage)                | <ConditionCollection> <a href="#">Condition</a> *</ConditionCollection> |
| <b>(description)</b>   | Represents a collection of Condition objects.                           |
| <b>(used by)</b>       | <a href="#">MultiDataTrigger</a> <a href="#">MultiTrigger</a>           |
| <b>[is list]</b>       | true  |
| <b>[allowed types]</b> | <a href="#">Condition</a>   |

#### 4.122 ContainerUIElement3D

[x:Object](#) > [DependencyObject](#) > [Visual3D](#) > [UIElement3D](#) > ContainerUIElement3D, [InputElement](#)

|                           |   |
|---------------------------|---|
| (usage)                   | <ContainerUIElement3D> <a href="#">Visual3D</a> *</ContainerUIElement3D>    |
| <b>(description)</b>      | Represents a container for Visual3D objects.                                |
| <b>[content property]</b> | Children  |
| <b>(properties)</b>       |   |
| <b>Children</b>           | <a href="#">Visual3DCollection</a>  |
| <b>(description)</b>      | A Visual3DCollection of child elements of this ContainerUIElement3D object. |
| <b>[read only]</b>        | true  |

#### 4.123 ContainerVisual

[x:Object](#) > [DependencyObject](#) > [Visual](#) > ContainerVisual

|  |   |
|--|---|
| <a href="#">DrawingVisual</a> <a href="#">HostVisual</a> |   |
| <b>(usage)</b>   | <ContainerVisual />                     |
| <b>(description)</b>                                     | Manages a collection of Visual objects. |
| <b>(properties)</b>                                      |   |

|  |   |
|--|---|
| <a href="#">DrawingVisual</a> <a href="#">HostVisual</a> |   |
| <b>CacheMode</b>   | <a href="#">CacheMode</a>   |
| <b>(description)</b>                                     | A cached representation of the ContainerVisual.                         |
| <b>Children</b>  | <a href="#">VisualCollection</a>  |
| <b>(description)</b>                                     | The child collection of the ContainerVisual.                            |
| <b>[read only]</b>                                       | true  |
| <b>Clip</b>  | <a href="#">Geometry</a>  |
| <b>(description)</b>                                     | The clipping region of the ContainerVisual.                             |
| <b>Effect</b>  | <a href="#">Effect</a>  |
| <b>(description)</b>                                     | The bitmap effect to apply to the ContainerVisual.                      |
| <b>Offset</b>  | <a href="#">Vector</a>  |
| <b>(description)</b>                                     | The offset value of the ContainerVisual from its reference point.       |
| <b>Opacity</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>                                     | The opacity of the ContainerVisual, based on 0=transparent, 1=opaque.   |
| <b>OpacityMask</b>                                       | <a href="#">Brush</a>   |
| <b>(description)</b>                                     | A brush that specifies a possible opacity mask for the ContainerVisual. |
| <b>Transform</b>   | <a href="#">Transform</a>   |
| <b>(description)</b>                                     | The transform that is applied to the ContainerVisual.                   |
| <b>XSnappingGuidelines</b>                               | <a href="#">DoubleCollection</a>  |
| <b>(description)</b>                                     | The X (horizontal) guideline for the ContainerVisual.                   |
| <b>YSnappingGuidelines</b>                               | <a href="#">DoubleCollection</a>  |
| <b>(description)</b>                                     | The Y (vertical) guideline for the ContainerVisual.                     |

#### 4.124 ContentControl

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > ContentControl, [InputElement](#)

|  |  |
|--|--|
| <a href="#">ButtonBase</a> <a href="#">DataGridCell</a> <a href="#">Frame</a> <a href="#">GroupItem</a> <a href="#">HeaderedContentControl</a> <a href="#">Label</a> <a href="#">ListBoxItem</a> <a href="#">RibbonControl</a> <a href="#">RibbonGalleryItem</a> <a href="#">RibbonTabHeader</a> <a href="#">ScrollViewer</a> <a href="#">StatusBarItem</a> <a href="#">ToolTip</a> <a href="#">UserControl</a> <a href="#">Window</a> |  |
| <b>(usage)</b>   | <ContentControl> <a href="#">x:Object</a> </ContentControl>      |
| <b>(description)</b>   | Represents a control with a single piece of content of any type. |
| <b>[content property]</b>  | Content  |

|  |  |
|--|--|
| <a href="#">ButtonBase</a> <a href="#">DataGridCell</a> <a href="#">Frame</a> <a href="#">GroupItem</a> <a href="#">HeaderedContentControl</a> <a href="#">Label</a> <a href="#">ListBoxItem</a> <a href="#">RibbonControl</a> <a href="#">RibbonGalleryItem</a> <a href="#">RibbonTabHeader</a> <a href="#">ScrollViewer</a> <a href="#">StatusBarItem</a> <a href="#">ToolTip</a> <a href="#">UserControl</a> <a href="#">Window</a> |  |
| <b>[name property]</b>   | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>  |  |
| <b>Content</b>   | <a href="#">x:Object</a>   |
| <b>(description)</b>   | The content of a ContentControl.   |
| <b>ContentStringFormat</b>   | <a href="#">x:String</a>   |
| <b>(description)</b>   | A composite string that specifies how to format the Content property if it is displayed as a string. |
| <b>ContentTemplate</b>   | <a href="#">DataTemplate</a>   |
| <b>(description)</b>   | The data template used to display the content of the ContentControl.                                 |
| <b>ContentTemplateSelector</b>   | <a href="#">DataTemplateSelector</a>   |
| <b>(description)</b>   | A template selector that enables an application writer to provide custom template-selection logic.   |

#### 4.125 ContentElement

[x:Object](#) > [DependencyObject](#) > ContentElement, [IInputElement](#)

|   |  |
|---|--|
| <a href="#">FrameworkContentElement</a> |  |
| <b>(usage)</b>                          | <ContentElement />   |
| <b>(description)</b>                    | Provides a core-level base type for content elements. Content elements are designed for flow-style presentation, using an intuitive markup-oriented layout model and a deliberately simple object model. |
| <b>(properties)</b>                     |  |
| <b>AllowDrop</b>                        | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | A value that indicates whether this element can be used as the target of a drag-and-drop operation.  |
| <b>CommandBindings</b>                  | <a href="#">CommandBindingCollection</a>   |
| <b>(description)</b>                    | A collection of CommandBinding objects that are associated with this element.  |
| <b>[read only]</b>                      | true   |
| <b>Focusable</b>                        | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | A value that indicates whether the element can receive focus.  |

| <b>FrameworkContentElement</b>      |   |
|-------------------------------------|---|
| <b>InputBindings</b>                | <a href="#">InputBindingCollection</a>  |
| <b>(description)</b>                | The collection of input bindings that are associated with this element.                                       |
| <b>[read only]</b>                  | true  |
| <b>IsEnabled</b>                    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                | A value that indicates whether this element is enabled in the user interface (UI).                            |
| <b>(events)</b>                     |   |
| <b>DragEnter</b>                    | Occurs when the input system reports an underlying drag event with this element as the drag target.           |
| <b>DragLeave</b>                    | Occurs when the input system reports an underlying drag event with this element as the drag origin.           |
| <b>DragOver</b>                     | Occurs when the input system reports an underlying drag event with this element as the potential drop target. |
| <b>Drop</b>                         | Occurs when the input system reports an underlying drop event with this element as the drop target.           |
| <b>FocusableChanged</b>             | Occurs when the value of the Focusable property changes.  |
| <b>GiveFeedback</b>                 | Occurs when the input system reports an underlying drag-and-drop event that involves this element.            |
| <b>GotFocus</b>                     | Occurs when this element gets logical focus.  |
| <b>GotKeyboardFocus</b>             | Occurs when the keyboard is focused on this element.  |
| <b>GotMouseCapture</b>              | Occurs when this element captures the mouse.  |
| <b>GotStylusCapture</b>             | Occurs when this element captures the stylus.   |
| <b>GotTouchCapture</b>              | Occurs when a touch is captured to this element.  |
| <b>IsEnabledChanged</b>             | Occurs when the value of the IsEnabled property on this element changes.                                      |
| <b>IsKeyboardFocusedChanged</b>     | Occurs when the value of the IsKeyboardFocused property changes on this element.                              |
| <b>IsKeyboardFocusWithinChanged</b> | Occurs when the value of the IsKeyboardFocusWithinChanged property changes on this element.                   |
| <b>IsMouseCapturedChanged</b>       | Occurs when the value of the IsMouseCaptured property changes on this element.                                |
| <b>IsMouseCaptureWithinChanged</b>  | Occurs when the value of the IsMouseCaptureWithinProperty changes on this element.                            |
| <b>IsMouseDirectlyOverChanged</b>   | Occurs when the value of the IsMouseDirectlyOver property changes on this element.                            |

| <a href="#">FrameworkContentElement</a> |   |
|---|---|
| <b>IsStylusCapturedChanged</b>          | Occurs when the value of the IsStylusCaptured property changes on this element.                               |
| <b>IsStylusCaptureWithinChanged</b>     | Occurs when the value of the IsStylusCaptureWithin property changes on this element.                          |
| <b>IsStylusDirectlyOverChanged</b>      | Occurs when the value of the IsStylusDirectlyOver property changes on this element.                           |
| <b>KeyDown</b>                          | Occurs when a key is pressed while focus is on this element.  |
| <b>KeyUp</b>                            | Occurs when a key is released while focus is on this element.   |
| <b>LostFocus</b>                        | Occurs when this element loses logical focus.   |
| <b>LostKeyboardFocus</b>                | Occurs when the keyboard is no longer focused on this element.  |
| <b>LostMouseCapture</b>                 | Occurs when this element loses mouse capture.   |
| <b>LostStylusCapture</b>                | Occurs when this element loses stylus capture.  |
| <b>LostTouchCapture</b>                 | Occurs when this element loses a touch capture.   |
| <b>MouseDown</b>                        | Occurs when any mouse button is pressed while the pointer is over this element.                               |
| <b>MouseEnter</b>                       | Occurs when the mouse pointer enters the bounds of this element.  |
| <b>MouseLeave</b>                       | Occurs when the mouse pointer leaves the bounds of this element.  |
| <b>MouseLeftButtonDown</b>              | Occurs when the left mouse button is pressed while the mouse pointer is over this element.                    |
| <b>MouseLeftButtonUp</b>                | Occurs when the left mouse button is released while the mouse pointer is over this element.                   |
| <b>MouseMove</b>                        | Occurs when the mouse pointer moves while over this element.  |
| <b>MouseRightButtonDown</b>             | Occurs when the right mouse button is pressed while the mouse pointer is over this element.                   |
| <b>MouseRightButtonUp</b>               | Occurs when the right mouse button is released while the mouse pointer is over this element.                  |
| <b>MouseUp</b>                          | Occurs when any mouse button is released over this element.   |
| <b>MouseWheel</b>                       | Occurs when the user rotates the mouse wheel while the mouse pointer is over this element.                    |
| <b>PreviewDragEnter</b>                 | Occurs when the input system reports an underlying drag event with this element as the drag target.           |
| <b>PreviewDragLeave</b>                 | Occurs when the input system reports an underlying drag event with this element as the drag origin.           |
| <b>PreviewDragOver</b>                  | Occurs when the input system reports an underlying drag event with this element as the potential drop target. |



| <a href="#">FrameworkContentElement</a> |   |
|---|---|
| <b>PreviewDrop</b>                      | Occurs when the input system reports an underlying drop event with this element as the drop target.   |
| <b>PreviewGiveFeedback</b>              | Occurs when a drag-and-drop operation is started.   |
| <b>PreviewGotKeyboardFocus</b>          | Occurs when the keyboard is focused on this element.  |
| <b>PreviewKeyDown</b>                   | Occurs when a key is pressed while the keyboard is focused on this element.                           |
| <b>PreviewKeyUp</b>                     | Occurs when a key is released while the keyboard is focused on this element.                          |
| <b>PreviewLostKeyboardFocus</b>         | Occurs when the keyboard is no longer focused on this element.  |
| <b>PreviewMouseDown</b>                 | Occurs when any mouse button is pressed while the pointer is over this element.                       |
| <b>PreviewMouseLeftButtonDown</b>       | Occurs when the left mouse button is pressed while the mouse pointer is over this element.            |
| <b>PreviewMouseLeftButtonUp</b>         | Occurs when the left mouse button is released while the mouse pointer is over this element.           |
| <b>PreviewMouseMove</b>                 | Occurs when the mouse pointer moves while the mouse pointer is over this element.                     |
| <b>PreviewMouseRightButtonDown</b>      | Occurs when the right mouse button is pressed while the mouse pointer is over this element.           |
| <b>PreviewMouseRightButtonUp</b>        | Occurs when the right mouse button is released while the mouse pointer is over this element.          |
| <b>PreviewMouseUp</b>                   | Occurs when any mouse button is released while the mouse pointer is over this element.                |
| <b>PreviewMouseWheel</b>                | Occurs when the user rotates the mouse wheel while the mouse pointer is over this element.            |
| <b>PreviewQueryContinueDrag</b>         | Occurs when there is a change in the keyboard or mouse button state during a drag-and-drop operation. |
| <b>PreviewStylusButtonDown</b>          | Occurs when the stylus button is pressed while the pointer is over this element.                      |
| <b>PreviewStylusButtonUp</b>            | Occurs when the stylus button is released while the pointer is over this element.                     |
| <b>PreviewStylusDown</b>                | Occurs when the stylus touches the digitizer while it is over this element.                           |
| <b>PreviewStylusInAirMove</b>           | Occurs when the stylus moves over an element without actually touching the digitizer.                 |
| <b>PreviewStylusInRange</b>             | Occurs when the stylus is close enough to the digitizer to be detected, while over this element.      |
| <b>PreviewStylusMove</b>                | Occurs when the stylus moves while over the element. The stylus                                       |

| <a href="#">FrameworkContentElement</a> |  |
|---|--|
|   | must move while being detected by the digitizer to raise this event, otherwise, PreviewStylusInAirMove is raised instead.  |
| <b>PreviewStylusOutOfRange</b>          | Occurs when the stylus is too far from the digitizer to be detected.   |
| <b>PreviewStylusSystemGesture</b>       | Occurs when a user performs one of several stylus gestures.  |
| <b>PreviewStylusUp</b>                  | Occurs when the user raises the stylus off the digitizer while the stylus is over this element.  |
| <b>PreviewTextInput</b>                 | Occurs when this element gets text in a device-independent manner.   |
| <b>PreviewTouchDown</b>                 | Occurs when a finger touches the screen while the finger is over this element.   |
| <b>PreviewTouchMove</b>                 | Occurs when a finger moves on the screen while the finger is over this element.  |
| <b>PreviewTouchUp</b>                   | Occurs when a finger is raised off of the screen while the finger is over this element.  |
| <b>QueryContinueDrag</b>                | Occurs when there is a change in the keyboard or mouse button state during a drag-and-drop operation.  |
| <b>QueryCursor</b>                      | Occurs when the cursor is requested to display. This event is raised on an element each time that the mouse pointer moves to a new location, which means the cursor object might need to be changed based on its new position. |
| <b>StylusButtonDown</b>                 | Occurs when the stylus button is pressed while the pointer is over this element.   |
| <b>StylusButtonUp</b>                   | Occurs when the stylus button is released while the pointer is over this element.  |
| <b>StylusDown</b>                       | Occurs when the stylus touches the digitizer while the stylus is over this element.  |
| <b>StylusEnter</b>                      | Occurs when the stylus enters the bounds of this element.  |
| <b>StylusInAirMove</b>                  | Occurs when the stylus moves over an element without actually touching the digitizer.  |
| <b>StylusInRange</b>                    | Occurs when the stylus is close enough to the digitizer to be detected, while over this element.   |
| <b>StylusLeave</b>                      | Occurs when the stylus leaves the bounds of the element.   |
| <b>StylusMove</b>                       | Occurs when the stylus moves over this element. The stylus must move while on the digitizer to raise this event. Otherwise, StylusInAirMove is raised instead.   |
| <b>StylusOutOfRange</b>                 | Occurs when the stylus is too far from the digitizer to be detected, while over this element.  |
| <b>StylusSystemGesture</b>              | Occurs when a user performs one of several stylus gestures.  |

| <a href="#">FrameworkContentElement</a> |   |
|---|---|
| <b>StylusUp</b>                         | Occurs when the user raises the stylus off the digitizer while it is over this element. |
| <b>TextInput</b>                        | Occurs when this element gets text in a device-independent manner.                      |
| <b>TouchDown</b>                        | Occurs when a finger touches the screen while the finger is over this element.          |
| <b>TouchEnter</b>                       | Occurs when a touch moves from outside to inside the bounds of this element.            |
| <b>TouchLeave</b>                       | Occurs when a touch moves from inside to outside the bounds of this element.            |
| <b>TouchMove</b>                        | Occurs when a finger moves on the screen while the finger is over this element.         |
| <b>TouchUp</b>                          | Occurs when a finger is raised off of the screen while the finger is over this element. |

#### 4.126 ContentOperations

[x:Object](#) > ContentOperations

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Provides ways for manipulating the position of a ContentElement in an element tree. |
| <b>[is default constructible]</b> | false   |
| <b>(attachable properties)</b>    |   |
| <b>ContentOperations.Parent</b>   | <a href="#">DependencyObject</a>  |
| <b>(description)</b>              |   |
| <b>[target type]</b>              | <a href="#">ContentElement</a>  |

#### 4.127 ContentPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > ContentPresenter, [IInputElement](#)

| <a href="#">DataGridDetailsPresenter</a> <a href="#">RibbonContentPresenter</a> <a href="#">ScrollContentPresenter</a> |   |
|--|---|
| <b>(usage)</b>   | <ContentPresenter />                      |
| <b>(description)</b>   | Displays the content of a ContentControl. |
| <b>[name property]</b>   | Name                                      |
| <b>[xml lang property]</b>   | Language                                  |

| <a href="#">DataGridDetailsPresenter</a> <a href="#">RibbonContentPresenter</a> <a href="#">ScrollContentPresenter</a> |   |
|--|---|
| <b>(properties)</b>  |   |
| <b>Content</b>   | <a href="#">x:Object</a>  |
| <b>(description)</b>   | The data used to generate the child elements of a ContentPresenter.   |
| <b>ContentSource</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>   | The base name to use during automatic aliasing.   |
| <b>ContentStringFormat</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>   | A composite string that specifies how to format the Content property if it is displayed as a string.  |
| <b>ContentTemplate</b>   | <a href="#">DataTemplate</a>  |
| <b>(description)</b>   | The template used to display the content of the control.  |
| <b>ContentTemplateSelector</b>   | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>   | The DataTemplateSelector, which allows the application writer to provide custom logic for choosing the template that is used to display the content of the control. |
| <b>RecognizesAccessKey</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether the ContentPresenter should use AccessText in its style.   |

#### 4.128 ContextMenu

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [MenuBase](#) > ContextMenu, [IInputElement](#)

| <a href="#">RibbonContextMenu</a> |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | <ContextMenu> <a href="#">x:Object</a> *</ContextMenu>  |
| <b>(description)</b>              | Represents a pop-up menu that enables a control to expose functionality that is specific to the context of the control.   |
| <b>(used by)</b>                  | <a href="#">ContextMenuService</a> <a href="#">FrameworkContentElement</a> <a href="#">FrameworkElement</a> <a href="#">GridView</a> <a href="#">GridViewHeaderRowPresenter</a> |
| <b>[content property]</b>         | Items   |
| <b>[name property]</b>            | Name  |
| <b>[xml lang property]</b>        | Language  |
| <b>(properties)</b>               |   |
| <b>HasDropShadow</b>              | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value that indicates whether the context menu appears with a dropped shadow.  |

| <a href="#">RibbonContextMenu</a> |  |
|-----------------------------------|--|
| <b>HorizontalOffset</b>           | <a href="#">x:Double</a>   |
| <b>(description)</b>              | Get or sets the horizontal distance between the target origin and the popup alignment point. |
| <b>[text syntax]</b>              | <a href="#">LengthSyntax</a>   |
| <b>IsOpen</b>                     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>              | A value that indicates whether the ContextMenu is visible.                                   |
| <b>Placement</b>                  | <a href="#">PlacementMode</a>  |
| <b>(description)</b>              | The Placement property of a ContextMenu.   |
| <b>PlacementRectangle</b>         | <a href="#">Rect</a>   |
| <b>(description)</b>              | The area relative to which the context menu is positioned when it opens.                     |
| <b>PlacementTarget</b>            | <a href="#">UIElement</a>  |
| <b>(description)</b>              | The UIElement relative to which the ContextMenu is positioned when it opens.                 |
| <b>StaysOpen</b>                  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>              | A value that indicates whether the ContextMenu should close automatically.                   |
| <b>VerticalOffset</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>              | Get or sets the vertical distance between the target origin and the popup alignment point.   |
| <b>[text syntax]</b>              | <a href="#">LengthSyntax</a>   |
| <b>(events)</b>                   |  |
| <b>Closed</b>                     | Occurs when a particular instance of a ContextMenu closes.                                   |
| <b>Opened</b>                     | Occurs when a particular instance of a context menu opens.                                   |

#### 4.129 ContextMenuService

[x:Object](#) > ContextMenuService

|                                       |  |
|---------------------------------------|--|
| (usage)                               | None.  |
| <b>(description)</b>                  | Provides the system implementation for displaying a ContextMenu. |
| <b>[is default constructible]</b>     | false  |
| <b>(attachable properties)</b>        |  |
| <b>ContextMenuService.ContextMenu</b> | <a href="#">ContextMenu</a>                                      |
| <b>(description)</b>                  | The content of a ContextMenu.                                    |

|  |   |
|--|---|
| (usage)                                      | None.   |
| [target type]                                | <a href="#">DependencyObject</a>  |
| <b>ContextMenuService.HasDropShadow</b>      | <a href="#">x:Boolean</a>   |
| (description)                                | A value that indicates whether the ContextMenu has the drop shadow effect enabled.                              |
| [target type]                                | <a href="#">DependencyObject</a>  |
| <b>ContextMenuService.HorizontalOffset</b>   | <a href="#">x:Double</a>  |
| (description)                                | A value that indicates where along the x-direction to place the ContextMenu with respect to the parent control. |
| [target type]                                | <a href="#">DependencyObject</a>  |
| [text syntax]                                | <a href="#">LengthSyntax</a>  |
| <b>ContextMenuService.IsEnabled</b>          | <a href="#">x:Boolean</a>   |
| (description)                                | A value that indicates whether the ContextMenu can be shown.  |
| [target type]                                | <a href="#">DependencyObject</a>  |
| <b>ContextMenuService.Placement</b>          | <a href="#">PlacementMode</a>   |
| (description)                                | A value that specifies the placement of the ContextMenu relative to the PlacementTarget or PlacementRectangle.  |
| [target type]                                | <a href="#">DependencyObject</a>  |
| <b>ContextMenuService.PlacementRectangle</b> | <a href="#">Rect</a>  |
| (description)                                | The area relative to which the context menu is positioned when it opens.  |
| [target type]                                | <a href="#">DependencyObject</a>  |
| <b>ContextMenuService.PlacementTarget</b>    | <a href="#">UIElement</a>   |
| (description)                                | The parent control of the ContextMenu.  |
| [target type]                                | <a href="#">DependencyObject</a>  |
| <b>ContextMenuService.ShowOnDisabled</b>     | <a href="#">x:Boolean</a>   |
| (description)                                | A value that indicates whether the ContextMenu should be shown when its parent is grayed out.                   |
| [target type]                                | <a href="#">DependencyObject</a>  |
| <b>ContextMenuService.VerticalOffset</b>     | <a href="#">x:Double</a>  |
| (description)                                | A value that indicates where along the y-direction to place the ContextMenu with respect to the parent control. |

|  |                                  |
|--|----------------------------------|
| (usage)                                      | None.                            |
| [target type]                                | <a href="#">DependencyObject</a> |
| [text syntax]                                | <a href="#">LengthSyntax</a>     |
| (attachable events)                          |                                  |
| <b>ContextMenuService.ContextMenuClosing</b> |                                  |
| <b>ContextMenuService.ContextMenuOpening</b> |                                  |

#### 4.130 Control

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Control, [InputElement](#)

|   |  |
|---|--|
| <a href="#">Calendar</a> <a href="#">CalendarItem</a> <a href="#">ContentControl</a> <a href="#">DataGridRow</a> <a href="#">DatePicker</a> <a href="#">DocumentViewerBase</a> <a href="#">FlowDocumentReader</a> <a href="#">FlowDocumentScrollViewer</a> <a href="#">ItemsControl</a> <a href="#">KeyTipControl</a> <a href="#">PasswordBox</a> <a href="#">RangeBase</a> <a href="#">ResizeGrip</a> <a href="#">RibbonContextualTabGroup</a> <a href="#">RibbonTwoLineText</a> <a href="#">Separator</a> <a href="#">TextBoxBase</a> <a href="#">Thumb</a> |  |
| (usage)   | <Control />  |
| (description)   | Represents the base type for user interface (UI) elements that use a ControlTemplate to define their appearance. |
| [name property]   | Name   |
| [xml lang property]   | Language   |
| (properties)  |  |
| <b>Background</b>   | <a href="#">Brush</a>  |
| (description)   | A brush that describes the background of a control.  |
| <b>BorderBrush</b>  | <a href="#">Brush</a>  |
| (description)   | A brush that describes the border background of a control.   |
| <b>BorderThickness</b>  | <a href="#">Thickness</a>  |
| (description)   | The border thickness of a control.   |
| <b>FontFamily</b>   | <a href="#">FontFamily</a>   |
| (description)   | The font family of the control.  |
| <b>FontSize</b>   | <a href="#">x:Double</a>   |
| (description)   | The font size.   |
| [text syntax]   | <a href="#">FontSizeSyntax</a>   |
| <b>FontStretch</b>  | <a href="#">FontStretch</a>  |
| (description)   | The degree to which a font is condensed or expanded on the screen.   |

|   |  |
|---|--|
| <a href="#">Calendar</a> <a href="#">CalendarItem</a> <a href="#">ContentControl</a> <a href="#">DataGridRow</a> <a href="#">DatePicker</a> <a href="#">DocumentViewerBase</a> <a href="#">FlowDocumentReader</a> <a href="#">FlowDocumentScrollViewer</a> <a href="#">ItemsControl</a> <a href="#">KeyTipControl</a> <a href="#">PasswordBox</a> <a href="#">RangeBase</a> <a href="#">ResizeGrip</a> <a href="#">RibbonContextualTabGroup</a> <a href="#">RibbonTwoLineText</a> <a href="#">Separator</a> <a href="#">TextBoxBase</a> <a href="#">Thumb</a> |  |
| <b>FontStyle</b>  | <a href="#">FontStyle</a>  |
| <b>(description)</b>  | The font style.  |
| <b>FontWeight</b>   | <a href="#">FontWeight</a>   |
| <b>(description)</b>  | The weight or thickness of the specified font.   |
| <b>Foreground</b>   | <a href="#">Brush</a>  |
| <b>(description)</b>  | A brush that describes the foreground color.   |
| <b>HorizontalContentAlignment</b>   | <a href="#">HorizontalAlignment</a>  |
| <b>(description)</b>  | The horizontal alignment of the control's content.   |
| <b>IsTabStop</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether a control is included in tab navigation.  |
| <b>Padding</b>  | <a href="#">Thickness</a>  |
| <b>(description)</b>  | The padding inside a control.  |
| <b>TabIndex</b>   | <a href="#">x:Int32</a>  |
| <b>(description)</b>  | A value that determines the order in which elements receive focus when the user navigates through controls by using the TAB key. |
| <b>Template</b>   | <a href="#">ControlTemplate</a>  |
| <b>(description)</b>  | A control template.  |
| <b>VerticalContentAlignment</b>   | <a href="#">VerticalAlignment</a>  |
| <b>(description)</b>  | The vertical alignment of the control's content.   |
| <b>(events)</b>   |  |
| <b>MouseDoubleClick</b>   | Occurs when a mouse button is clicked two or more times.   |
| <b>PreviewMouseDoubleClick</b>  | Occurs when a user clicks the mouse button two or more times.  |

#### 4.131 ControllableStoryboardAction

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > ControllableStoryboardAction

|  |   |
|--|---|
| <a href="#">PauseStoryboard</a> <a href="#">RemoveStoryboard</a> <a href="#">ResumeStoryboard</a> <a href="#">SeekStoryboard</a> <a href="#">SetStoryboardSpeedRatio</a> <a href="#">SkipStoryboardToFill</a> <a href="#">StopStoryboard</a> |   |
| <b>(usage)</b>   | None.   |
| <b>(description)</b>   | Manipulates a Storyboard that has been applied by a BeginStoryboard |



|  |  |
|--|--|
| <a href="#">PauseStoryboard</a> <a href="#">RemoveStoryboard</a> <a href="#">ResumeStoryboard</a> <a href="#">SeekStoryboard</a> <a href="#">SetStoryboardSpeedRatio</a> <a href="#">SkipStoryboardToFill</a> <a href="#">StopStoryboard</a> |  |
|  | action.  |
| <b>[is default constructible]</b>  | false  |
| <b>(properties)</b>  |  |
| <b>BeginStoryboardName</b>   | <a href="#">x:String</a>   |
| <b>(description)</b>   | The Name of the BeginStoryboard that began the Storyboard you want to interactively control. |

#### 4.132 ControlTemplate

[x:Object](#) > [FrameworkTemplate](#) > ControlTemplate

|                                  |   |
|----------------------------------|---|
| (usage)                          | <ControlTemplate> <a href="#">FrameworkElement</a> </ControlTemplate>   |
| <b>(description)</b>             | Specifies the visual structure and behavioral aspects of a Control that can be shared across multiple instances of the control. |
| <b>(used by)</b>                 | <a href="#">Control</a> <a href="#">DataGrid</a> <a href="#">DataGridRow</a> <a href="#">Page</a> <a href="#">Validation</a>    |
| <b>[content property]</b>        | Template  |
| <b>[dictionary key property]</b> | TargetType  |
| <b>[is name scope]</b>           | true  |
| <b>(properties)</b>              |   |
| <b>TargetType</b>                | <a href="#">x:XamlType</a>  |
| <b>(description)</b>             | The type for which this ControlTemplate is intended.  |
| <b>Triggers</b>                  | <a href="#">TriggerCollection</a>   |
| <b>(description)</b>             | A collection of TriggerBase objects that apply property changes or perform actions based on specified conditions.               |
| <b>[read only]</b>               | true  |

#### 4.133 CoreCompatibilityPreferences

[x:Object](#) > CoreCompatibilityPreferences

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static<br>CoreCompatibilityPreferences.StaticPropertyName} |
| <b>(description)</b>              |   |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |

|  |   |
|--|---|
| (usage)  | {x:Static<br>CoreCompatibilityPreferences.StaticPropertyName} |
| <b>IsAltKeyRequiredInAccessKeyDefaultScope</b> | <a href="#">x:Boolean</a>                                     |
| <b>(description)</b>                           |   |

#### 4.134 CornerRadius

[x:Object](#) > CornerRadius

|                      |  |
|----------------------|--|
| (usage)              | <nerRadius> string </nerRadius>  |
| <b>(description)</b> | Represents the radii of a rectangle's corners.   |
| <b>(used by)</b>     | <a href="#">Border</a> <a href="#">RibbonButton</a> <a href="#">RibbonControlService</a> <a href="#">RibbonRadioButton</a> <a href="#">RibbonToggleButton</a> <a href="#">WindowChrome</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">nerRadiusSyntax</a>  |
| <b>(properties)</b>  |  |
| <b>BottomLeft</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b> | The radius of the bottom-left corner.  |
| <b>BottomRight</b>   | <a href="#">x:Double</a>   |
| <b>(description)</b> | The radius of the bottom-right corner.   |
| <b>TopLeft</b>       | <a href="#">x:Double</a>   |
| <b>(description)</b> | The radius of the top-left corner.   |
| <b>TopRight</b>      | <a href="#">x:Double</a>   |
| <b>(description)</b> | The radius of the top-right corner.  |

#### 4.135 CroppedBitmap

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > CroppedBitmap

|                      |   |
|----------------------|---|
| (usage)              | <CroppedBitmap> string </CroppedBitmap> |
| <b>(description)</b> | Crops a BitmapSource.                   |
| <b>[text syntax]</b> | x:Uri, from <a href="#">[MS-XAML]</a>   |
| <b>(properties)</b>  |   |
| <b>Source</b>        | <a href="#">BitmapSource</a>            |
| <b>(description)</b> | The source for the bitmap.              |

|                      |   |
|----------------------|---|
| (usage)              | <CroppedBitmap> string </CroppedBitmap>             |
| <b>SourceRect</b>    | <a href="#">Int32Rect</a>                           |
| <b>(description)</b> | The rectangular area that the bitmap is cropped to. |

#### 4.136 CubicEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > CubicEase, [IEasingFunction](#)

|                      |  |
|----------------------|--|
| (usage)              | <CubicEase />  |
| <b>(description)</b> | Represents an easing function that creates an animation that accelerates and/or decelerates using the formula $f(t) = t^3$ . |

#### 4.137 Cursor

[x:Object](#) > Cursor

|                                   |   |
|-----------------------------------|---|
| (usage)                           | <b>AppStarting  Arrow  ArrowCD  Cross  Hand  Help  IBeam  No  None...</b> |
| <b>(description)</b>              | Represents the image used for the mouse pointer.                          |
| <b>(used by)</b>                  | <a href="#">FrameworkContentElement</a> <a href="#">FrameworkElement</a>  |
| <b>[is default constructible]</b> | false   |
| <b>[text syntax]</b>              | <a href="#">CursorSyntax</a>  |

#### 4.138 Cursors

[x:Object](#) > Cursors

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static Cursors.StaticPropertyName}                    |
| <b>(description)</b>              | Defines a set of default cursors.                        |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>AppStarting</b>                | <a href="#">Cursor</a>                                   |
| <b>(description)</b>              | The Cursor that appears when an application is starting. |
| <b>Arrow</b>                      | <a href="#">Cursor</a>                                   |
| <b>(description)</b>              | The Arrow Cursor.  |
| <b>ArrowCD</b>                    | <a href="#">Cursor</a>                                   |
| <b>(description)</b>              | The arrow with a compact disk Cursor.                    |
| <b>Cross</b>                      | <a href="#">Cursor</a>                                   |

|                      |  |
|----------------------|--|
| (usage)              | {x:Static Cursors.StaticPropertyName}  |
| <b>(description)</b> | The crosshair Cursor.  |
| <b>Hand</b>          | <a href="#">Cursor</a>   |
| <b>(description)</b> | A hand Cursor.   |
| <b>Help</b>          | <a href="#">Cursor</a>   |
| <b>(description)</b> | A help Cursor which is a combination of an arrow and a question mark.                            |
| <b>IBeam</b>         | <a href="#">Cursor</a>   |
| <b>(description)</b> | An I-beam Cursor, which is used to show where the text cursor appears when the mouse is clicked. |
| <b>No</b>            | <a href="#">Cursor</a>   |
| <b>(description)</b> | A Cursor with which indicates that a particular region is invalid for a given operation.         |
| <b>None</b>          | <a href="#">Cursor</a>   |
| <b>(description)</b> | A special cursor that is invisible.  |
| <b>Pen</b>           | <a href="#">Cursor</a>   |
| <b>(description)</b> | A pen Cursor.  |
| <b>ScrollAll</b>     | <a href="#">Cursor</a>   |
| <b>(description)</b> | The scroll all Cursor.   |
| <b>ScrollE</b>       | <a href="#">Cursor</a>   |
| <b>(description)</b> | The scroll east Cursor.  |
| <b>ScrollN</b>       | <a href="#">Cursor</a>   |
| <b>(description)</b> | The scroll north Cursor.   |
| <b>ScrollNE</b>      | <a href="#">Cursor</a>   |
| <b>(description)</b> | The scroll northeast cursor.   |
| <b>ScrollNS</b>      | <a href="#">Cursor</a>   |
| <b>(description)</b> | The scroll north/south cursor.   |
| <b>ScrollNW</b>      | <a href="#">Cursor</a>   |
| <b>(description)</b> | A scroll northwest cursor.   |
| <b>ScrollS</b>       | <a href="#">Cursor</a>   |
| <b>(description)</b> | The scroll south Cursor.   |
| <b>ScrollSE</b>      | <a href="#">Cursor</a>   |
| <b>(description)</b> | A south/east scrolling Cursor.   |

|                      |  |
|----------------------|--|
| (usage)              | {x:Static Cursors.StaticPropertyName}  |
| <b>ScrollSW</b>      | <a href="#">Cursor</a>   |
| <b>(description)</b> | The scroll southwest Cursor.   |
| <b>ScrollW</b>       | <a href="#">Cursor</a>   |
| <b>(description)</b> | The scroll west Cursor.  |
| <b>ScrollWE</b>      | <a href="#">Cursor</a>   |
| <b>(description)</b> | A west/east scrolling Cursor.  |
| <b>SizeAll</b>       | <a href="#">Cursor</a>   |
| <b>(description)</b> | A four-headed sizing Cursor, which consists of four joined arrows that point north, south, east, and west. |
| <b>SizeNESW</b>      | <a href="#">Cursor</a>   |
| <b>(description)</b> | A two-headed northeast/southwest sizing Cursor.  |
| <b>SizeNS</b>        | <a href="#">Cursor</a>   |
| <b>(description)</b> | A two-headed north/south sizing Cursor.  |
| <b>SizeNWSE</b>      | <a href="#">Cursor</a>   |
| <b>(description)</b> | A two-headed northwest/southeast sizing Cursor.  |
| <b>SizeWE</b>        | <a href="#">Cursor</a>   |
| <b>(description)</b> | A two-headed west/east sizing Cursor.  |
| <b>UpArrow</b>       | <a href="#">Cursor</a>   |
| <b>(description)</b> | An up arrow Cursor, which is typically used to identify an insertion point.                                |
| <b>Wait</b>          | <a href="#">Cursor</a>   |
| <b>(description)</b> | Specifies a wait (or hourglass) Cursor.  |

#### 4.139 CursorType

[x:Object](#) > CursorType

|                      |   |
|----------------------|---|
| (usage)              | <b>None</b>   <b>No</b>   <b>Arrow</b>   <b>AppStarting</b>   <b>Cross</b>   <b>Help</b>   <b>IBeam</b>   <b>SizeAll</b>   <b>SizeNESW...</b> |
| <b>(description)</b> | Specifies the built in cursor types.  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">CursorTypeSyntax</a>  |

#### 4.140 CustomPopupPlacement

[x:Object](#) > CustomPopupPlacement

|                      |   |
|----------------------|---|
| (usage)              | <CustomPopupPlacement />  |
| <b>(description)</b> | Defines custom placement parameters for a Popup control.  |
| <b>[is nullable]</b> | false   |
| <b>(properties)</b>  |   |
| <b>Point</b>         | <a href="#">Point</a>   |
| <b>(description)</b> | The point that is relative to the target object where the upper-left corner of the Popup control is placed. |
| <b>PrimaryAxis</b>   | <a href="#">PopupPrimaryAxis</a>  |
| <b>(description)</b> | The direction in which to move a Popup control when the Popup is obscured by screen boundaries.             |

#### 4.141 DashStyle

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > DashStyle

|                      |   |
|----------------------|---|
| (usage)              | <b>Dash  DashDot  DashDotDot  Dot  Solid</b>                              |
| <b>(description)</b> | Represents the sequence of dashes and gaps that will be applied by a Pen. |
| <b>(used by)</b>     | <a href="#">Pen</a>   |
| <b>(properties)</b>  |   |
| <b>Dashes</b>        | <a href="#">DoubleCollection</a>  |
| <b>(description)</b> | The collection of dashes and gaps in this DashStyle.                      |
| <b>Offset</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b> | How far in the dash sequence the stroke will start.                       |

#### 4.142 DashStyles

[x:Object](#) > DashStyles

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static DashStyles.StaticPropertyName}             |
| <b>(description)</b>              | Implements a set of predefined DashStyle objects.    |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>Dash</b>                       | <a href="#">DashStyle</a>                            |
| <b>(description)</b>              | A DashStyle with a Dashes property equal to 2,2.     |
| <b>DashDot</b>                    | <a href="#">DashStyle</a>                            |
| <b>(description)</b>              | A DashStyle with a Dashes property equal to 2,2,0,2. |

|                      |  |
|----------------------|--|
| (usage)              | {x:Static DashStyles.StaticPropertyName}                 |
| <b>DashDotDot</b>    | <a href="#">DashStyle</a>                                |
| <b>(description)</b> | A DashStyle with a Dashes property equal to 2,2,0,2,0,2. |
| <b>Dot</b>           | <a href="#">DashStyle</a>                                |
| <b>(description)</b> | A DashStyle with a Dashes property equal to 0,2.         |
| <b>Solid</b>         | <a href="#">DashStyle</a>                                |
| <b>(description)</b> | A DashStyle with an empty Dashes property.               |

#### 4.143 DataErrorValidationRule

[x:Object](#) > [ValidationRule](#) > DataErrorValidationRule

|                      |   |
|----------------------|---|
| (usage)              | <DataErrorValidationRule />   |
| <b>(description)</b> | Represents a rule that checks for errors that are raised by the IDataErrorInfo implementation of the source object. |

#### 4.144 DataGrid

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [Selector](#) > [MultiSelector](#) > DataGrid, [IInputElement](#)

|                                 |   |
|---------------------------------|---|
| (usage)                         | <DataGrid> <a href="#">x:Object</a> *</DataGrid>                          |
| <b>(description)</b>            | Represents a control that displays data in a customizable grid.           |
| <b>[content property]</b>       | Items   |
| <b>[name property]</b>          | Name  |
| <b>[xml lang property]</b>      | Language  |
| <b>(properties)</b>             |   |
| <b>AlternatingRowBackground</b> | <a href="#">Brush</a>   |
| <b>(description)</b>            | The background brush for use on alternating rows.                         |
| <b>AreRowDetailsFrozen</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>            | A value that indicates whether the row details can scroll horizontally.   |
| <b>AutoGenerateColumns</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>            | A value that indicates whether the columns are created automatically.     |
| <b>CanUserAddRows</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>            | A value that indicates whether the user can add new rows to the DataGrid. |

|                              |  |
|------------------------------|--|
| (usage)                      | <DataGrid> <a href="#">x:Object</a> *</DataGrid>   |
| <b>CanUserDeleteRows</b>     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether the user can delete rows from the DataGrid.   |
| <b>CanUserReorderColumns</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether the user can change the column display order by dragging column headers with the mouse. |
| <b>CanUserResizeColumns</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether the user can adjust the width of columns by using the mouse.                            |
| <b>CanUserResizeRows</b>     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether the user can adjust the height of rows by using the mouse.                              |
| <b>CanUserSortColumns</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether the user can sort columns by clicking the column header.                                |
| <b>CellStyle</b>             | <a href="#">Style</a>  |
| <b>(description)</b>         | The style applied to all cells in the DataGrid.  |
| <b>ClipboardCopyMode</b>     | <a href="#">DataGridClipboardCopyMode</a>  |
| <b>(description)</b>         | A value that indicates how content is copied to the clipboard.   |
| <b>ColumnHeaderHeight</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b>         | The height of the column headers row.  |
| <b>ColumnHeaderStyle</b>     | <a href="#">Style</a>  |
| <b>(description)</b>         | The style applied to all column headers in the DataGrid.   |
| <b>Columns</b>               | <a href="#">ObservableCollection(DataGridColumn)</a>   |
| <b>(description)</b>         | A collection that contains all the columns in the DataGrid.  |
| <b>[read only]</b>           | true   |
| <b>ColumnWidth</b>           | <a href="#">DataGridLength</a>   |
| <b>(description)</b>         | The standard width and sizing mode of columns and headers in the DataGrid.   |
| <b>CurrentCell</b>           | <a href="#">DataGridCellInfo</a>   |
| <b>(description)</b>         | The cell that has focus.   |
| <b>CurrentColumn</b>         | <a href="#">DataGridColumn</a>   |



|                                      |  |
|--------------------------------------|--|
| (usage)                              | <DataGrid> <a href="#">x:Object</a> *</DataGrid>   |
| <b>(description)</b>                 | The column that contains the current cell.   |
| <b>CurrentItem</b>                   | <a href="#">x:Object</a>   |
| <b>(description)</b>                 | The data item bound to the row that contains the current cell.   |
| <b>DragIndicatorStyle</b>            | <a href="#">Style</a>  |
| <b>(description)</b>                 | The style that is used when rendering the drag indicator that is displayed while dragging a column header. |
| <b>DropLocationIndicatorStyle</b>    | <a href="#">Style</a>  |
| <b>(description)</b>                 | The style that is applied to indicate the drop location when dragging a column header.                     |
| <b>EnableColumnVirtualization</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                 | A value that indicates whether column virtualization is enabled.   |
| <b>EnableRowVirtualization</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                 | A value that indicates whether row virtualization is enabled.  |
| <b>FrozenColumnCount</b>             | <a href="#">x:Int32</a>  |
| <b>(description)</b>                 | The number of non-scrolling columns.   |
| <b>GridLinesVisibility</b>           | <a href="#">DataGridGridLinesVisibility</a>  |
| <b>(description)</b>                 | A value that indicates which grid lines are shown.   |
| <b>HeadersVisibility</b>             | <a href="#">DataGridHeadersVisibility</a>  |
| <b>(description)</b>                 | The value that specifies the visibility of the row and column headers.                                     |
| <b>HorizontalGridLinesBrush</b>      | <a href="#">Brush</a>  |
| <b>(description)</b>                 | The brush that is used to draw the horizontal grid lines.  |
| <b>HorizontalScrollBarVisibility</b> | <a href="#">ScrollBarVisibility</a>  |
| <b>(description)</b>                 | A value that indicates how horizontal scroll bars are displayed in the DataGrid.                           |
| <b>IsReadOnly</b>                    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                 | A value that indicates whether the user can edit values in the DataGrid.                                   |
| <b>MaxColumnWidth</b>                | <a href="#">x:Double</a>   |
| <b>(description)</b>                 | The maximum width constraint of the columns and headers in the DataGrid.                                   |
| <b>MinColumnWidth</b>                | <a href="#">x:Double</a>   |
| <b>(description)</b>                 | The minimum width constraint of the columns and headers in the   |

|                                   |  |
|-----------------------------------|--|
| (usage)                           | <DataGrid> <a href="#">x:Object</a> *</DataGrid>                           |
|                                   | DataGrid.  |
| <b>MinRowHeight</b>               | <a href="#">x:Double</a>   |
| <b>(description)</b>              | The minimum height constraint of the rows and headers in the DataGrid.     |
| <b>RowBackground</b>              | <a href="#">Brush</a>  |
| <b>(description)</b>              | The default brush for the row background.                                  |
| <b>RowDetailsTemplate</b>         | <a href="#">DataTemplate</a>   |
| <b>(description)</b>              | The template that is used to display the row details.                      |
| <b>RowDetailsTemplateSelector</b> | <a href="#">DataTemplateSelector</a>                                       |
| <b>(description)</b>              | The template selector that is used for the row details.                    |
| <b>RowDetailsVisibilityMode</b>   | <a href="#">DataGridRowDetailsVisibilityMode</a>                           |
| <b>(description)</b>              | A value that indicates when the details section of a row is displayed.     |
| <b>RowHeaderStyle</b>             | <a href="#">Style</a>  |
| <b>(description)</b>              | The style applied to all row headers.                                      |
| <b>RowHeaderTemplate</b>          | <a href="#">DataTemplate</a>   |
| <b>(description)</b>              | The template for the row headers.  |
| <b>RowHeaderTemplateSelector</b>  | <a href="#">DataTemplateSelector</a>                                       |
| <b>(description)</b>              | The template selector for row headers.                                     |
| <b>RowHeaderWidth</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>              | The width of the row header column.  |
| <b>RowHeight</b>                  | <a href="#">x:Double</a>   |
| <b>(description)</b>              | The suggested height for all rows.   |
| <b>RowStyle</b>                   | <a href="#">Style</a>  |
| <b>(description)</b>              | The style applied to all rows.   |
| <b>RowStyleSelector</b>           | <a href="#">StyleSelector</a>  |
| <b>(description)</b>              | The style selector for the rows.   |
| <b>RowValidationErrorTemplate</b> | <a href="#">ControlTemplate</a>  |
| <b>(description)</b>              | The template that is used to visually indicate an error in row validation. |
| <b>RowValidationRules</b>         | <a href="#">ObservableCollection(ValidationRule)</a>                       |
| <b>(description)</b>              | The rules that are used to validate the data in each row.                  |

|                                     |  |
|-------------------------------------|--|
| (usage)                             | <DataGrid> <a href="#">x:Object</a> *</DataGrid>   |
| <b>[read only]</b>                  | true   |
| <b>SelectedCells</b>                | <a href="#">IList(DataGridCellInfo)</a>  |
| <b>(description)</b>                | The list of cells that are currently selected.   |
| <b>[read only]</b>                  | true   |
| <b>SelectionMode</b>                | <a href="#">DataGridSelectionMode</a>  |
| <b>(description)</b>                | A value that indicates how rows and cells are selected in the DataGrid.                  |
| <b>SelectionUnit</b>                | <a href="#">DataGridSelectionUnit</a>  |
| <b>(description)</b>                | A value that indicates whether rows, cells, or both can be selected in the DataGrid.     |
| <b>VerticalGridLinesBrush</b>       | <a href="#">Brush</a>  |
| <b>(description)</b>                | The brush that is used to draw the vertical grid lines.                                  |
| <b>VerticalScrollBarVisibility</b>  | <a href="#">ScrollBarVisibility</a>  |
| <b>(description)</b>                | A value that indicates how vertical scroll bars are displayed in the DataGrid.           |
| <b>(static properties)</b>          |  |
| <b>DeleteCommand</b>                | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>                | Represents the command that indicates the intention to delete the current row.           |
| <b>FocusBorderBrushKey</b>          | <a href="#">ComponentResourceKey</a>   |
| <b>(description)</b>                | The key that references the default border brush for a focused cell.                     |
| <b>HeadersVisibilityConverter</b>   | <a href="#">IValueConverter</a>  |
| <b>(description)</b>                | The converter that converts a DataGridHeadersVisibility to a Visibility.                 |
| <b>RowDetailsScrollingConverter</b> | <a href="#">IValueConverter</a>  |
| <b>(description)</b>                | The converter that converts a Boolean value to a SelectiveScrollingOrientation.          |
| <b>SelectAllCommand</b>             | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>                | Represents the command that indicates the intention to select all cells in the DataGrid. |
| <b>(events)</b>                     |  |
| <b>AddingNewItem</b>                |  |
| <b>AutoGeneratedColumns</b>         | Occurs when auto generation of all columns is completed.                                 |
| <b>AutoGeneratingColumn</b>         | Occurs when an individual column is auto-generated.                                      |

|                                    |   |
|------------------------------------|---|
| (usage)                            | <DataGrid> <a href="#">x:Object</a> *</DataGrid>  |
| <b>BeginningEdit</b>               | Occurs before a row or cell enters edit mode.   |
| <b>CellEditEnding</b>              | Occurs before a cell edit is committed or canceled.                                     |
| <b>ColumnDisplayIndexChanged</b>   | Occurs when the DisplayIndex property on one of the columns changes.                    |
| <b>ColumnHeaderDragCompleted</b>   | Occurs when the user releases a column header after dragging it by using the mouse.     |
| <b>ColumnHeaderDragDelta</b>       | Occurs every time the mouse position changes while the user drags a column header.      |
| <b>ColumnHeaderDragStarted</b>     | Occurs when the user begins dragging a column header by using the mouse.                |
| <b>ColumnReordered</b>             | Occurs when a column moves to a new position in the display order.                      |
| <b>ColumnReordering</b>            | Occurs before a column moves to a new position in the display order.                    |
| <b>CopyingRowClipboardContent</b>  | Occurs after the default row content is prepared.                                       |
| <b>CurrentCellChanged</b>          | Occurs when the value of the CurrentCell property has changed.                          |
| <b>InitializingNewItem</b>         | Occurs when a new item is created.  |
| <b>LoadingRow</b>                  | Occurs after a DataRow is instantiated, so that you can customize it before it is used. |
| <b>LoadingRowDetails</b>           | Occurs when a new row details template is applied to a row.                             |
| <b>PreparingCellForEdit</b>        | Occurs when a cell enters edit mode.  |
| <b>RowDetailsVisibilityChanged</b> | Occurs when the visibility of a row details element changes.                            |
| <b>RowEditEnding</b>               | Occurs before a row edit is committed or canceled.                                      |
| <b>SelectedCellsChanged</b>        | Occurs when the SelectedCells collection changes.                                       |
| <b>Sorting</b>                     | Occurs when a column is being sorted.   |
| <b>UnloadingRow</b>                | Occurs when a DataRow object becomes available for reuse.                               |
| <b>UnloadingRowDetails</b>         | Occurs when a row details element becomes available for reuse.                          |

#### 4.145 DataGridBoundColumn

[x:Object](#) > [DependencyObject](#) > [DataGridColumn](#) > DataGridBoundColumn

|   |   |
|---|---|
| <a href="#">DataGridCheckBoxColumn</a> <a href="#">DataGridHyperlinkColumn</a> <a href="#">DataGridTextColumn</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | Serves as the base type for columns that can bind to a property in the data source of a DataGrid. |
| <b>[is default constructible]</b>   | false   |

|   |  |
|---|--|
| <a href="#">DataGridCheckBoxColumn</a> <a href="#">DataGridHyperlinkColumn</a> <a href="#">DataGridTextColumn</a> |  |
| <b>(properties)</b>   |  |
| <b>Binding</b>  | <a href="#">BindingBase</a>  |
| <b>(description)</b>  | The binding that associates the column with a property in the data source.   |
| <b>ClipboardContentBinding</b>  | <a href="#">BindingBase</a>  |
| <b>(description)</b>  | The binding object to use when getting or setting cell content for the clipboard.                                  |
| <b>EditingElementStyle</b>  | <a href="#">Style</a>  |
| <b>(description)</b>  | The style that is used when rendering the element that the column displays for a cell in editing mode.             |
| <b>ElementStyle</b>   | <a href="#">Style</a>  |
| <b>(description)</b>  | The style that is used when rendering the element that the column displays for a cell that is not in editing mode. |

#### 4.146 DataGridCell

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > DataGridCell, [InputElement](#)

|                            |  |
|----------------------------|--|
| <b>(usage)</b>             | <DataGridCell> <a href="#">x:Object</a> </DataGridCell>  |
| <b>(description)</b>       | Represents a cell of a DataGrid control.                 |
| <b>[content property]</b>  | Content  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>IsEditing</b>           | <a href="#">x:Boolean</a>                                |
| <b>(description)</b>       | A value that indicates whether the cell is in edit mode. |
| <b>IsSelected</b>          | <a href="#">x:Boolean</a>                                |
| <b>(description)</b>       | A value that indicates whether the cell is selected.     |
| <b>(events)</b>            |  |
| <b>Selected</b>            | Occurs when the cell is selected.                        |
| <b>Unselected</b>          | Occurs when the cell selection is cleared.               |

#### 4.147 DataGridCellInfo

[x:Object](#) > DataGridCellInfo

|                      |   |
|----------------------|---|
| (usage)              | <DataGridCellInfo />  |
| <b>(description)</b> | Represents information about a specific cell in a DataGrid. |
| <b>(used by)</b>     | <a href="#">DataGrid</a>                                    |
| <b>[is nullable]</b> | false   |

#### 4.148 DataGridCellsPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > [VirtualizingPanel](#) > DataGridCellsPanel, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <DataGridCellsPanel> <a href="#">UIElement</a> *</DataGridCellsPanel>     |
| <b>(description)</b>       | Represents a panel that lays out cells and column headers in a data grid. |
| <b>[content property]</b>  | Children  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.149 DataGridCellsPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > DataGridCellsPresenter, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <DataGridCellsPresenter> <a href="#">x:Object</a> *</DataGridCellsPresenter>   |
| <b>(description)</b>       | Used within the template of a DataGrid to specify the location in the control's visual tree where the cells are to be added. |
| <b>[content property]</b>  | Items  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Item</b>                | <a href="#">x:Object</a>   |
| <b>(description)</b>       | The data item that the row represents.   |

#### 4.150 DataGridCheckBoxColumn

[x:Object](#) > [DependencyObject](#) > [DataGridColumn](#) > [DataGridBoundColumn](#) > DataGridCheckBoxColumn

|         |                            |
|---------|----------------------------|
| (usage) | <DataGridCheckBoxColumn /> |
|---------|----------------------------|

|                            |   |
|----------------------------|---|
| (usage)                    | <DataGridCheckBoxColumn />  |
| <b>(description)</b>       | Represents a DataGrid column that hosts CheckBox controls in its cells.                 |
| <b>(properties)</b>        |   |
| <b>IsThreeState</b>        | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the hosted CheckBox controls enable three states or two. |
| <b>(static properties)</b> |   |
| <b>DefaultEditingStyle</b> | <a href="#">Style</a>   |
| <b>(description)</b>       | The default value of the EditingElementStyle property.                                  |
| <b>DefaultElementStyle</b> | <a href="#">Style</a>   |
| <b>(description)</b>       | The default value of the ElementStyle property.   |

#### 4.151 DataGridClipboardCellContent

[x:Object](#) > DataGridClipboardCellContent

|                      |   |
|----------------------|---|
| (usage)              | <DataGridClipboardCellContent />  |
| <b>(description)</b> | Encapsulates the value and location of a DataGrid cell for use when copying content to the Clipboard. |
| <b>[is nullable]</b> | false   |

#### 4.152 DataGridClipboardCopyMode

[x:Object](#) > DataGridClipboardCopyMode

|                      |  |
|----------------------|--|
| (usage)              | <b>None   ExcludeHeader   IncludeHeader</b>  |
| <b>(description)</b> | Defines constants that specify whether users can copy data from a DataGrid control to the Clipboard and whether column header values are included. |
| <b>(used by)</b>     | <a href="#">DataGrid</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DataGridClipboardCopyModeSyntax</a>  |

#### 4.153 DataGridColumn

[x:Object](#) > [DependencyObject](#) > DataGridColumn

|   |       |
|---|-------|
| <a href="#">DataGridBoundColumn</a> <a href="#">DataGridComboBoxColumn</a> <a href="#">DataGridTemplateColumn</a> |       |
| <b>(usage)</b>  | None. |

| <a href="#">DataGridBoundColumn</a> <a href="#">DataGridComboBoxColumn</a> <a href="#">DataGridTemplateColumn</a> |   |
|---|---|
| <b>(description)</b>  | Represents a DataGrid column.   |
| <b>(used by)</b>  | <a href="#">DataGrid</a>  |
| <b>[is default constructible]</b>   | false   |
| <b>(properties)</b>   |   |
| <b>CanUserReorder</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether the user can change the column display position by dragging the column header. |
| <b>CanUserResize</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether the user can adjust the column width by using the mouse.                       |
| <b>CanUserSort</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether the user can sort the column by clicking the column header.                    |
| <b>CellStyle</b>  | <a href="#">Style</a>   |
| <b>(description)</b>  | The style that is used to render cells in the column.   |
| <b>ClipboardContentBinding</b>  | <a href="#">BindingBase</a>   |
| <b>(description)</b>  | The binding object to use when getting or setting cell content for the clipboard.                             |
| <b>DisplayIndex</b>   | <a href="#">x:Int32</a>   |
| <b>(description)</b>  | The display position of the column relative to the other columns in the DataGrid.                             |
| <b>DragIndicatorStyle</b>   | <a href="#">Style</a>   |
| <b>(description)</b>  | The style object to apply to the column header during a drag operation.                                       |
| <b>Header</b>   | <a href="#">x:Object</a>  |
| <b>(description)</b>  | The content of the column header.   |
| <b>HeaderStringFormat</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The format pattern to apply to the content of the column header.  |
| <b>HeaderStyle</b>  | <a href="#">Style</a>   |
| <b>(description)</b>  | The style that is used when rendering the column header.  |
| <b>HeaderTemplate</b>   | <a href="#">DataTemplate</a>  |
| <b>(description)</b>  | The template that defines the visual representation of the column header.                                     |



| <a href="#">DataGridBoundColumn</a> <a href="#">DataGridComboBoxColumn</a> <a href="#">DataGridTemplateColumn</a> |   |
|---|---|
| <b>HeaderTemplateSelector</b>   | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>  | The object that selects which template to use for the column header.                                      |
| <b>IsReadOnly</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether cells in the column can be edited.   |
| <b>MaxWidth</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The maximum width constraint of the column.   |
| <b>MinWidth</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The minimum width constraint of the column.   |
| <b>SortDirection</b>  | <a href="#">x:Nullable</a> (ListSortDirection)  |
| <b>(description)</b>  | The sort direction (ascending or descending) of the column.   |
| <b>SortMemberPath</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | A property name, or a period-delimited hierarchy of property names, that indicates the member to sort by. |
| <b>Visibility</b>   | <a href="#">Visibility</a>  |
| <b>(description)</b>  | The visibility of the column.   |
| <b>Width</b>  | <a href="#">DataGridLength</a>  |
| <b>(description)</b>  | The column width or automatic sizing mode.  |
| <b>(events)</b>   |   |
| <b>CopyingCellClipboardContent</b>  | Occurs after the cell clipboard content is prepared.  |
| <b>PastingCellClipboardContent</b>  | Occurs before the clipboard content is moved to the cell.   |

#### 4.154 DataGridColumnHeader

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > DataGridColumnHeader, [InputElement](#)

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <DataGridColumnHeader> <a href="#">x:Object</a> </DataGridColumnHeader> |
| <b>(description)</b>       | Represents an individual DataGrid column header.                        |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>SeparatorBrush</b>      | <a href="#">Brush</a>   |

|  |   |
|--|---|
| (usage)                                  | <DataGridColumnHeader> <a href="#">x:Object</a> </DataGridColumnHeader>                           |
| <b>(description)</b>                     | The Brush used to paint the column header separator lines.  |
| <b>SeparatorVisibility</b>               | <a href="#">Visibility</a>  |
| <b>(description)</b>                     | The user interface (UI) visibility of the column header separator lines.                          |
| <b>(static properties)</b>               |   |
| <b>ColumnFloatingHeaderStyleKey</b>      | <a href="#">ComponentResourceKey</a>  |
| <b>(description)</b>                     | The key that references the style for displaying column headers during a header drag operation.   |
| <b>ColumnHeaderDropSeparatorStyleKey</b> | <a href="#">ComponentResourceKey</a>  |
| <b>(description)</b>                     | The key that references the style for the drop location indicator during a header drag operation. |

#### 4.155 DataGridColumnHeadersPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > DataGridColumnHeadersPresenter, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <DataGridColumnHeadersPresenter> <a href="#">x:Object</a> *</DataGridColumnHeadersPresenter>  |
| <b>(description)</b>       | Used within the template of a DataGrid to specify the location in the control's visual tree where the column headers are to be added. |
| <b>[content property]</b>  | Items   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.156 DataGridComboBoxColumn

[x:Object](#) > [DependencyObject](#) > [DataGridColumn](#) > DataGridComboBoxColumn

|                                |   |
|--------------------------------|---|
| (usage)                        | <DataGridComboBoxColumn />  |
| <b>(description)</b>           | Represents a DataGrid column that hosts ComboBox controls in its cells.           |
| <b>(properties)</b>            |   |
| <b>ClipboardContentBinding</b> | <a href="#">BindingBase</a>   |
| <b>(description)</b>           | The binding object to use when getting or setting cell content for the clipboard. |
| <b>DisplayMemberPath</b>       | <a href="#">x:String</a>  |

|                                   |  |
|-----------------------------------|--|
| (usage)                           | <DataGridComboBoxColumn />   |
| <b>(description)</b>              | A path to a value on the source object to provide the visual representation of the object.                         |
| <b>EditingElementStyle</b>        | <a href="#">Style</a>  |
| <b>(description)</b>              | The style that is used when rendering the element that the column displays for a cell in editing mode.             |
| <b>ElementStyle</b>               | <a href="#">Style</a>  |
| <b>(description)</b>              | The style that is used when rendering the element that the column displays for a cell that is not in editing mode. |
| <b>ItemsSource</b>                | <a href="#">IEnumerable</a>  |
| <b>(description)</b>              | A collection that is used to generate the content of the combo box control.  |
| <b>SelectedItemBinding</b>        | <a href="#">BindingBase</a>  |
| <b>(description)</b>              | The binding for the currently selected item.   |
| <b>SelectedValueBinding</b>       | <a href="#">BindingBase</a>  |
| <b>(description)</b>              | The value of the selected item, obtained by using SelectedValuePath.   |
| <b>SelectedValuePath</b>          | <a href="#">x:String</a>   |
| <b>(description)</b>              | The path that is used to get the SelectedValue from the SelectedItem.  |
| <b>TextBinding</b>                | <a href="#">BindingBase</a>  |
| <b>(description)</b>              | The binding for the text in the text box portion of the ComboBox control.  |
| <b>(static properties)</b>        |  |
| <b>DefaultEditingElementStyle</b> | <a href="#">Style</a>  |
| <b>(description)</b>              | The default value of the EditingElementStyle property.   |
| <b>DefaultElementStyle</b>        | <a href="#">Style</a>  |
| <b>(description)</b>              | The default value of the ElementStyle.   |
| <b>TextBlockComboBoxStyleKey</b>  | <a href="#">ComponentResourceKey</a>   |
| <b>(description)</b>              | The resource key for the style to apply to a read-only combo box.  |

#### 4.157 DataGridDetailsPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [ContentPresenter](#) > DataGridDetailsPresenter, [IInputElement](#)

|                      |  |
|----------------------|--|
| (usage)              | <DataGridDetailsPresenter />   |
| <b>(description)</b> | Used within the template of a DataGrid to specify the location in the control's visual |

|                            |   |
|----------------------------|---|
| (usage)                    | <DataGridDetailsPresenter />                |
|                            | tree where the row details are to be added. |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language                                    |

#### 4.158 DataGridEditAction

[x:Object](#) > DataGridEditAction

|                      |  |
|----------------------|--|
| (usage)              | <b>Cancel  Commit</b>  |
| <b>(description)</b> | Defines constants that specify whether an edit is being canceled or committed. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DataGridEditActionSyntax</a>                                       |

#### 4.159 DataGridEditingUnit

[x:Object](#) > DataGridEditingUnit

|                      |  |
|----------------------|--|
| (usage)              | <b>Cell  Row</b>   |
| <b>(description)</b> | Defines constants that specify whether editing is enabled on a cell level or on a row level. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DataGridEditingUnitSyntax</a>  |

#### 4.160 DataGridGridLinesVisibility

[x:Object](#) > DataGridGridLinesVisibility

|                      |  |
|----------------------|--|
| (usage)              | <b>All  Horizontal  None  Vertical</b>   |
| <b>(description)</b> | Defines constants that specify the visibility of the grid lines in a DataGrid. |
| <b>(used by)</b>     | <a href="#">DataGrid</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DataGridGridLinesVisibilitySyntax</a>                              |

#### 4.161 DataGridHeadersVisibility

[x:Object](#) > DataGridHeadersVisibility

|                      |  |
|----------------------|--|
| (usage)              | <b>All  Column  Row  None</b>  |
| <b>(description)</b> | Defines constants that specify the visibility of row and column headers in a DataGrid. |

|                      |   |
|----------------------|---|
| (usage)              | <b>All  Column  Row  None</b>                   |
| <b>(used by)</b>     | <a href="#">DataGrid</a>                        |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">DataGridHeadersVisibilitySyntax</a> |

#### 4.162 DataGridHyperlinkColumn

[x:Object](#) > [DependencyObject](#) > [DataGridColumn](#) > [DataGridBoundColumn](#) > DataGridHyperlinkColumn

|                            |  |
|----------------------------|--|
| (usage)                    | <DataGridHyperlinkColumn />  |
| <b>(description)</b>       | Represents a DataGrid column that hosts Uri elements in its cells. |
| <b>(properties)</b>        |  |
| <b>ContentBinding</b>      | <a href="#">BindingBase</a>  |
| <b>(description)</b>       | The binding to the text of the hyperlink.                          |
| <b>TargetName</b>          | <a href="#">x:String</a>   |
| <b>(description)</b>       | The name of a target window or frame for the hyperlink.            |
| <b>(static properties)</b> |  |
| <b>DefaultEditingStyle</b> | <a href="#">Style</a>  |
| <b>(description)</b>       | The default value of the EditingElementStyle property.             |
| <b>DefaultElementStyle</b> | <a href="#">Style</a>  |
| <b>(description)</b>       | The default value of the ElementStyle property.                    |

#### 4.163 DataGridLength

[x:Object](#) > DataGridLength

|                            |  |
|----------------------------|--|
| (usage)                    | <DataGridLength> string </DataGridLength>                                      |
| <b>(description)</b>       | Represents the lengths of elements within the DataGrid control.                |
| <b>(used by)</b>           | <a href="#">DataGrid</a> <a href="#">DataGridColumn</a>                        |
| <b>[is nullable]</b>       | false  |
| <b>[text syntax]</b>       | <a href="#">DataGridLengthSyntax</a>   |
| <b>(static properties)</b> |  |
| <b>Auto</b>                | DataGridLength   |
| <b>(description)</b>       | A DataGridLength structure that represents the standard automatic sizing mode. |

|                      |  |
|----------------------|--|
| (usage)              | <DataGridLength> string </DataGridLength>  |
| <b>SizeToCells</b>   | DataGridLength   |
| <b>(description)</b> | A DataGridLength structure that represents the cell-based automatic sizing mode.   |
| <b>SizeToHeader</b>  | DataGridLength   |
| <b>(description)</b> | A DataGridLength structure that represents the header-based automatic sizing mode. |

#### 4.164 DataGridLengthUnitType

[x:Object](#) > DataGridLengthUnitType

|                      |  |
|----------------------|--|
| (usage)              | <b>Auto  Pixel  SizeToCells  SizeToHeader  Star</b>                  |
| <b>(description)</b> | Defines constants that specify how elements in a DataGrid are sized. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DataGridLengthUnitTypeSyntax</a>                         |

#### 4.165 DataGridRow

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > DataGridRow, [IInputElement](#)

|                                |   |
|--------------------------------|---|
| (usage)                        | <DataGridRow />   |
| <b>(description)</b>           | Represents a DataGrid row.  |
| <b>[name property]</b>         | Name  |
| <b>[xml lang property]</b>     | Language  |
| <b>(properties)</b>            |   |
| <b>DetailsTemplate</b>         | <a href="#">DataTemplate</a>  |
| <b>(description)</b>           | The template that is used to display the details section of the row.                |
| <b>DetailsTemplateSelector</b> | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>           | A template selector that provides custom logic for choosing a row details template. |
| <b>DetailsVisibility</b>       | <a href="#">Visibility</a>  |
| <b>(description)</b>           | A value that indicates when the details section of the row is displayed.            |
| <b>Header</b>                  | <a href="#">x:Object</a>  |
| <b>(description)</b>           | An object that represents the row header contents.                                  |
| <b>HeaderStyle</b>             | <a href="#">Style</a>   |

|                                |  |
|--------------------------------|--|
| (usage)                        | <DataGridRow />  |
| <b>(description)</b>           | The style that is used when rendering the row header.                              |
| <b>HeaderTemplate</b>          | <a href="#">DataTemplate</a>   |
| <b>(description)</b>           | The template that is used to display the row header.                               |
| <b>HeaderTemplateSelector</b>  | <a href="#">DataTemplateSelector</a>   |
| <b>(description)</b>           | A template selector that provides custom logic for choosing a row header template. |
| <b>IsSelected</b>              | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A value that indicates whether the row is selected.                                |
| <b>Item</b>                    | <a href="#">x:Object</a>   |
| <b>(description)</b>           | The data item that the row represents.   |
| <b>ItemsPanel</b>              | <a href="#">ItemsPanelTemplate</a>   |
| <b>(description)</b>           | The template that defines the panel that controls the layout of cells in the row.  |
| <b>ValidationErrorTemplate</b> | <a href="#">ControlTemplate</a>  |
| <b>(description)</b>           | The template that is used to visually indicate an error in row validation.         |
| <b>(events)</b>                |  |
| <b>Selected</b>                | Occurs when the row is selected.   |
| <b>Unselected</b>              | Occurs when the row selection is cleared.  |

#### 4.166 DataGridRowDetailsVisibilityMode

[x:Object](#) > DataGridRowDetailsVisibilityMode

|                      |   |
|----------------------|---|
| (usage)              | <b>Collapsed  Visible  VisibleWhenSelected</b>                          |
| <b>(description)</b> | Defines constants that specify when DataGrid row details are displayed. |
| <b>(used by)</b>     | <a href="#">DataGrid</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">DataGridRowDetailsVisibilityModeSyntax</a>                  |

#### 4.167 DataGridRowHeader

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > DataGridRowHeader, [IInputElement](#)

|         |   |
|---------|---|
| (usage) | <DataGridRowHeader> <a href="#">x:Object</a> </DataGridRowHeader> |
|---------|---|

|                            |   |
|----------------------------|---|
| (usage)                    | <DataGridRowHeader> <a href="#">x:Object</a> </DataGridRowHeader>     |
| <b>(description)</b>       | Represents an individual DataGrid row header.                         |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>SeparatorBrush</b>      | <a href="#">Brush</a>   |
| <b>(description)</b>       | The Brush used to paint the row header separator lines.               |
| <b>SeparatorVisibility</b> | <a href="#">Visibility</a>  |
| <b>(description)</b>       | The user interface (UI) visibility of the row header separator lines. |

#### 4.168 DataGridRowsPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > [VirtualizingPanel](#) > [VirtualizingStackPanel](#) > DataGridRowsPresenter, [InputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <DataGridRowsPresenter> <a href="#">UIElement</a> *</DataGridRowsPresenter>   |
| <b>(description)</b>       | Used within the template of a DataGrid to specify the location in the control's visual tree where the rows are to be added. |
| <b>[content property]</b>  | Children  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.169 DataGridSelectionMode

[x:Object](#) > DataGridSelectionMode

|                      |  |
|----------------------|--|
| (usage)              | <b>Single  Extended</b>  |
| <b>(description)</b> | Defines constants that specify whether single or multiple item selections are supported by a DataGrid control. |
| <b>(used by)</b>     | <a href="#">DataGrid</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DataGridSelectionModeSyntax</a>  |



## 4.170 DataGridSelectionUnit

[x:Object](#) > DataGridSelectionUnit

|                      |  |
|----------------------|--|
| (usage)              | <b>Cell  FullRow  CellOrRowHeader</b>  |
| <b>(description)</b> | Defines constants that specify whether cells, rows, or both, are used for selection in a DataGrid control. |
| <b>(used by)</b>     | <a href="#">DataGrid</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DataGridSelectionUnitSyntax</a>  |

## 4.171 DataGridTemplateColumn

[x:Object](#) > [DependencyObject](#) > [DataGridColumn](#) > DataGridTemplateColumn

|                                    |   |
|------------------------------------|---|
| (usage)                            | <DataGridTemplateColumn />  |
| <b>(description)</b>               | Represents a DataGrid column that hosts template-specified content in its cells.                                |
| <b>(properties)</b>                |   |
| <b>CellEditingTemplate</b>         | <a href="#">DataTemplate</a>  |
| <b>(description)</b>               | The template to use to display the contents of a cell that is in editing mode.                                  |
| <b>CellEditingTemplateSelector</b> | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>               | The object that determines which template to use to display the contents of a cell that is in editing mode.     |
| <b>CellTemplate</b>                | <a href="#">DataTemplate</a>  |
| <b>(description)</b>               | The template to use to display the contents of a cell that is not in editing mode.                              |
| <b>CellTemplateSelector</b>        | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>               | The object that determines which template to use to display the contents of a cell that is not in editing mode. |

## 4.172 DataGridTextColumn

[x:Object](#) > [DependencyObject](#) > [DataGridColumn](#) > [DataGridBoundColumn](#) > DataGridTextColumn

|                      |   |
|----------------------|---|
| (usage)              | <DataGridTextColumn />  |
| <b>(description)</b> | Represents a DataGrid column that hosts textual content in its cells. |
| <b>(properties)</b>  |   |

|                            |   |
|----------------------------|---|
| (usage)                    | <DataGridTextColumn />  |
| <b>FontFamily</b>          | <a href="#">FontFamily</a>  |
| <b>(description)</b>       | The font family for the content of cells in the column.                   |
| <b>FontSize</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The font size for the content of cells in the column.                     |
| <b>[text syntax]</b>       | <a href="#">FontSizeSyntax</a>  |
| <b>FontStyle</b>           | <a href="#">FontStyle</a>   |
| <b>(description)</b>       | The font style for the content of cells in the column.                    |
| <b>FontWeight</b>          | <a href="#">FontWeight</a>  |
| <b>(description)</b>       | The font weight for the content of cells in the column.                   |
| <b>Foreground</b>          | <a href="#">Brush</a>   |
| <b>(description)</b>       | The Brush that is used to paint the text contents of cells in the column. |
| <b>(static properties)</b> |   |
| <b>DefaultEditingStyle</b> | <a href="#">Style</a>   |
| <b>(description)</b>       | The default value of the EditingElementStyle property.                    |
| <b>DefaultElementStyle</b> | <a href="#">Style</a>   |
| <b>(description)</b>       | The default value of the ElementStyle property.                           |

#### 4.173 DataObject

[x:Object](#) > DataObject

|                               |  |
|-------------------------------|--|
| (usage)                       | <DataObject />   |
| <b>(description)</b>          | Provides a basic implementation of the IDataObject interface, which defines a format-independent mechanism for transferring data.  |
| <b>(attachable events)</b>    |  |
| <b>DataObject.Copying</b>     | Occurs when the associated dependency object has prepared appropriate data formats that represent the copy selection, added the copy selection formats to a DataObject, and is ready to either place the DataObject on the Clipboard or begin a drag-and-drop operation. |
| <b>DataObject.Pasting</b>     | Occurs when the associated dependency object is ready to paste data.   |
| <b>DataObject.SettingData</b> | Occurs when the associated dependency object attempts to add a new data format to a DataObject.  |

#### 4.174 DataTemplate

[x:Object](#) > [FrameworkTemplate](#) > DataTemplate

| <a href="#">HierarchicalDataTemplate</a> <a href="#">ItemContainerTemplate</a> |   |
|--|---|
| <b>(usage)</b>   | <DataTemplate> <a href="#">FrameworkElement</a> </DataTemplate>   |
| <b>(description)</b>   | Describes the visual structure of a data object.  |
| <b>(used by)</b>   | <a href="#">ContentControl</a> <a href="#">ContentPresenter</a> <a href="#">DataGrid</a> <a href="#">DataGridColumn</a> <a href="#">DataGridRow</a> <a href="#">DataGridTemplateColumn</a> <a href="#">GridView</a> <a href="#">GridViewColumn</a> <a href="#">GridViewHeaderRowPresenter</a> <a href="#">GroupStyle</a> <a href="#">HeaderedContentControl</a> <a href="#">HeaderedItemsControl</a> <a href="#">HierarchicalDataTemplate</a> <a href="#">ItemsControl</a> <a href="#">Ribbon</a> <a href="#">RibbonApplicationMenu</a> <a href="#">RibbonContextualTabGroup</a> <a href="#">RibbonGallery</a> <a href="#">RibbonGroupTemplateSizeDefinition</a> <a href="#">TabControl</a> |
| <b>[content property]</b>  | Template  |
| <b>[dictionary key property]</b>   | <a href="#">DataTemplateKey</a>   |
| <b>[is name scope]</b>   | true  |
| <b>(properties)</b>  |   |
| <b>DataTemplateKey</b>   | <a href="#">x:Object</a>  |
| <b>(description)</b>   | The default key of the DataTemplate.  |
| <b>[read only]</b>   | true  |
| <b>DataType</b>  | <a href="#">x:Object</a>  |
| <b>(description)</b>   | The type for which this DataTemplate is intended.   |
| <b>Triggers</b>  | <a href="#">TriggerCollection</a>   |
| <b>(description)</b>   | A collection of triggers that apply property values or perform actions based on one or more conditions.   |
| <b>[read only]</b>   | true  |

#### 4.175 DataTemplateKey

[x:Object](#) > [x:MarkupExtension](#) > [ResourceKey](#) > [TemplateKey](#) > DataTemplateKey

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | {DataTemplateKey }   <DataTemplateKey />  |
| <b>(description)</b>       | Represents the resource key for the DataTemplate type.  |
| <b>[return value type]</b> | <a href="#">ResourceKey</a>   |
| <b>[constructors]</b>      |   |
| <b>(1 parameter)</b>       |   |
| <b>dataType</b>            | <a href="#">x:Object</a>  |
| <b>(description)</b>       | The type for which this template is designed. This is either a Type (to indicate that the DataTemplate is used to display items of the given type), or a string (to indicate that |

|         |  |
|---------|--|
| (usage) | {DataTemplateKey }   <DataTemplateKey />                                       |
|         | the DataTemplate is used to display XmlNode elements with the given tag name). |

#### 4.176 DataTemplateSelector

[x:Object](#) > DataTemplateSelector

|                      |  |
|----------------------|--|
| (usage)              | <DataTemplateSelector />   |
| <b>(description)</b> | Provides a way to choose a DataTemplate based on the data object and the data-bound element.   |
| <b>(used by)</b>     | <a href="#">ContentControl</a> <a href="#">ContentPresenter</a> <a href="#">DataGrid</a> <a href="#">DataGridColumn</a> <a href="#">DataGridRow</a> <a href="#">DataGridTemplateColumn</a> <a href="#">GridView</a> <a href="#">GridViewColumn</a> <a href="#">GridViewHeaderRowPresenter</a> <a href="#">GroupStyle</a> <a href="#">HeaderedContentControl</a> <a href="#">HeaderedItemsControl</a> <a href="#">HierarchicalDataTemplate</a> <a href="#">ItemsControl</a> <a href="#">RibbonApplicationMenu</a> <a href="#">RibbonContextualTabGroup</a> <a href="#">RibbonGallery</a> <a href="#">TabControl</a> |

#### 4.177 DataTrigger

[x:Object](#) > [DependencyObject](#) > [TriggerBase](#) > DataTrigger

|                           |   |
|---------------------------|---|
| (usage)                   | <DataTrigger> <a href="#">SetterBase</a> *</DataTrigger>  |
| <b>(description)</b>      | Represents a trigger that applies property values or performs actions when the bound data meets a specified condition.        |
| <b>[content property]</b> | Setters   |
| <b>(properties)</b>       |   |
| <b>Binding</b>            | <a href="#">BindingBase</a>   |
| <b>(description)</b>      | The binding that produces the property value of the data object.  |
| <b>Setters</b>            | <a href="#">SetterBaseCollection</a>  |
| <b>(description)</b>      | A collection of Setter objects, which describe the property values to apply when the data item meets the specified condition. |
| <b>[read only]</b>        | true  |
| <b>Value</b>              | <a href="#">x:Object</a>  |
| <b>(description)</b>      | The value to be compared with the property value of the data object.  |

#### 4.178 DatePicker

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > DatePicker, [IInputElement](#)

|                      |   |
|----------------------|---|
| (usage)              | <DatePicker />  |
| <b>(description)</b> | Represents a control that allows the user to select a date. |

|                            |  |
|----------------------------|--|
| (usage)                    | <DatePicker />   |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>BlackoutDates</b>       | <a href="#">CalendarBlackoutDatesCollection</a>                            |
| <b>(description)</b>       | A collection of dates that are marked as not selectable.                   |
| <b>[read only]</b>         | true   |
| <b>CalendarStyle</b>       | <a href="#">Style</a>  |
| <b>(description)</b>       | The style that is used when rendering the calendar.                        |
| <b>DisplayDate</b>         | <a href="#">x:DateTime</a>   |
| <b>(description)</b>       | The date to display.   |
| <b>DisplayDateEnd</b>      | <a href="#">x:Nullable(x:DateTime)</a>                                     |
| <b>(description)</b>       | The last date to be displayed.   |
| <b>DisplayDateStart</b>    | <a href="#">x:Nullable(x:DateTime)</a>                                     |
| <b>(description)</b>       | The first date to be displayed.  |
| <b>FirstDayOfWeek</b>      | <a href="#">DayOfWeek</a>  |
| <b>(description)</b>       | The day that is considered the beginning of the week.                      |
| <b>IsDropDownOpen</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>       | A value that indicates whether the drop-down Calendar is open or closed.   |
| <b>IsTodayHighlighted</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>       | A value that indicates whether the current date will be highlighted.       |
| <b>SelectedDate</b>        | <a href="#">x:Nullable(x:DateTime)</a>                                     |
| <b>(description)</b>       | The currently selected date.   |
| <b>SelectedDateFormat</b>  | <a href="#">DatePickerFormat</a>   |
| <b>(description)</b>       | The format that is used to display the selected date.                      |
| <b>Text</b>                | <a href="#">x:String</a>   |
| <b>(description)</b>       | The text that is displayed by the DatePicker, or sets the selected date.   |
| <b>(events)</b>            |  |
| <b>CalendarClosed</b>      | Occurs when the drop-down Calendar is closed.                              |
| <b>CalendarOpened</b>      | Occurs when the drop-down Calendar is opened.                              |
| <b>DateValidationError</b> | Occurs when Text is set to a value that cannot be interpreted as a date or |

|                            |   |
|----------------------------|---|
| (usage)                    | <DatePicker />                                    |
|                            | when the date cannot be selected.                 |
| <b>SelectedDateChanged</b> | Occurs when the SelectedDate property is changed. |

#### 4.179 DatePickerFormat

[x:Object](#) > DatePickerFormat

|                      |  |
|----------------------|--|
| (usage)              | <b>Long  Short</b>                       |
| <b>(description)</b> | Specifies date formats for a DatePicker. |
| <b>(used by)</b>     | <a href="#">DatePicker</a>               |
| <b>[is nullable]</b> | false                                    |
| <b>[text syntax]</b> | <a href="#">DatePickerFormatSyntax</a>   |

#### 4.180 DatePickerTextBox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [TextBoxBase](#) > [TextBox](#) > DatePickerTextBox, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <DatePickerTextBox> <a href="#">x:String</a> </DatePickerTextBox> |
| <b>(description)</b>       | Represents the text input of a DatePicker.                        |
| <b>[content property]</b>  | Text  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.181 DecimalAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [DecimalAnimationBase](#) > DecimalAnimation

|                        |  |
|------------------------|--|
| (usage)                | <DecimalAnimation />   |
| <b>(description)</b>   | Animates the value of a Decimal property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">x:Nullable(x:Decimal)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |

|                      |  |
|----------------------|--|
| (usage)              | <DecimalAnimation />   |
| <b>(description)</b> | The easing function applied to this animation.   |
| <b>From</b>          | <a href="#">x:Nullable(x:Decimal)</a>  |
| <b>(description)</b> | The animation's starting value.  |
| <b>IsAdditive</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>            | <a href="#">x:Nullable(x:Decimal)</a>  |
| <b>(description)</b> | The animation's ending value.  |

#### 4.182 DecimalAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > DecimalAnimationBase

|   |  |
|---|--|
| <a href="#">DecimalAnimation</a> <a href="#">DecimalAnimationUsingKeyFrames</a> |  |
| <b>(usage)</b>  | None.                                      |
| <b>(description)</b>  | A base type that animates a Decimal value. |
| <b>[is default constructible]</b>   | false                                      |
| <b>[name property]</b>  | Name                                       |

#### 4.183 DecimalAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [DecimalAnimationBase](#) > DecimalAnimationUsingKeyFrames

|                           |   |
|---------------------------|---|
| (usage)                   | <DecimalAnimationUsingKeyFrames> <a href="#">DecimalKeyFrame</a> *</DecimalAnimationUsingKeyFrames> |
| <b>(description)</b>      | Animates the value of a Decimal property along a set of KeyFrames.                                  |
| <b>[content property]</b> | KeyFrames   |
| <b>[name property]</b>    | Name  |
| <b>(properties)</b>       |   |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>   |

|               |  |
|---------------|--|
| (usage)       | <DecimalAnimationUsingKeyFrames> <a href="#">DecimalKeyFrame</a> *</DecimalAnimationUsingKeyFrames>                    |
| (description) | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| IsCumulative  | <a href="#">x:Boolean</a>  |
| (description) | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| KeyFrames     | <a href="#">DecimalKeyFrameCollection</a>  |
| (description) | The collection of DecimalKeyFrame objects that define the animation.   |

#### 4.184 DecimalKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > DecimalKeyFrame

|   |   |
|---|---|
| <a href="#">DiscreteDecimalKeyFrame</a> <a href="#">EasingDecimalKeyFrame</a> <a href="#">LinearDecimalKeyFrame</a> <a href="#">SplineDecimalKeyFrame</a> |   |
| (usage)   | None.   |
| (description)   | A base type that defines an animation segment with its own target value and interpolation technique for a DecimalAnimationUsingKeyFrames. |
| (used by)   | <a href="#">DecimalKeyFrameCollection</a>   |
| [is default constructible]  | false   |
| (properties)  |   |
| KeyTime   | <a href="#">KeyTime</a>   |
| (description)   | The time at which the key frame's target Value should be reached.   |
| Value   | <a href="#">x:Decimal</a>   |
| (description)   | The key frame's target value.   |

#### 4.185 DecimalKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > DecimalKeyFrameCollection

|                 |   |
|-----------------|---|
| (usage)         | <DecimalKeyFrameCollection> <a href="#">DecimalKeyFrame</a> *</DecimalKeyFrameCollection> |
| (description)   | Represents a collection of DecimalKeyFrame objects.                                       |
| (used by)       | <a href="#">DecimalAnimationUsingKeyFrames</a>  |
| [is list]       | true  |
| [allowed types] | <a href="#">DecimalKeyFrame</a>   |



|                            |   |
|----------------------------|---|
| (usage)                    | <DecimalKeyFrameCollection> <a href="#">DecimalKeyFrame</a> *</DecimalKeyFrameCollection> |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | DecimalKeyFrameCollection   |
| <b>(description)</b>       | An empty DecimalKeyFrameCollection.   |

#### 4.186 Decorator

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Decorator, [IInputElement](#)

|  |  |
|--|--|
| <a href="#">AdornerDecorator</a> <a href="#">Border</a> <a href="#">BulletDecorator</a> <a href="#">InkPresenter</a> <a href="#">Viewbox</a> |  |
| <b>(usage)</b>   | <Decorator> <a href="#">UIElement</a> </Decorator>   |
| <b>(description)</b>   | Provides a base type for elements that apply effects onto or around a single child element, such as Border or Viewbox. |
| <b>[content property]</b>  | Child  |
| <b>[name property]</b>   | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>  |  |
| <b>Child</b>   | <a href="#">UIElement</a>  |
| <b>(description)</b>   | The single child element of a Decorator.   |

#### 4.187 DeferrableContent

[x:Object](#) > DeferrableContent

|                                   |   |
|-----------------------------------|---|
| (usage)                           | <DeferrableContent> string </DeferrableContent>                     |
| <b>(description)</b>              | Represents deferrable content that is held within BAML as a stream. |
| <b>(used by)</b>                  | <a href="#">ResourceDictionary</a>                                  |
| <b>[is default constructible]</b> | false   |

#### 4.188 DefinitionBase

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > DefinitionBase, [IInputElement](#)

|  |   |
|--|---|
| <a href="#">ColumnDefinition</a> <a href="#">RowDefinition</a> |   |
| <b>(usage)</b>   | None.   |
| <b>(description)</b>   | Defines the functionality required to support a shared-size group that is used by |

|  |   |
|--|---|
| <a href="#">ColumnDefinition</a> <a href="#">RowDefinition</a> |   |
|  | the ColumnDefinitionCollection and RowDefinitionCollection types.   |
| <b>[is default constructible]</b>                              | false   |
| <b>[name property]</b>   | Name  |
| <b>[xml lang property]</b>                                     | Language  |
| <b>(properties)</b>  |   |
| <b>SharedSizeGroup</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>   | A value that identifies a ColumnDefinition or RowDefinition as a member of a defined group that shares sizing properties. |

#### 4.189 DependencyObject

[x:Object](#) > DependencyObject

|  |   |
|--|---|
| <a href="#">BindingGroup</a> <a href="#">CollectionContainer</a> <a href="#">CollectionViewSource</a> <a href="#">ContentElement</a> <a href="#">DataGridColumn</a> <a href="#">Freezable</a> <a href="#">GestureRecognizer</a> <a href="#">GridViewColumn</a> <a href="#">JournalEntry</a> <a href="#">TextSearch</a> <a href="#">TriggerAction</a> <a href="#">TriggerBase</a> <a href="#">ViewBase</a> <a href="#">Visual</a> <a href="#">Visual3D</a> <a href="#">VisualState</a> <a href="#">VisualStateGroup</a> <a href="#">VisualStateManager</a> <a href="#">VisualTransition</a> |   |
| <b>(usage)</b>   | <DependencyObject />  |
| <b>(description)</b>   | A base type that supports visual and graphic elements.                                  |
| <b>(used by)</b>   | <a href="#">ContentOperations</a> <a href="#">Storyboard</a> <a href="#">Validation</a> |

#### 4.190 DependencyProperty

[x:Object](#) > DependencyProperty

|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | <DependencyProperty> string </DependencyProperty>   |
| <b>(description)</b>              | Represents a property that can depend on other values.  |
| <b>(used by)</b>                  | <a href="#">Condition</a> <a href="#">Setter</a> <a href="#">TemplateBindingExtension</a> <a href="#">Trigger</a> |
| <b>[is default constructible]</b> | false   |
| <b>[text syntax]</b>              | <a href="#">DependencyPropertySyntax</a>  |

#### 4.191 DiffuseMaterial

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Material](#) > DiffuseMaterial

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <DiffuseMaterial />   |
| <b>(description)</b> | Allows the application of a 2-D brush, like a SolidColorBrush or TileBrush, to a diffusely-lit 3-D model. |
| <b>(properties)</b>  |   |

|                      |   |
|----------------------|---|
| (usage)              | <DiffuseMaterial />   |
| <b>AmbientColor</b>  | <a href="#">Color</a>   |
| <b>(description)</b> | A color that represents how the material reflects AmbientLight. |
| <b>Brush</b>         | <a href="#">Brush</a>   |
| <b>(description)</b> | Brush to be applied as a Material to a 3-D model.               |
| <b>Color</b>         | <a href="#">Color</a>   |
| <b>(description)</b> | The color filter for the material's texture.                    |

#### 4.192 DirectionalLight

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Model3D](#) > [Light](#) > DirectionalLight

|                      |   |
|----------------------|---|
| (usage)              | <DirectionalLight />  |
| <b>(description)</b> | Light object that projects its effect along a direction specified by a Vector3D.            |
| <b>(properties)</b>  |   |
| <b>Direction</b>     | <a href="#">Vector3D</a>  |
| <b>(description)</b> | Represents the vector along which the light's effect will be seen on models in a 3-D scene. |

#### 4.193 DiscreteBooleanKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [BooleanKeyFrame](#) > DiscreteBooleanKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscreteBooleanKeyFrame />  |
| <b>(description)</b> | Animates from the Boolean value of the previous key frame to its own Value using discrete interpolation. |

#### 4.194 DiscreteByteKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ByteKeyFrame](#) > DiscreteByteKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteByteKeyFrame />  |
| <b>(description)</b> | Animates from the Byte value of the previous key frame to its own Value using discrete interpolation. |

#### 4.195 DiscreteCharKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [CharKeyFrame](#) > DiscreteCharKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscreteCharKeyFrame />   |
| <b>(description)</b> | Animates from the Char value of the previous key frame to its own Value using discrete |

|         |                          |
|---------|--------------------------|
| (usage) | <DiscreteCharKeyFrame /> |
|         | interpolation.           |

#### 4.196 DiscreteColorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ColorKeyFrame](#) > DiscreteColorKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscreteColorKeyFrame />  |
| <b>(description)</b> | Animates from the Color value of the previous key frame to its own Value using discrete interpolation. |

#### 4.197 DiscreteDecimalKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [DecimalKeyFrame](#) > DiscreteDecimalKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscreteDecimalKeyFrame />  |
| <b>(description)</b> | Animates from the Decimal value of the previous key frame to its own Value using discrete interpolation. |

#### 4.198 DiscreteDoubleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [DoubleKeyFrame](#) > DiscreteDoubleKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteDoubleKeyFrame />  |
| <b>(description)</b> | Animates from the Double value of the previous key frame to its own Value using discrete interpolation. |

#### 4.199 DiscreteInt16KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int16KeyFrame](#) > DiscreteInt16KeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscreteInt16KeyFrame />  |
| <b>(description)</b> | Animates from the Int16 value of the previous key frame to its own Value using discrete interpolation. |

#### 4.200 DiscreteInt32KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int32KeyFrame](#) > DiscreteInt32KeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscreteInt32KeyFrame />  |
| <b>(description)</b> | Animates from the Int32 value of the previous key frame to its own Value using discrete interpolation. |

#### 4.201 DiscreteInt64KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int64KeyFrame](#) > DiscreteInt64KeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscreteInt64KeyFrame />  |
| <b>(description)</b> | Animates from the Int64 value of the previous key frame to its own Value using discrete interpolation. |

#### 4.202 DiscreteMatrixKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [MatrixKeyFrame](#) > DiscreteMatrixKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteMatrixKeyFrame />  |
| <b>(description)</b> | Animates from the Matrix value of the previous key frame to its own Value using discrete interpolation. |

#### 4.203 DiscreteObjectKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ObjectKeyFrame](#) > DiscreteObjectKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteObjectKeyFrame />  |
| <b>(description)</b> | Animates from the Object value of the previous key frame to its own Value using discrete interpolation. |

#### 4.204 DiscretePoint3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Point3DKeyFrame](#) > DiscretePoint3DKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscretePoint3DKeyFrame />  |
| <b>(description)</b> | Animates from the Point3D value of the previous key frame to its own Value using discrete interpolation. |

#### 4.205 DiscretePointKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [PointKeyFrame](#) > DiscretePointKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscretePointKeyFrame />  |
| <b>(description)</b> | Animates from the Point value of the previous key frame to its own Value using discrete interpolation. |

#### 4.206 DiscreteQuaternionKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [QuaternionKeyFrame](#) > DiscreteQuaternionKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteQuaternionKeyFrame />  |
| <b>(description)</b> | Animates from the Quaternion value of the previous key frame to its own Value using discrete interpolation. |

#### 4.207 DiscreteRectKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [RectKeyFrame](#) > DiscreteRectKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteRectKeyFrame />  |
| <b>(description)</b> | Animates from the Rect value of the previous key frame to its own Value using discrete interpolation. |

#### 4.208 DiscreteRotation3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Rotation3DKeyFrame](#) > DiscreteRotation3DKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteRotation3DKeyFrame />  |
| <b>(description)</b> | Animates from the Rotation3D value of the previous key frame to its own Value using discrete interpolation. |

#### 4.209 DiscreteSingleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [SingleKeyFrame](#) > DiscreteSingleKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteSingleKeyFrame />  |
| <b>(description)</b> | Animates from the Single value of the previous key frame to its own Value using discrete interpolation. |

#### 4.210 DiscreteSizeKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [SizeKeyFrame](#) > DiscreteSizeKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteSizeKeyFrame />  |
| <b>(description)</b> | Animates from the Size value of the previous key frame to its own Value using discrete interpolation. |

#### 4.211 DiscreteStringKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [StringKeyFrame](#) > DiscreteStringKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteStringKeyFrame />  |
| <b>(description)</b> | Animates from the String value of the previous key frame to its own Value using discrete interpolation. |

#### 4.212 DiscreteThicknessKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ThicknessKeyFrame](#) > DiscreteThicknessKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <DiscreteThicknessKeyFrame />  |
| <b>(description)</b> | Animates from the Thickness value of the previous key frame to its own Value using discrete interpolation. |

#### 4.213 DiscreteVector3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Vector3DKeyFrame](#) > DiscreteVector3DKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteVector3DKeyFrame />  |
| <b>(description)</b> | Animates from the Vector3D value of the previous key frame to its own Value using discrete interpolation. |

#### 4.214 DiscreteVectorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [VectorKeyFrame](#) > DiscreteVectorKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <DiscreteVectorKeyFrame />  |
| <b>(description)</b> | Animates from the Vector value of the previous key frame to its own Value using discrete interpolation. |

#### 4.215 Dock

[x:Object](#) > Dock

|                      |  |
|----------------------|--|
| (usage)              | <b>Left  Top  Right  Bottom</b>  |
| <b>(description)</b> | Specifies the Dock position of a child element that is inside a DockPanel. |
| <b>(used by)</b>     | <a href="#">DockPanel</a> <a href="#">TabControl</a>                       |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DockSyntax</a>   |

#### 4.216 DockPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > DockPanel, [InputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <DockPanel> <a href="#">UIElement</a> *</DockPanel>   |
| <b>(description)</b>       | Defines an area where you can arrange child elements either horizontally or vertically, relative to each other.           |
| <b>[content property]</b>  | Children  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>LastChildFill</b>       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the last child element within a DockPanel stretches to fill the remaining available space. |
| <b>(attachable)</b>        |   |

|                       |   |
|-----------------------|---|
| (usage)               | <DockPanel> <a href="#">UIElement</a> *</DockPanel>                               |
| <b>properties</b>     |   |
| <b>DockPanel.Dock</b> | <a href="#">Dock</a>  |
| <b>(description)</b>  | A value that indicates the position of a child element within a parent DockPanel. |
| <b>[target type]</b>  | <a href="#">UIElement</a>   |

#### 4.217 DocumentPageView

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > DocumentPageView, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <DocumentPageView />  |
| <b>(description)</b>       | Represents a viewport for a paginated DocumentPage.   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>PageNumber</b>          | <a href="#">x:Int32</a>   |
| <b>(description)</b>       | The page number of the current page displayed.  |
| <b>Stretch</b>             | <a href="#">Stretch</a>   |
| <b>(description)</b>       | A Stretch enumeration that specifies how content should be stretched to fill the display page.      |
| <b>StretchDirection</b>    | <a href="#">StretchDirection</a>  |
| <b>(description)</b>       | A StretchDirection enumeration that specifies in what scaling directions Stretch should be applied. |
| <b>(events)</b>            |   |
| <b>PageConnected</b>       | Occurs when a Visual element of the DocumentPage is connected.                                      |
| <b>PageDisconnected</b>    | Occurs when a Visual element of the DocumentPage is disconnected.                                   |

#### 4.218 DocumentReference

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > DocumentReference, [IInputElement](#)

|                      |   |
|----------------------|---|
| (usage)              | <DocumentReference />                         |
| <b>(description)</b> | Provides access to reference a FixedDocument. |
| <b>(used by)</b>     | <a href="#">DocumentReferenceCollection</a>   |



|                            |  |
|----------------------------|--|
| (usage)                    | <DocumentReference />  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Source</b>              | <a href="#">x:Uri</a>  |
| <b>(description)</b>       | The uniform resource identifier (URI) for this document reference. |

#### 4.219 DocumentReferenceCollection

[x:Object](#) > DocumentReferenceCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Defines an ordered list of DocumentReference elements. |
| <b>(used by)</b>                  | <a href="#">FixedDocumentSequence</a>                  |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">DocumentReference</a>                      |
| <b>(events)</b>                   |  |
| <b>CollectionChanged</b>          | Occurs when an element is added or removed.            |

#### 4.220 DocumentViewer

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [DocumentViewerBase](#) > DocumentViewer, [IInputElement](#)

|                              |   |
|------------------------------|---|
| (usage)                      | <DocumentViewer> <a href="#">IDocumentPaginatorSource</a> </DocumentViewer>                                 |
| <b>(description)</b>         | Represents a document viewing control that can host paginated FixedDocument content such as an XpsDocument. |
| <b>[content property]</b>    | Document  |
| <b>[name property]</b>       | Name  |
| <b>[xml lang property]</b>   | Language  |
| <b>(properties)</b>          |   |
| <b>HorizontalOffset</b>      | <a href="#">x:Double</a>  |
| <b>(description)</b>         | The horizontal scroll position.   |
| <b>HorizontalPageSpacing</b> | <a href="#">x:Double</a>  |
| <b>(description)</b>         | The horizontal space between pages.   |

|                                   |   |
|-----------------------------------|---|
| (usage)                           | <DocumentViewer> <a href="#">IDocumentPaginatorSource</a> </DocumentViewer> |
| <b>MaxPagesAcross</b>             | <a href="#">x:Int32</a>   |
| <b>(description)</b>              | A value defining the maximum number of page columns to display.             |
| <b>ShowPageBorders</b>            | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value that indicates whether drop-shadow page borders are displayed.      |
| <b>VerticalOffset</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b>              | The vertical scroll position.   |
| <b>VerticalPageSpacing</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b>              | The vertical spacing between displayed pages.                               |
| <b>Zoom</b>                       | <a href="#">x:Double</a>  |
| <b>(description)</b>              | The document zoom percentage.   |
| <b>(static properties)</b>        |   |
| <b>FitToHeightCommand</b>         | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>              | The RoutedUICommand that performs the FitToHeight operation.                |
| <b>FitToMaxPagesAcrossCommand</b> | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>              | The RoutedUICommand that performs the MaxPagesAcross operation.             |
| <b>FitToWidthCommand</b>          | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>              | The RoutedUICommand that performs the FitToWidth operation.                 |
| <b>ViewThumbnailsCommand</b>      | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>              | The RoutedUICommand that performs the ViewThumbnails operation.             |

#### 4.221 DocumentViewerBase

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > DocumentViewerBase, [IInputElement](#)

|   |   |
|---|---|
| <a href="#">DocumentViewer</a> <a href="#">FlowDocumentPageViewer</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | Provides a base type for viewers that are intended to display fixed or flow content (represented by a FixedDocument or FlowDocument, respectively). |
| <b>[is default constructible]</b>                                     | false   |
| <b>[content property]</b>   | Document  |
| <b>[name property]</b>  | Name  |

|   |   |
|---|---|
| <a href="#">DocumentViewer</a> <a href="#">FlowDocumentPageViewer</a> |   |
| [xml lang property]   | Language  |
| (properties)  |   |
| Document  | <a href="#">IDocumentPaginatorSource</a>  |
| (description)   | A IDocumentPaginatorSource to be paginated and displayed by the viewer.   |
| (attachable properties)   |   |
| DocumentViewerBase.IsMasterPage                                       | <a href="#">x:Boolean</a>   |
| (description)   | A value that indicates whether or not a child element in the viewer should be used as a master page.                              |
| [target type]   | <a href="#">DependencyObject</a>  |
| (events)  |   |
| PageViewsChanged  | Occurs when the collection of DocumentPageView items associated with this viewer (represented by the PageViews property) changes. |

#### 4.222 DoubleAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [DoubleAnimationBase](#) > DoubleAnimation

|                 |   |
|-----------------|---|
| (usage)         | <DoubleAnimation />   |
| (description)   | Animates the value of a Double property between two target values using linear interpolation over a specified Duration. |
| [name property] | Name  |
| (properties)    |   |
| By              | <a href="#">x:Nullable(x:Double)</a>  |
| (description)   | The total amount by which the animation changes its starting value.   |
| EasingFunction  | <a href="#">IEasingFunction</a>   |
| (description)   | The easing function applied to this animation.  |
| From            | <a href="#">x:Nullable(x:Double)</a>  |
| (description)   | The animation's starting value.   |
| IsAdditive      | <a href="#">x:Boolean</a>   |
| (description)   | A value that indicates whether the target property's current value should be added to this animation's starting value.  |
| IsCumulative    | <a href="#">x:Boolean</a>   |

|                      |   |
|----------------------|---|
| (usage)              | <DoubleAnimation />   |
| <b>(description)</b> | A value that specifies whether the animation's value accumulates when it repeats. |
| <b>To</b>            | <a href="#">x:Nullable(x:Double)</a>  |
| <b>(description)</b> | The animation's ending value.   |

#### 4.223 DoubleAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > DoubleAnimationBase

|  |   |
|--|---|
| <a href="#">DoubleAnimation</a> <a href="#">DoubleAnimationUsingKeyFrames</a> <a href="#">DoubleAnimationUsingPath</a> |   |
| <b>(usage)</b>   | None.                                     |
| <b>(description)</b>   | A base type that animates a Double value. |
| <b>[is default constructible]</b>  | false                                     |
| <b>[name property]</b>   | Name                                      |

#### 4.224 DoubleAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [DoubleAnimationBase](#) > DoubleAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| (usage)                   | <DoubleAnimationUsingKeyFrames> <a href="#">DoubleKeyFrame</a> *</DoubleAnimationUsingKeyFrames>                       |
| <b>(description)</b>      | Animates the value of a Double property along a set of KeyFrames.  |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>KeyFrames</b>          | <a href="#">DoubleKeyFrameCollection</a>   |
| <b>(description)</b>      | The collection of DoubleKeyFrame objects that define the animation.  |

#### 4.225 DoubleAnimationUsingPath

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [DoubleAnimationBase](#) > DoubleAnimationUsingPath

|                        |  |
|------------------------|--|
| (usage)                | <DoubleAnimationUsingPath />   |
| <b>(description)</b>   | Animates the value of a Double property between two or more target values using a PathGeometry to specify those values. This animation can be used to move a visual object along a path. |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value.   |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.  |
| <b>PathGeometry</b>    | <a href="#">PathGeometry</a>   |
| <b>(description)</b>   | Specifies the geometry used to generate this animation's output values.  |
| <b>Source</b>          | <a href="#">PathAnimationSource</a>  |
| <b>(description)</b>   | The aspect of this animation's PathGeometry that determines its output value.  |

#### 4.226 DoubleCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > DoubleCollection

|                        |  |
|------------------------|--|
| (usage)                | <DoubleCollection> string </DoubleCollection>  |
| <b>(description)</b>   | Represents an ordered collection of Double values.   |
| <b>(used by)</b>       | <a href="#">ContainerVisual</a> <a href="#">DashStyle</a> <a href="#">GuidelineSet</a> <a href="#">Shape</a> <a href="#">Slider</a> <a href="#">TickBar</a> <a href="#">VisualTreeHelper</a> |
| <b>[text syntax]</b>   | <a href="#">DoubleCollectionSyntax</a>   |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">x:Double</a>   |

#### 4.227 DoubleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > DoubleKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteDoubleKeyFrame</a> <a href="#">EasingDoubleKeyFrame</a> <a href="#">LinearDoubleKeyFrame</a> <a href="#">SplineDoubleKeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a DoubleAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">DoubleKeyFrameCollection</a>   |

|   |   |
|---|---|
| <a href="#">DiscreteDoubleKeyFrame</a> <a href="#">EasingDoubleKeyFrame</a> <a href="#">LinearDoubleKeyFrame</a> <a href="#">SplineDoubleKeyFrame</a> |   |
| <b>[is default constructible]</b>   | false   |
| <b>(properties)</b>   |   |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>   |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached. |
| <b>Value</b>  | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The key frame's target value.                                     |

#### 4.228 DoubleKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > DoubleKeyFrameCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <DoubleKeyFrameCollection> <a href="#">DoubleKeyFrame</a> *</DoubleKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of DoubleKeyFrame objects.                                     |
| <b>(used by)</b>           | <a href="#">DoubleAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">DoubleKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | DoubleKeyFrameCollection   |
| <b>(description)</b>       | An empty DoubleKeyFrameCollection.   |

#### 4.229 DragAction

[x:Object](#) > DragAction

|                      |   |
|----------------------|---|
| (usage)              | <b>Continue  Drop  Cancel</b>                                   |
| <b>(description)</b> | Specifies how and if a drag-and-drop operation should continue. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">DragActionSyntax</a>                                |

#### 4.230 DragDropEffects

[x:Object](#) > DragDropEffects

|                      |   |
|----------------------|---|
| (usage)              | <b>None  Copy  Move  Link  Scroll  All</b>          |
| <b>(description)</b> | Specifies the effects of a drag-and-drop operation. |
| <b>[is nullable]</b> | false   |

|               |  |
|---------------|--|
| (usage)       | <b>None  Copy  Move  Link  Scroll  All</b> |
| [text syntax] | <a href="#">DragDropEffectsSyntax</a>      |

#### 4.231 DragDropKeyStates

[x:Object](#) > DragDropKeyStates

|               |   |
|---------------|---|
| (usage)       | <b>None  LeftMouseButton  RightMouseButton  ShiftKey  ControlKey  MiddleMouseButton  AltKey</b>                     |
| (description) | Specifies the current state of the modifier keys (SHIFT, CTRL, and ALT), as well as the state of the mouse buttons. |
| [is nullable] | false   |
| [text syntax] | <a href="#">DragDropKeyStatesSyntax</a>   |

#### 4.232 Drawing

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Drawing

|  |   |
|--|---|
| <a href="#">DrawingGroup</a> <a href="#">GeometryDrawing</a> <a href="#">GlyphRunDrawing</a> <a href="#">ImageDrawing</a> <a href="#">VideoDrawing</a> |   |
| (usage)  | None.   |
| (description)  | A base type that describes a 2-D drawing.   |
| (used by)  | <a href="#">DrawingBrush</a> <a href="#">DrawingCollection</a> <a href="#">DrawingImage</a> |
| [is default constructible]   | false   |

#### 4.233 DrawingAttributes

[x:Object](#) > DrawingAttributes

|               |   |
|---------------|---|
| (usage)       | <DrawingAttributes />   |
| (description) | Specifies the appearance of a Stroke  |
| (used by)     | <a href="#">InkCanvas</a> <a href="#">Stroke</a>                              |
| (properties)  |   |
| Color         | <a href="#">Color</a>   |
| (description) | The color of a Stroke.  |
| FitToCurve    | <a href="#">x:Boolean</a>   |
| (description) | A value that indicates whether Bezier smoothing is used to render the Stroke. |
| Height        | <a href="#">x:Double</a>  |
| (description) | The height of the stylus used to draw the Stroke.                             |

|                            |   |
|----------------------------|---|
| (usage)                    | <DrawingAttributes />   |
| <b>IgnorePressure</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the thickness of a Stroke changes according to the amount of pressure applied. |
| <b>IsHighlighter</b>       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the Stroke looks like a highlighter.   |
| <b>StylusTip</b>           | <a href="#">StylusTip</a>   |
| <b>(description)</b>       | The shape of the stylus used to draw the Stroke.  |
| <b>StylusTipTransform</b>  | <a href="#">Matrix</a>  |
| <b>(description)</b>       | The Matrix that specifies the transformation to perform on the stylus' tip.                                   |
| <b>Width</b>               | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The width of the stylus used to draw the Stroke.  |
| <b>(events)</b>            |   |
| <b>AttributeChanged</b>    | Occurs when a property in the DrawingAttributes object changes.   |
| <b>PropertyDataChanged</b> | Occurs when property data is added or removed from the StrokeCollection.                                      |

#### 4.234 DrawingBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > [TileBrush](#) > DrawingBrush

|                      |  |
|----------------------|--|
| (usage)              | <DrawingBrush> string </DrawingBrush>  |
| <b>(description)</b> | Paints an area with a Drawing, which can include shapes, text, video, images, or other drawings. |
| <b>[text syntax]</b> | <a href="#">BrushSyntax</a>  |
| <b>(properties)</b>  |  |
| <b>Drawing</b>       | <a href="#">Drawing</a>  |
| <b>(description)</b> | The Drawing that describes the contents of this DrawingBrush.                                    |

#### 4.235 DrawingCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > DrawingCollection

|                      |   |
|----------------------|---|
| (usage)              | <DrawingCollection> <a href="#">Drawing</a> *</DrawingCollection> |
| <b>(description)</b> | Represents an ordered collection of Drawing objects.              |
| <b>(used by)</b>     | <a href="#">DrawingGroup</a>                                      |



|                 |   |
|-----------------|---|
| (usage)         | <DrawingCollection> <a href="#">Drawing</a> *</DrawingCollection> |
| [is list]       | true  |
| [allowed types] | <a href="#">Drawing</a>   |

#### 4.236 DrawingGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Drawing](#) > DrawingGroup

|                    |  |
|--------------------|--|
| (usage)            | <DrawingGroup> <a href="#">Drawing</a> *</DrawingGroup>                            |
| (description)      | Represents a collection of drawings that can be operated upon as a single drawing. |
| [content property] | Children   |
| (properties)       |  |
| Children           | <a href="#">DrawingCollection</a>  |
| (description)      | The Drawing objects that are contained in this DrawingGroup.                       |
| ClipGeometry       | <a href="#">Geometry</a>   |
| (description)      | The clip region of this DrawingGroup.  |
| GuidelineSet       | <a href="#">GuidelineSet</a>   |
| (description)      | The GuidelineSet to apply to this DrawingGroup.                                    |
| Opacity            | <a href="#">x:Double</a>   |
| (description)      | The opacity of this DrawingGroup.  |
| OpacityMask        | <a href="#">Brush</a>  |
| (description)      | The brush used to alter the opacity of select regions of this DrawingGroup.        |
| Transform          | <a href="#">Transform</a>  |
| (description)      | The Transform that is applied to this DrawingGroup.                                |

#### 4.237 DrawingImage

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > DrawingImage

|               |   |
|---------------|---|
| (usage)       | <DrawingImage> string </DrawingImage>           |
| (description) | An ImageSource that uses a Drawing for content. |
| [text syntax] | x:Uri, from <a href="#">[MS-XAML]</a>           |
| (properties)  |   |
| Drawing       | <a href="#">Drawing</a>                         |
| (description) | The drawing content for the DrawingImage.       |

## 4.238 DrawingVisual

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [ContainerVisual](#) > DrawingVisual

|                      |  |
|----------------------|--|
| (usage)              | <DrawingVisual />  |
| <b>(description)</b> | DrawingVisual is a visual object that can be used to render vector graphics on the screen. The content is persisted by the system. |

## 4.239 DropShadowEffect

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Effect](#) > DropShadowEffect

|                      |  |
|----------------------|--|
| (usage)              | <DropShadowEffect />   |
| <b>(description)</b> | A bitmap effect that paints a drop shadow around the target texture.                                 |
| <b>(properties)</b>  |  |
| <b>BlurRadius</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b> | A value that indicates the radius of the shadow's blur effect.                                       |
| <b>Color</b>         | <a href="#">Color</a>  |
| <b>(description)</b> | The color of the drop shadow.  |
| <b>Direction</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b> | The direction of the drop shadow.  |
| <b>Opacity</b>       | <a href="#">x:Double</a>   |
| <b>(description)</b> | The opacity of the drop shadow.  |
| <b>RenderingBias</b> | <a href="#">RenderingBias</a>  |
| <b>(description)</b> | A value that indicates whether the system renders the drop shadow with emphasis on speed or quality. |
| <b>ShadowDepth</b>   | <a href="#">x:Double</a>   |
| <b>(description)</b> | The distance of the drop shadow below the texture.   |

## 4.240 Duration

[x:Object](#) > Duration

|                      |  |
|----------------------|--|
| (usage)              | <Duration> string </Duration>                              |
| <b>(description)</b> | Represents the duration of time that a Timeline is active. |
| <b>(used by)</b>     | <a href="#">Timeline</a> <a href="#">VisualTransition</a>  |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">DurationSyntax</a>                             |

|                            |  |
|----------------------------|--|
| (usage)                    | <Duration> string </Duration>                          |
| <b>(static properties)</b> |  |
| <b>Automatic</b>           | Duration   |
| <b>(description)</b>       | A Duration value that is automatically determined.     |
| <b>Forever</b>             | Duration   |
| <b>(description)</b>       | A Duration value that represents an infinite interval. |

#### 4.241 DynamicResourceExtension

[x:Object](#) > [x:MarkupExtension](#) > DynamicResourceExtension

|                            |  |
|----------------------------|--|
| (usage)                    | {DynamicResource }   <DynamicResource />   |
| <b>(description)</b>       | Implements a markup extension that supports dynamic resource references made from XAML.  |
| <b>[return value type]</b> | <a href="#">x:Object</a>   |
| <b>[constructors]</b>      |  |
| <b>(1 parameter)</b>       |  |
| <b>resourceKey</b>         | <a href="#">x:Object</a>   |
| <b>(description)</b>       | The key of the resource that this markup extension references.   |
| <b>(properties)</b>        |  |
| <b>ResourceKey</b>         | <a href="#">x:Object</a>   |
| <b>(description)</b>       | The key specified by this dynamic resource reference. The key is used to lookup a resource in resource dictionaries, by means of an intermediate expression. |

#### 4.242 EasingByteKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ByteKeyFrame](#) > EasingByteKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingByteKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a ByteAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |

#### 4.243 EasingColorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ColorKeyFrame](#) > EasingColorKeyFrame

|                       |  |
|-----------------------|--|
| (usage)               | <EasingColorKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a ColorAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |  |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>  | The easing function applied to the key frame.  |

#### 4.244 EasingDecimalKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [DecimalKeyFrame](#) > EasingDecimalKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingDecimalKeyFrame />   |
| <b>(description)</b>  | A base type that enables you to associate easing functions with a DecimalAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |

#### 4.245 EasingDoubleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [DoubleKeyFrame](#) > EasingDoubleKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingDoubleKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a DoubleAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |

#### 4.246 EasingFunctionBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > EasingFunctionBase, [IEasingFunction](#)

|   |  |
|---|--|
| <a href="#">BackEase</a> <a href="#">BounceEase</a> <a href="#">CircleEase</a> <a href="#">CubicEase</a> <a href="#">ElasticEase</a> <a href="#">ExponentialEase</a> <a href="#">PowerEase</a> <a href="#">QuadraticEase</a> <a href="#">QuarticEase</a> <a href="#">QuinticEase</a> <a href="#">SineEase</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | Provides the base type for all the easing functions. |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |

|   |  |
|---|--|
| <a href="#">BackEase</a> <a href="#">BounceEase</a> <a href="#">CircleEase</a> <a href="#">CubicEase</a> <a href="#">ElasticEase</a> <a href="#">ExponentialEase</a> <a href="#">PowerEase</a> <a href="#">QuadraticEase</a> <a href="#">QuarticEase</a> <a href="#">QuinticEase</a> <a href="#">SineEase</a> |  |
| <b>EasingMode</b>   | <a href="#">EasingMode</a>                             |
| <b>(description)</b>  | A value that specifies how the animation interpolates. |

#### 4.247 EasingInt16KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int16KeyFrame](#) > EasingInt16KeyFrame

|                       |  |
|-----------------------|--|
| <b>(usage)</b>        | <EasingInt16KeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a Int16AnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |  |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>  | The easing function applied to the key frame.  |

#### 4.248 EasingInt32KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int32KeyFrame](#) > EasingInt32KeyFrame

|                       |  |
|-----------------------|--|
| <b>(usage)</b>        | <EasingInt32KeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a Int32AnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |  |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>  | The easing function applied to the key frame.  |

#### 4.249 EasingInt64KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int64KeyFrame](#) > EasingInt64KeyFrame

|                       |  |
|-----------------------|--|
| <b>(usage)</b>        | <EasingInt64KeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a Int64AnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |  |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>  | The easing function applied to the key frame.  |

#### 4.250 EasingMode

[x:Object](#) > EasingMode

|                      |  |
|----------------------|--|
| (usage)              | <b>EaseIn  EaseOut  EaseInOut</b>  |
| <b>(description)</b> | Defines the modes in which types derived from EasingFunctionBase perform their easing. |
| <b>(used by)</b>     | <a href="#">EasingFunctionBase</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">EasingModeSyntax</a>   |

#### 4.251 EasingPoint3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Point3DKeyFrame](#) > EasingPoint3DKeyFrame

|                       |  |
|-----------------------|--|
| (usage)               | <EasingPoint3DKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a Point3DAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |  |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>  | The easing function applied to the key frame.  |

#### 4.252 EasingPointKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [PointKeyFrame](#) > EasingPointKeyFrame

|                       |  |
|-----------------------|--|
| (usage)               | <EasingPointKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a PointAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |  |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>  | The easing function applied to the key frame.  |

#### 4.253 EasingQuaternionKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [QuaternionKeyFrame](#) > EasingQuaternionKeyFrame

|                        |   |
|------------------------|---|
| (usage)                | <EasingQuaternionKeyFrame />  |
| <b>(description)</b>   | A type that enables you to associate easing functions with a QuaternionAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>    |   |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>   | The easing function applied to the key frame.   |
| <b>UseShortestPath</b> | <a href="#">x:Boolean</a>   |

|                      |   |
|----------------------|---|
| (usage)              | <EasingQuaternionKeyFrame />  |
| <b>(description)</b> | A value that indicates whether the animation will automatically flip the sign of the destination quaternion to ensure the shortest path is taken. |

#### 4.254 EasingRectKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [RectKeyFrame](#) > EasingRectKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingRectKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a RectAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |

#### 4.255 EasingRotation3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Rotation3DKeyFrame](#) > EasingRotation3DKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingRotation3DKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a Rotation3DAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |

#### 4.256 EasingSingleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [SingleKeyFrame](#) > EasingSingleKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingSingleKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a SingleAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |

#### 4.257 EasingSizeKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [SizeKeyFrame](#) > EasingSizeKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingSizeKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a SizeAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |

#### 4.258 EasingThicknessKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ThicknessKeyFrame](#) > EasingThicknessKeyFrame

|                       |  |
|-----------------------|--|
| (usage)               | <EasingThicknessKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a ThicknessAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |  |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>  | The easing function applied to the key frame.  |

#### 4.259 EasingVector3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Vector3DKeyFrame](#) > EasingVector3DKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingVector3DKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a Vector3DAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |

#### 4.260 EasingVectorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [VectorKeyFrame](#) > EasingVectorKeyFrame

|                       |   |
|-----------------------|---|
| (usage)               | <EasingVectorKeyFrame />  |
| <b>(description)</b>  | A type that enables you to associate easing functions with a VectorAnimationUsingKeyFrames key frame animation. |
| <b>(properties)</b>   |   |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>  | The easing function applied to the key frame.   |



## 4.261 EdgeMode

[x:Object](#) > EdgeMode

|               |   |
|---------------|---|
| (usage)       | <b>Unspecified</b>   <b>Aliased</b>                                   |
| (description) | Determines how the edges of non-text drawing primitives are rendered. |
| (used by)     | <a href="#">RenderOptions</a>   |
| [is nullable] | false   |
| [text syntax] | <a href="#">EdgeModeSyntax</a>  |

## 4.262 EdgeProfile

[x:Object](#) > EdgeProfile

|               |  |
|---------------|--|
| (usage)       | <b>Linear</b>   <b>CurvedIn</b>   <b>CurvedOut</b>   <b>BulgedUp</b> |
| (description) | Specifies the type of curve to apply to the edge of a bitmap.        |
| [is nullable] | false  |
| [text syntax] | <a href="#">EdgeProfileSyntax</a>                                    |

## 4.263 EditingCommands

[x:Object](#) > EditingCommands

|                            |   |
|----------------------------|---|
| (usage)                    | {x:Static EditingCommands.StaticPropertyName}   |
| (description)              | Provides a standard set of editing related commands.  |
| [is default constructible] | false   |
| (static properties)        |   |
| <b>AlignCenter</b>         | <a href="#">RoutedUICommand</a>   |
| (description)              | Represents the AlignCenter command, which requests that the current paragraph or a selection of paragraphs be centered.   |
| <b>AlignJustify</b>        | <a href="#">RoutedUICommand</a>   |
| (description)              | Represents the AlignJustify command, which requests that the current paragraph or a selection of paragraphs be justified. |
| <b>AlignLeft</b>           | <a href="#">RoutedUICommand</a>   |
| (description)              | Represents the AlignLeft command, which requests that a selection of content be aligned left.                             |
| <b>AlignRight</b>          | <a href="#">RoutedUICommand</a>   |
| (description)              | Represents the AlignRight command, which requests that a selection of   |

|                             |   |
|-----------------------------|---|
| (usage)                     | {x:Static EditingCommands.StaticPropertyName}   |
|                             | content be aligned right.   |
| <b>Backspace</b>            | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the Backspace command, which requests that a backspace be entered at the current position or over the current selection.                               |
| <b>CorrectSpellingError</b> | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the CorrectSpellingError command, which requests that any misspelled word at the current position be corrected.  |
| <b>DecreaseFontSize</b>     | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the DecreaseFontSize command, which requests that the font size for the current selection be decreased by 1 point.                                     |
| <b>DecreaseIndentation</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the DecreaseIndentation command, which requests that indentation for the current paragraph be decreased by one tab stop.                               |
| <b>Delete</b>               | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the Delete command, which requests that the current selection be deleted.  |
| <b>DeleteNextWord</b>       | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the DeleteNextWord command, which requests that the next word (relative to a current position) be deleted.   |
| <b>DeletePreviousWord</b>   | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the DeletePreviousWord command, which requests that the previous word (relative to a current position) be deleted.                                     |
| <b>EnterLineBreak</b>       | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the EnterLineBreak command, which requests that a line break be inserted at the current position or over the current selection.                        |
| <b>EnterParagraphBreak</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the EnterParagraphBreak command, which requests that a paragraph break be inserted at the current position or over the current selection.              |
| <b>IgnoreSpellingError</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the IgnoreSpellingError command, which requests that any instances of misspelled words at the current position or in the current selection be ignored. |
| <b>IncreaseFontSize</b>     | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the IncreaseFontSize command, which requests that the font size for the current selection be increased by 1 point.                                     |

|                             |   |
|-----------------------------|---|
| (usage)                     | {x:Static EditingCommands.StaticPropertyName}   |
| <b>IncreaseIndentation</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the IncreaseIndentation command, which requests that indentation for the current paragraph be increased by one tab stop. |
| <b>MoveDownByLine</b>       | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveDownByLine command, which requests that the caret move down by one line.   |
| <b>MoveDownByPage</b>       | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveDownByPage command, which requests that the caret move down by one page.   |
| <b>MoveDownByParagraph</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveDownByParagraph command, which requests that the caret move down by one paragraph.                               |
| <b>MoveLeftByCharacter</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveLeftByCharacter command, which requests that the caret move one character left.                                  |
| <b>MoveLeftByWord</b>       | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveLeftByWord command, which requests that the caret move one word left.  |
| <b>MoveRightByCharacter</b> | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveRightByCharacter command, which requests that the caret move one character right.                                |
| <b>MoveRightByWord</b>      | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveRightByWord command, which requests that the caret move right by one word.                                       |
| <b>MoveToDocumentEnd</b>    | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveToDocumentEnd command, which requests that the caret move to the very end of content.                            |
| <b>MoveToDocumentStart</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveToDocumentStart command, which requests that the caret move to the very beginning of content.                    |
| <b>MoveToLineEnd</b>        | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveToLineEnd command, which requests that the caret move to the end of the current line.                            |
| <b>MoveToLineStart</b>      | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>        | Represents the MoveToLineStart command, which requests that the caret   |

|                               |   |
|-------------------------------|---|
| (usage)                       | {x:Static EditingCommands.StaticPropertyName}   |
|                               | move to the beginning of the current line.  |
| <b>MoveUpByLine</b>           | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the MoveUpByLine command, which requests that the caret move up by one line.                                       |
| <b>MoveUpByPage</b>           | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the MoveUpByPage command, which requests that the caret move up by one page.                                       |
| <b>MoveUpByParagraph</b>      | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the MoveUpByParagraph command, which requests that the caret move up by one paragraph.                             |
| <b>SelectDownByLine</b>       | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the SelectDownByLine command, which requests that the current selection be expanded down by one line.              |
| <b>SelectDownByPage</b>       | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the SelectDownByPage command, which requests that the current selection be expanded down by one page.              |
| <b>SelectDownByParagraph</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the SelectDownByParagraph command, which requests that the current selection be expanded down by one paragraph.    |
| <b>SelectLeftByCharacter</b>  | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the SelectLeftByCharacter command, which requests that the current selection be expanded left by one character.    |
| <b>SelectLeftByWord</b>       | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the SelectLeftByWord command, which requests that the current selection be expanded left by one word.              |
| <b>SelectRightByCharacter</b> | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the SelectRightByCharacter command, which requests that the current selection be expanded right by one character.  |
| <b>SelectRightByWord</b>      | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the SelectRightByWord command, which requests that the current selection be expanded right by one word.            |
| <b>SelectToDocumentEnd</b>    | <a href="#">RoutedUICommand</a>   |
| <b>(description)</b>          | Represents the SelectToDocumentEnd command, which requests that the current selection be expanded to the very end of content. |
| <b>SelectToDocumentStart</b>  | <a href="#">RoutedUICommand</a>   |

|                            |  |
|----------------------------|--|
| (usage)                    | {x:Static EditingCommands.StaticPropertyName}  |
| <b>(description)</b>       | Represents the SelectToDocumentStart command, which requests that the current selection be expanded to the very beginning of content.                        |
| <b>SelectToLineEnd</b>     | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the SelectToLineEnd command, which requests that the current selection be expanded to the end of the current line.                                |
| <b>SelectToLineStart</b>   | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the SelectToLineStart command, which requests that the current selection be expanded to the beginning of the current line.                        |
| <b>SelectUpByLine</b>      | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the SelectUpByLine command, which requests that the current selection be expanded up by one line.   |
| <b>SelectUpByPage</b>      | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the SelectUpByPage command, which requests that the current selection be expanded up by one page.   |
| <b>SelectUpByParagraph</b> | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the SelectUpByParagraph command, which requests that the current selection be expanded up by one paragraph.                                       |
| <b>TabBackward</b>         | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the TabBackward command.  |
| <b>TabForward</b>          | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the TabForward command.   |
| <b>ToggleBold</b>          | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the ToggleBold command, which requests that Bold formatting be toggled on the current selection.  |
| <b>ToggleBullets</b>       | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the ToggleBullets command, which requests that unordered list (also referred to as bulleted list) formatting be toggled on the current selection. |
| <b>ToggleInsert</b>        | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the ToggleInsert command, which toggles the typing mode between Insert and Overtype.  |
| <b>ToggleItalic</b>        | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>       | Represents the ToggleItalic command, which requests that Italic formatting be toggled on the current selection.  |
| <b>ToggleNumbering</b>     | <a href="#">RoutedUICommand</a>  |

|                          |  |
|--------------------------|--|
| (usage)                  | {x:Static EditingCommands.StaticPropertyName}  |
| <b>(description)</b>     | Represents the ToggleNumbering command, which requests that ordered list (also referred to as numbered list) formatting be toggled on the current selection. |
| <b>ToggleSubscript</b>   | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>     | Represents the ToggleSubscript command, which requests that subscript formatting be toggled on the current selection.  |
| <b>ToggleSuperscript</b> | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>     | Represents the ToggleSuperscript command, which requests that superscript formatting be toggled on the current selection.                                    |
| <b>ToggleUnderline</b>   | <a href="#">RoutedUICommand</a>  |
| <b>(description)</b>     | Represents the ToggleUnderline command, which requests that Underline formatting be toggled on the current selection.  |

#### 4.264 Effect

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Effect

|   |  |
|---|--|
| <a href="#">BlurEffect</a> <a href="#">DropShadowEffect</a> |  |
| <b>(usage)</b>  | {x:Static Effect.StaticPropertyName}   |
| <b>(description)</b>  | Provides a custom bitmap effect.   |
| <b>(used by)</b>  | <a href="#">ContainerVisual</a> <a href="#">UIElement</a>  |
| <b>[is default constructible]</b>                           | false  |
| <b>(static properties)</b>                                  |  |
| <b>ImplicitInput</b>  | <a href="#">Brush</a>  |
| <b>(description)</b>  | A Brush that, when it is used as an input for an Effect, causes the bitmap of the UIElement that the Effect is applied to be that input. |

#### 4.265 ElasticEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > ElasticEase, [IEasingFunction](#)

|                      |  |
|----------------------|--|
| (usage)              | <ElasticEase />  |
| <b>(description)</b> | Represents an easing function that creates an animation that resembles a spring oscillating back and forth until it comes to rest. |
| <b>(properties)</b>  |  |
| <b>Oscillations</b>  | <a href="#">x:Int32</a>  |
| <b>(description)</b> | The number of times the target slides back and forth over the animation destination.   |

|                      |   |
|----------------------|---|
| (usage)              | <ElasticEase />   |
| <b>Springiness</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b> | The stiffness of the spring. The smaller the Springiness value is, the stiffer the spring and the faster the elasticity decreases in intensity over each oscillation. |

#### 4.266 Ellipse

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Shape](#) > Ellipse, [IInputElement](#)

|                            |                   |
|----------------------------|-------------------|
| (usage)                    | <Ellipse />       |
| <b>(description)</b>       | Draws an ellipse. |
| <b>[name property]</b>     | Name              |
| <b>[xml lang property]</b> | Language          |

#### 4.267 EllipseGeometry

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Geometry](#) > EllipseGeometry

|                      |   |
|----------------------|---|
| (usage)              | <EllipseGeometry> string </EllipseGeometry>     |
| <b>(description)</b> | Represents the geometry of a circle or ellipse. |
| <b>[text syntax]</b> | <a href="#">GeometrySyntax</a>                  |
| <b>(properties)</b>  |   |
| <b>Center</b>        | <a href="#">Point</a>                           |
| <b>(description)</b> | The center point of the EllipseGeometry.        |
| <b>RadiusX</b>       | <a href="#">x:Double</a>                        |
| <b>(description)</b> | The x-radius value of the EllipseGeometry.      |
| <b>RadiusY</b>       | <a href="#">x:Double</a>                        |
| <b>(description)</b> | The y-radius value of the EllipseGeometry.      |

#### 4.268 EmissiveMaterial

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Material](#) > EmissiveMaterial

|                      |   |
|----------------------|---|
| (usage)              | <EmissiveMaterial />  |
| <b>(description)</b> | Applies a Brush to a 3-D model so that it participates in lighting calculations as if the Material were emitting light equal to the color of the Brush. |
| <b>(properties)</b>  |   |
| <b>Brush</b>         | <a href="#">Brush</a>   |

|                      |  |
|----------------------|--|
| (usage)              | <EmissiveMaterial />                         |
| <b>(description)</b> | The Brush applied by the EmissiveMaterial.   |
| <b>Color</b>         | <a href="#">Color</a>                        |
| <b>(description)</b> | The color filter for the material's texture. |

#### 4.269 EventPrivateKey

[x:Object](#) > EventPrivateKey

|                      |   |
|----------------------|---|
| (usage)              | <EventPrivateKey />   |
| <b>(description)</b> | Provides unique identification for events whose handlers are stored into an internal hashtable. |

#### 4.270 EventSetter

[x:Object](#) > [SetterBase](#) > EventSetter

|                         |  |
|-------------------------|--|
| (usage)                 | <EventSetter />  |
| <b>(description)</b>    | Represents an event setter in a style. Event setters invoke the specified event handlers in response to events.                                    |
| <b>(properties)</b>     |  |
| <b>Event</b>            | <a href="#">RoutedEvent</a>  |
| <b>(description)</b>    | The particular routed event that this EventSetter responds to.   |
| <b>HandledEventsToo</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>    | A value that determines whether the handler assigned to the setter should still be invoked, even if the event is marked handled in its event data. |

#### 4.271 EventTrigger

[x:Object](#) > [DependencyObject](#) > [TriggerBase](#) > EventTrigger

|                           |   |
|---------------------------|---|
| (usage)                   | <EventTrigger> <a href="#">TriggerAction</a> *</EventTrigger>               |
| <b>(description)</b>      | Represents a trigger that applies a set of actions in response to an event. |
| <b>[content property]</b> | Actions   |
| <b>(properties)</b>       |   |
| <b>Actions</b>            | <a href="#">TriggerActionCollection</a>                                     |
| <b>(description)</b>      | The collection of actions to apply when the event occurs.                   |
| <b>[read only]</b>        | true  |



|                      |  |
|----------------------|--|
| (usage)              | <EventTrigger> <a href="#">TriggerAction</a> *</EventTrigger>  |
| <b>RoutedEvent</b>   | <a href="#">RoutedEvent</a>  |
| <b>(description)</b> | The RoutedEvent that will activate this trigger.   |
| <b>SourceName</b>    | <a href="#">x:String</a>   |
| <b>(description)</b> | The name of the object with the event that activates this trigger. This is only used by element triggers or template triggers. |

#### 4.272 ExceptionValidationRule

[x:Object](#) > [ValidationRule](#) > ExceptionValidationRule

|                      |  |
|----------------------|--|
| (usage)              | <ExceptionValidationRule />  |
| <b>(description)</b> | Represents a rule that checks for exceptions that are thrown during the update of the binding source property. |

#### 4.273 ExpandDirection

[x:Object](#) > ExpandDirection

|                      |   |
|----------------------|---|
| (usage)              | <b>Down   Up   Left   Right</b>                             |
| <b>(description)</b> | Specifies the direction in which an Expander control opens. |
| <b>(used by)</b>     | <a href="#">Expander</a>                                    |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ExpandDirectionSyntax</a>                       |

#### 4.274 Expander

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [HeaderedContentControl](#) > Expander, [InputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <Expander> <a href="#">x:Object</a> </Expander>  |
| <b>(description)</b>       | Represents the control that displays a header that has a collapsible window that displays content. |
| <b>[content property]</b>  | Content  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>ExpandDirection</b>     | <a href="#">ExpandDirection</a>  |
| <b>(description)</b>       | The direction in which the Expander content window opens.  |

|                      |   |
|----------------------|---|
| (usage)              | <Expander> <a href="#">x:Object</a> </Expander>   |
| <b>IsExpanded</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b> | Whether the Expander content window is visible.   |
| <b>(events)</b>      |   |
| <b>Collapsed</b>     | Occurs when the content window of an Expander control closes and only the Header is visible.        |
| <b>Expanded</b>      | Occurs when the content window of an Expander control opens to display both its header and content. |

#### 4.275 ExponentialEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > ExponentialEase, [IEasingFunction](#)

|                      |   |
|----------------------|---|
| (usage)              | <ExponentialEase />   |
| <b>(description)</b> | Represents an easing function that creates an animation that accelerates and/or decelerates using an exponential formula. |
| <b>(properties)</b>  |   |
| <b>Exponent</b>      | <a href="#">x:Double</a>  |
| <b>(description)</b> | The exponent used to determine the interpolation of the animation.  |

#### 4.276 FamilyTypeface

[x:Object](#) > FamilyTypeface

|                                   |   |
|-----------------------------------|---|
| (usage)                           | <FamilyTypeface />  |
| <b>(description)</b>              | Specifies the details of a single typeface supported by a FontFamily.         |
| <b>(used by)</b>                  | <a href="#">FamilyTypefaceCollection</a>                                      |
| <b>(properties)</b>               |   |
| <b>AdjustedFaceNames</b>          | <a href="#">IDictionary(XmlLanguage,x:String)</a>                             |
| <b>(description)</b>              | A collection of localized face names adjusted by the font differentiator.     |
| <b>[read only]</b>                | true  |
| <b>CapsHeight</b>                 | <a href="#">x:Double</a>  |
| <b>(description)</b>              | The distance from baseline to top of an English capital, relative to em size. |
| <b>DeviceFontCharacterMetrics</b> | <a href="#">CharacterMetricsDictionary</a>                                    |
| <b>(description)</b>              | The collection of character metrics for a device font family typeface.        |

|                               |  |
|-------------------------------|--|
| (usage)                       | <FamilyTypeface />   |
| [read only]                   | true   |
| <b>DeviceFontName</b>         | <a href="#">x:String</a>   |
| <b>(description)</b>          | The name or unique identifier for a device font family typeface.   |
| <b>Stretch</b>                | <a href="#">FontStretch</a>  |
| <b>(description)</b>          | The designed stretch of the font family typeface.  |
| <b>StrikethroughPosition</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b>          | The position of the strikethrough value relative to the baseline. The value is also relative to em size. |
| <b>StrikethroughThickness</b> | <a href="#">x:Double</a>   |
| <b>(description)</b>          | The thickness of the strikethrough relative to em size.  |
| <b>Style</b>                  | <a href="#">FontStyle</a>  |
| <b>(description)</b>          | The style of the font family typeface design.  |
| <b>UnderlinePosition</b>      | <a href="#">x:Double</a>   |
| <b>(description)</b>          | The position of underline value relative to the baseline. The value is also relative to em size.         |
| <b>UnderlineThickness</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b>          | The thickness of underline relative to em size.  |
| <b>Weight</b>                 | <a href="#">FontWeight</a>   |
| <b>(description)</b>          | The designed weight of this font family typeface.  |
| <b>XHeight</b>                | <a href="#">x:Double</a>   |
| <b>(description)</b>          | The Western x-height relative to em size.  |

#### 4.277 FamilyTypefaceCollection

[x:Object](#) > FamilyTypefaceCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Represents a collection of FamilyTypeface instances. |
| <b>(used by)</b>                  | <a href="#">FontFamily</a>                           |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">FamilyTypeface</a>                       |

## 4.278 Figure

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > [AnchoredBlock](#) > Figure, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <Figure> <a href="#">Block</a> *</Figure>   |
| <b>(description)</b>       | An inline-level flow content element used to host a figure. A figure is a portion of flow content with placement properties that can be customized independently from the primary content flow within a FlowDocument. |
| <b>[content property]</b>  | Blocks  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>CanDelayPlacement</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether this figure can delay its placement in the flow of content.  |
| <b>Height</b>              | <a href="#">FigureLength</a>  |
| <b>(description)</b>       | A value that indicates the height of a Figure element.  |
| <b>HorizontalAnchor</b>    | <a href="#">FigureHorizontalAnchor</a>  |
| <b>(description)</b>       | A value that indicates the position that content is anchored to in the horizontal direction.  |
| <b>HorizontalOffset</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that indicates the distance that a Figure is offset from its baseline in the horizontal direction.  |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>VerticalAnchor</b>      | <a href="#">FigureVerticalAnchor</a>  |
| <b>(description)</b>       | A value that indicates the position that content is anchored to in the vertical direction.  |
| <b>VerticalOffset</b>      | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that indicates the distance that a Figure is offset from its baseline in the vertical direction.  |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>Width</b>               | <a href="#">FigureLength</a>  |
| <b>(description)</b>       | A value that indicates the width of a Figure element.   |
| <b>WrapDirection</b>       | <a href="#">WrapDirection</a>   |
| <b>(description)</b>       | A value that indicates the allowable ways in which content can flow around a Figure.  |

## 4.279 FigureHorizontalAnchor

[x:Object](#) > FigureHorizontalAnchor

|               |  |
|---------------|--|
| (usage)       | <b>PageLeft  PageCenter  PageRight  ContentLeft  ContentCenter  ContentRight  ColumnLeft  ColumnCenter  ColumnRight...</b> |
| (description) | Describes a position reference for a figure in a horizontal direction.   |
| (used by)     | <a href="#">Figure</a>   |
| [is nullable] | false  |
| [text syntax] | <a href="#">FigureHorizontalAnchorSyntax</a>   |

## 4.280 FigureLength

[x:Object](#) > FigureLength

|               |  |
|---------------|--|
| (usage)       | <FigureLength> string </FigureLength>      |
| (description) | Describes the height or width of a Figure. |
| (used by)     | <a href="#">Figure</a>                     |
| [is nullable] | false                                      |
| [text syntax] | <a href="#">FigureLengthSyntax</a>         |

## 4.281 FigureUnitType

[x:Object](#) > FigureUnitType

|               |  |
|---------------|--|
| (usage)       | <b>Auto  Pixel  Column  Content  <a href="#">Page</a></b>                      |
| (description) | Describes the unit type associated with the width or height of a FigureLength. |
| [is nullable] | false  |
| [text syntax] | <a href="#">FigureUnitTypeSyntax</a>   |

## 4.282 FigureVerticalAnchor

[x:Object](#) > FigureVerticalAnchor

|               |  |
|---------------|--|
| (usage)       | <b>PageTop  PageCenter  PageBottom  ContentTop  ContentCenter  ContentBottom  ParagraphTop</b> |
| (description) | Describes the point of reference of a figure in the vertical direction.                        |
| (used by)     | <a href="#">Figure</a>   |
| [is nullable] | false  |
| [text         | <a href="#">FigureVerticalAnchorSyntax</a>   |

|                |  |
|----------------|--|
| (usage)        | <b>PageTop  PageCenter  PageBottom  ContentTop  ContentCenter  ContentBottom  ParagraphTop</b> |
| <b>syntax]</b> |  |

#### 4.283 FillBehavior

[x:Object](#) > FillBehavior

|                      |   |
|----------------------|---|
| (usage)              | <b>HoldEnd  Stop</b>  |
| <b>(description)</b> | Specifies how a Timeline behaves when it is outside its active period but its parent is inside its active or hold period. |
| <b>(used by)</b>     | <a href="#">Timeline</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">FillBehaviorSyntax</a>  |

#### 4.284 FillRule

[x:Object](#) > FillRule

|                      |  |
|----------------------|--|
| (usage)              | <b>EvenOdd  Nonzero</b>  |
| <b>(description)</b> | Specifies how the intersecting areas of PathFigure objects contained in a Geometry are combined to form the area of the Geometry.          |
| <b>(used by)</b>     | <a href="#">GeometryGroup</a> <a href="#">PathGeometry</a> <a href="#">Polygon</a> <a href="#">Polyline</a> <a href="#">StreamGeometry</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">FillRuleSyntax</a>   |

#### 4.285 FixedDocument

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > FixedDocument, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <FixedDocument> <a href="#">PageContent</a> *</FixedDocument>   |
| <b>(description)</b>       | Hosts a portable, high fidelity, fixed-format document with read access for user text selection, keyboard navigation, and search. |
| <b>[content property]</b>  | Pages   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

|                      |   |
|----------------------|---|
| (usage)              | <FixedDocument> <a href="#">PageContent</a> *</FixedDocument> |
| <b>(properties)</b>  |   |
| <b>Pages</b>         | <a href="#">PageContentCollection</a>                         |
| <b>(description)</b> | A collection of the document's PageContent elements.          |
| <b>[read only]</b>   | true  |
| <b>PrintTicket</b>   | <a href="#">x:Object</a>                                      |
| <b>(description)</b> | The PrintTicket that is associated with this document.        |

#### 4.286 FixedDocumentSequence

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > FixedDocumentSequence, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <FixedDocumentSequence> <a href="#">DocumentReference</a> *</FixedDocumentSequence>     |
| <b>(description)</b>       | Hosts one or more DocumentReference elements that define a sequence of fixed documents. |
| <b>[content property]</b>  | <a href="#">References</a>  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>PrintTicket</b>         | <a href="#">x:Object</a>  |
| <b>(description)</b>       | The PrintTicket that is associated with this document sequence.                         |
| <b>References</b>          | <a href="#">DocumentReferenceCollection</a>   |
| <b>(description)</b>       | A collection of the document sequence's DocumentReference child elements.               |
| <b>[read only]</b>         | true  |

#### 4.287 FixedPage

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > FixedPage, [IInputElement](#)

|                           |  |
|---------------------------|--|
| (usage)                   | <FixedPage> <a href="#">UIElement</a> *</FixedPage>          |
| <b>(description)</b>      | Provides the content for a high fidelity, fixed-format page. |
| <b>(used by)</b>          | <a href="#">PageContent</a>                                  |
| <b>[content property]</b> | Children   |

|                              |   |
|------------------------------|---|
| (usage)                      | <FixedPage> <a href="#">UIElement</a> *</FixedPage>   |
| [name property]              | Name  |
| [xml lang property]          | Language  |
| (properties)                 |   |
| <b>Background</b>            | <a href="#">Brush</a>   |
| (description)                | The Brush used for the page background.   |
| <b>BleedBox</b>              | <a href="#">Rect</a>  |
| (description)                | A rectangle defining the overflow area for bleeds, registration marks, and crop marks.                |
| <b>Children</b>              | <a href="#">UIElementCollection</a>   |
| (description)                | A collection of the FixedPage child elements.   |
| [read only]                  | true  |
| <b>ContentBox</b>            | <a href="#">Rect</a>  |
| (description)                | The bounding rectangle of the content area; that is, the area of the page within the margins, if any. |
| <b>PrintTicket</b>           | <a href="#">x:Object</a>  |
| (description)                | The PrintTicket that is associated with the page.   |
| (attachable properties)      |   |
| <b>FixedPage.Bottom</b>      | <a href="#">x:Double</a>  |
| (description)                | The distance between the bottom of the page and the bottom of the parent Canvas.                      |
| [target type]                | <a href="#">UIElement</a>   |
| [text syntax]                | <a href="#">LengthSyntax</a>  |
| <b>FixedPage.Left</b>        | <a href="#">x:Double</a>  |
| (description)                | The distance between the left edge of the page and the left edge of the parent Canvas.                |
| [target type]                | <a href="#">UIElement</a>   |
| [text syntax]                | <a href="#">LengthSyntax</a>  |
| <b>FixedPage.NavigateUri</b> | <a href="#">x:Uri</a>   |
| (description)                | The URI associated with the page.   |
| [target type]                | <a href="#">UIElement</a>   |
| <b>FixedPage.Right</b>       | <a href="#">x:Double</a>  |



|               |  |
|---------------|--|
| (usage)       | <FixedPage> <a href="#">UIElement</a> *</FixedPage>                                      |
| (description) | The distance between the right edge of the page and the right edge of the parent Canvas. |
| [target type] | <a href="#">UIElement</a>  |
| [text syntax] | <a href="#">LengthSyntax</a>   |
| FixedPage.Top | <a href="#">x:Double</a>   |
| (description) | The distance between the top of the page and the top of the parent Canvas.               |
| [target type] | <a href="#">UIElement</a>  |
| [text syntax] | <a href="#">LengthSyntax</a>   |

#### 4.288 Floater

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > [AnchoredBlock](#) > Floater, [InputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <Floater> <a href="#">Block</a> *</Floater>  |
| (description)       | Provides an inline-level flow content element used to host a floater. A floater displays images and other content parallel to the main content flow in a FlowDocument. |
| [content property]  | Blocks   |
| [name property]     | Name   |
| [xml lang property] | Language   |
| (properties)        |  |
| HorizontalAlignment | <a href="#">HorizontalAlignment</a>  |
| (description)       | A value that indicates the horizontal alignment for a Floater object.  |
| Width               | <a href="#">x:Double</a>   |
| (description)       | A value that indicates the width of a Floater object.  |
| [text syntax]       | <a href="#">LengthSyntax</a>   |

#### 4.289 FlowDirection

[x:Object](#) > FlowDirection

|               |   |
|---------------|---|
| (usage)       | <b>LeftToRight</b>   <b>RightToLeft</b>   |
| (description) | Defines constants that specify the content flow direction for text and user interface (UI) elements.  |
| (used by)     | <a href="#">Block</a> <a href="#">FlowDocument</a> <a href="#">FrameworkElement</a> <a href="#">Inline</a> <a href="#">ListItem</a> <a href="#">TableCell</a> |

|               |                                     |
|---------------|-------------------------------------|
| (usage)       | <b>LeftToRight  RightToLeft</b>     |
| [is nullable] | false                               |
| [text syntax] | <a href="#">FlowDirectionSyntax</a> |

## 4.290 FlowDocument

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > FlowDocument, [IInputElement](#)

|                        |   |
|------------------------|---|
| (usage)                | <FlowDocument> <b>Block</b> *</FlowDocument>  |
| (description)          | Hosts and formats flow content with advanced document features, such as pagination and columns.         |
| (used by)              | <a href="#">FlowDocumentReader</a> <a href="#">FlowDocumentScrollViewer</a> <a href="#">RichTextBox</a> |
| [content property]     | Blocks  |
| [name property]        | Name  |
| [xml lang property]    | Language  |
| (properties)           |   |
| <b>Background</b>      | <a href="#">Brush</a>   |
| (description)          | The Brush used to fill the background of content area.  |
| <b>Blocks</b>          | <a href="#">BlockCollection</a>   |
| (description)          | The top-level Block elements of the contents of the FlowDocument.                                       |
| [read only]            | true  |
| <b>ColumnGap</b>       | <a href="#">x:Double</a>  |
| (description)          | The column gap value, which indicates the spacing between columns in a FlowDocument.                    |
| [text syntax]          | <a href="#">LengthSyntax</a>  |
| <b>ColumnRuleBrush</b> | <a href="#">Brush</a>   |
| (description)          | The Brush used to draw the rule between columns.  |
| <b>ColumnRuleWidth</b> | <a href="#">x:Double</a>  |
| (description)          | The column rule width.  |
| [text syntax]          | <a href="#">LengthSyntax</a>  |
| <b>ColumnWidth</b>     | <a href="#">x:Double</a>  |
| (description)          | The minimum desired width of the columns in a FlowDocument.   |
| [text syntax]          | <a href="#">LengthSyntax</a>  |

|                                  |  |
|----------------------------------|--|
| (usage)                          | <FlowDocument> <a href="#">Block</a> *</FlowDocument>  |
| <b>FlowDirection</b>             | <a href="#">FlowDirection</a>  |
| <b>(description)</b>             | The relative direction for flow of content in a FlowDocument.                                  |
| <b>FontFamily</b>                | <a href="#">FontFamily</a>   |
| <b>(description)</b>             | The preferred top-level font family for the FlowDocument.                                      |
| <b>FontSize</b>                  | <a href="#">x:Double</a>   |
| <b>(description)</b>             | The top-level font size for the FlowDocument.  |
| <b>[text syntax]</b>             | <a href="#">FontSizeSyntax</a>   |
| <b>FontStretch</b>               | <a href="#">FontStretch</a>  |
| <b>(description)</b>             | The top-level font-stretching characteristics for the FlowDocument.                            |
| <b>FontStyle</b>                 | <a href="#">FontStyle</a>  |
| <b>(description)</b>             | The top-level font style for the FlowDocument.   |
| <b>FontWeight</b>                | <a href="#">FontWeight</a>   |
| <b>(description)</b>             | The top-level font weight for the FlowDocument.  |
| <b>Foreground</b>                | <a href="#">Brush</a>  |
| <b>(description)</b>             | The Brush to apply to the text contents of the FlowDocument.                                   |
| <b>IsColumnWidthFlexible</b>     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether the ColumnWidth value is flexible or fixed.                     |
| <b>IsHyphenationEnabled</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether automatic hyphenation of words is enabled or disabled.          |
| <b>IsOptimalParagraphEnabled</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether optimal paragraph layout is enabled or disabled.                |
| <b>LineHeight</b>                | <a href="#">x:Double</a>   |
| <b>(description)</b>             | The height of each line of content.  |
| <b>[text syntax]</b>             | <a href="#">LengthSyntax</a>   |
| <b>LineStackingStrategy</b>      | <a href="#">LineStackingStrategy</a>   |
| <b>(description)</b>             | The mechanism by which a line box is determined for each line of text within the FlowDocument. |
| <b>MaxPageHeight</b>             | <a href="#">x:Double</a>   |

|                      |  |
|----------------------|--|
| (usage)              | <FlowDocument> <a href="#">Block</a> *</FlowDocument>  |
| <b>(description)</b> | The maximum height for pages in a FlowDocument.  |
| <b>[text syntax]</b> | <a href="#">LengthSyntax</a>   |
| <b>MaxPageWidth</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b> | The maximum width for pages in a FlowDocument.   |
| <b>[text syntax]</b> | <a href="#">LengthSyntax</a>   |
| <b>MinPageHeight</b> | <a href="#">x:Double</a>   |
| <b>(description)</b> | The minimum height for pages in a FlowDocument.  |
| <b>[text syntax]</b> | <a href="#">LengthSyntax</a>   |
| <b>MinPageWidth</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b> | The minimum width for pages in a FlowDocument.   |
| <b>[text syntax]</b> | <a href="#">LengthSyntax</a>   |
| <b>PageHeight</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b> | The preferred height for pages in a FlowDocument.  |
| <b>[text syntax]</b> | <a href="#">LengthSyntax</a>   |
| <b>PagePadding</b>   | <a href="#">Thickness</a>  |
| <b>(description)</b> | A value that indicates the thickness of padding space between the boundaries of a page and the page's content. |
| <b>PageWidth</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b> | The preferred width for pages in a FlowDocument.   |
| <b>[text syntax]</b> | <a href="#">LengthSyntax</a>   |
| <b>TextAlignment</b> | <a href="#">TextAlignment</a>  |
| <b>(description)</b> | A value that indicates the horizontal alignment of text content.   |
| <b>TextEffects</b>   | <a href="#">TextEffectCollection</a>   |
| <b>(description)</b> | The effects to apply to the text of a FlowDocument.  |

#### 4.291 FlowDocumentPageViewer

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [DocumentViewerBase](#) > FlowDocumentPageViewer, [InputElement](#)

|                      |  |
|----------------------|--|
| (usage)              | <FlowDocumentPageViewer> <a href="#">IDocumentPaginatorSource</a> </FlowDocumentPageViewer>                  |
| <b>(description)</b> | Represents a control for viewing flow content in a fixed viewing mode that shows content one page at a time. |

|  |   |
|--|---|
| (usage)                                    | <FlowDocumentPageViewer> <a href="#">IDocumentPaginatorSource</a> </FlowDocumentPageViewer> |
| <b>[content property]</b>                  | Document  |
| <b>[name property]</b>                     | Name  |
| <b>[xml lang property]</b>                 | Language  |
| <b>(properties)</b>                        |   |
| <b>IsInactiveSelectionHighlightEnabled</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                       |   |
| <b>MaxZoom</b>                             | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The maximum allowable Zoom level for the FlowDocumentPageViewer.                            |
| <b>MinZoom</b>                             | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The minimum allowable Zoom level for the FlowDocumentPageViewer.                            |
| <b>SelectionBrush</b>                      | <a href="#">Brush</a>   |
| <b>(description)</b>                       | The brush that highlights the selected text.  |
| <b>SelectionOpacity</b>                    | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The opacity of the SelectionBrush.  |
| <b>Zoom</b>                                | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The current zoom level for the FlowDocumentPageViewer.                                      |
| <b>ZoomIncrement</b>                       | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The zoom increment.   |

#### 4.292 FlowDocumentReader

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > FlowDocumentReader, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <FlowDocumentReader> <a href="#">FlowDocument</a> </FlowDocumentReader>                        |
| <b>(description)</b>       | Provides a control for viewing flow content, with built-in support for multiple viewing modes. |
| <b>[content property]</b>  | Document   |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Document</b>            | <a href="#">FlowDocument</a>   |

|  |  |
|--|--|
| (usage)                                    | <FlowDocumentReader> <a href="#">FlowDocument</a> </FlowDocumentReader>          |
| <b>(description)</b>                       | A FlowDocument that hosts the content to be displayed by the FlowDocumentReader. |
| <b>IsFindEnabled</b>                       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                       | A value that indicates whether the Find routed command is enabled.               |
| <b>IsInactiveSelectionHighlightEnabled</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                       |  |
| <b>IsPageViewEnabled</b>                   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                       | A value that indicates whether Page is available as a viewing mode.              |
| <b>IsPrintEnabled</b>                      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                       | A value that indicates whether the Print routed command is enabled.              |
| <b>IsScrollViewEnabled</b>                 | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                       | A value that indicates whether Scroll is available as a viewing mode.            |
| <b>IsTwoPageViewEnabled</b>                | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                       | A value that indicates whether TwoPage is available as a viewing mode.           |
| <b>MaxZoom</b>                             | <a href="#">x:Double</a>   |
| <b>(description)</b>                       | The maximum allowable Zoom level for the FlowDocumentReader.                     |
| <b>MinZoom</b>                             | <a href="#">x:Double</a>   |
| <b>(description)</b>                       | The minimum allowable Zoom level for the FlowDocumentReader.                     |
| <b>SelectionBrush</b>                      | <a href="#">Brush</a>  |
| <b>(description)</b>                       | The brush that highlights the selected text.                                     |
| <b>SelectionOpacity</b>                    | <a href="#">x:Double</a>   |
| <b>(description)</b>                       | The opacity of the SelectionBrush.   |
| <b>ViewingMode</b>                         | <a href="#">FlowDocumentReaderViewingMode</a>                                    |
| <b>(description)</b>                       | The viewing mode for the FlowDocumentReader.                                     |
| <b>Zoom</b>                                | <a href="#">x:Double</a>   |
| <b>(description)</b>                       | The current zoom level.  |
| <b>ZoomIncrement</b>                       | <a href="#">x:Double</a>   |

|                      |   |
|----------------------|---|
| (usage)              | <FlowDocumentReader> <a href="#">FlowDocument</a> </FlowDocumentReader> |
| <b>(description)</b> | The zoom increment.   |

#### 4.293 FlowDocumentReaderViewingMode

[x:Object](#) > FlowDocumentReaderViewingMode

|                      |   |
|----------------------|---|
| (usage)              | <a href="#">Page</a>   <a href="#">TwoPage</a>   <a href="#">Scroll</a> |
| <b>(description)</b> | Names viewing modes for the FlowDocumentReader control.                 |
| <b>(used by)</b>     | <a href="#">FlowDocumentReader</a>                                      |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">FlowDocumentReaderViewingModeSyntax</a>                     |

#### 4.294 FlowDocumentScrollViewer

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > FlowDocumentScrollViewer, [IInputElement](#)

|  |   |
|--|---|
| (usage)                                    | <FlowDocumentScrollViewer> <a href="#">FlowDocument</a> </FlowDocumentScrollViewer>                 |
| <b>(description)</b>                       | Provides a control for viewing flow content in a continuous scrolling mode.                         |
| <b>[content property]</b>                  | Document  |
| <b>[name property]</b>                     | Name  |
| <b>[xml lang property]</b>                 | Language  |
| <b>(properties)</b>                        |   |
| <b>Document</b>                            | <a href="#">FlowDocument</a>  |
| <b>(description)</b>                       | A FlowDocument that hosts the content to be displayed by the FlowDocumentScrollViewer.              |
| <b>HorizontalScrollBarVisibility</b>       | <a href="#">ScrollBarVisibility</a>   |
| <b>(description)</b>                       | A value that indicates whether a horizontal scroll bar is shown.                                    |
| <b>IsInactiveSelectionHighlightEnabled</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                       |   |
| <b>IsSelectionEnabled</b>                  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                       | A value that indicates whether selection of content within the FlowDocumentScrollViewer is enabled. |
| <b>IsToolBarVisible</b>                    | <a href="#">x:Boolean</a>   |

|                                    |   |
|------------------------------------|---|
| (usage)                            | <FlowDocumentScrollViewer> <a href="#">FlowDocument</a> </FlowDocumentScrollViewer> |
| <b>(description)</b>               | A value that indicates whether the FlowDocumentScrollViewer toolbar is visible.     |
| <b>MaxZoom</b>                     | <a href="#">x:Double</a>  |
| <b>(description)</b>               | The maximum allowable Zoom level for the FlowDocumentScrollViewer.                  |
| <b>MinZoom</b>                     | <a href="#">x:Double</a>  |
| <b>(description)</b>               | The minimum allowable Zoom level for the FlowDocumentScrollViewer.                  |
| <b>SelectionBrush</b>              | <a href="#">Brush</a>   |
| <b>(description)</b>               | The brush that highlights the selected text.  |
| <b>SelectionOpacity</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>               | The opacity of the SelectionBrush.  |
| <b>VerticalScrollBarVisibility</b> | <a href="#">ScrollBarVisibility</a>   |
| <b>(description)</b>               | A value that indicates whether a vertical scroll bar is shown.                      |
| <b>Zoom</b>                        | <a href="#">x:Double</a>  |
| <b>(description)</b>               | The current zoom level.   |
| <b>ZoomIncrement</b>               | <a href="#">x:Double</a>  |
| <b>(description)</b>               | The zoom increment.   |

## 4.295 FocusManager

[x:Object](#) > FocusManager

|                                    |  |
|------------------------------------|--|
| (usage)                            | None.  |
| <b>(description)</b>               | Provides ways for determining and setting focus scopes and for setting the focused element within the scope. |
| <b>[is default constructible]</b>  | false  |
| <b>(attachable properties)</b>     |  |
| <b>FocusManager.FocusedElement</b> | <a href="#">IInputElement</a>  |
| <b>(description)</b>               | Determines whether the element this property is attached to has logical focus.                               |
| <b>[target type]</b>               | <a href="#">DependencyObject</a>   |
| <b>FocusManager.IsFocusScope</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>               | Determines whether the element this property is attached to is a   |



|                               |                                  |
|-------------------------------|----------------------------------|
| (usage)                       | None.                            |
|                               | focus scope.                     |
| <b>[target type]</b>          | <a href="#">DependencyObject</a> |
| <b>(attachable events)</b>    |                                  |
| <b>FocusManager.GotFocus</b>  |                                  |
| <b>FocusManager.LostFocus</b> |                                  |

#### 4.296 FocusNavigationDirection

[x:Object](#) > FocusNavigationDirection

|                      |   |
|----------------------|---|
| (usage)              | <b>Next  Previous  First  Last  Left  Right  Up  Down</b>   |
| <b>(description)</b> | Specifies the direction within a user interface (UI) in which a desired focus change request is attempted. The direction is either based on tab order or by relative direction in layout. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">FocusNavigationDirectionSyntax</a>  |

#### 4.297 FontCapitals

[x:Object](#) > FontCapitals

|                      |  |
|----------------------|--|
| (usage)              | <b>Normal  AllSmallCaps  SmallCaps  AllPetiteCaps  PetiteCaps  Unicae  Titling</b> |
| <b>(description)</b> | Describes the capital letter style for a Typography object.                        |
| <b>(used by)</b>     | <a href="#">Typography</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">FontCapitalsSyntax</a>   |

#### 4.298 FontEastAsianLanguage

[x:Object](#) > FontEastAsianLanguage

|                      |   |
|----------------------|---|
| (usage)              | <b>Normal  Jis78  Jis83  Jis90  Jis04  HojoKanji  Nlckanji  Simplified  Traditional...</b>  |
| <b>(description)</b> | Provides a mechanism for the user to select font-specific versions of glyphs for a specified East Asian writing system or language. |
| <b>(used by)</b>     | <a href="#">Typography</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">FontEastAsianLanguageSyntax</a>   |

## 4.299 FontEastAsianWidths

[x:Object](#) > FontEastAsianWidths

|               |   |
|---------------|---|
| (usage)       | <b>Normal  Proportional  Full  Half  Third  Quarter</b>                       |
| (description) | Provides a mechanism for the user to select glyphs of different width styles. |
| (used by)     | <a href="#">Typography</a>  |
| [is nullable] | false   |
| [text syntax] | <a href="#">FontEastAsianWidthsSyntax</a>                                     |

## 4.300 FontEmbeddingManager

[x:Object](#) > FontEmbeddingManager

|                         |   |
|-------------------------|---|
| (usage)                 | <FontEmbeddingManager />  |
| (description)           | Provides functionality for physical and composite font embedding.                                 |
| (properties)            |   |
| <b>GlyphTypefaceUri</b> | <a href="#">ICollection(x:Uri)</a>  |
| (description)           | Returns the collection of glyph typefaces used by the GlyphRun specified in the GlyphRun) method. |
| [read only]             | true  |

## 4.301 FontEmbeddingRight

[x:Object](#) > FontEmbeddingRight

|               |   |
|---------------|---|
| (usage)       | <b>Installable  InstallableButNoSubsetting  InstallableButWithBitmapsOnly  InstallableButNoSubsettingAndWithBitmapsOnly  RestrictedLicense  PreviewAndPrint  PreviewAndPrintButNoSubsetting  PreviewAndPrintButWithBitmapsOnly  PreviewAndPrintButNoSubsettingAndWithBitmapsOnly...</b> |
| (description) | Describes font embedding permissions specified in an OpenType font file.  |
| [is nullable] | false   |
| [text syntax] | <a href="#">FontEmbeddingRightSyntax</a>  |

## 4.302 FontFamily

[x:Object](#) > FontFamily

|               |                                       |
|---------------|---------------------------------------|
| (usage)       | <FontFamily> string </FontFamily>     |
| (description) | Represents a family of related fonts. |

|                        |   |
|------------------------|---|
| (usage)                | <FontFamily> string </FontFamily>   |
| <b>(used by)</b>       | <a href="#">AccessText</a> <a href="#">Control</a> <a href="#">DataGridTextColumn</a> <a href="#">FlowDocument</a> <a href="#">Page</a> <a href="#">TextBlock</a> <a href="#">TextElement</a> |
| <b>[text syntax]</b>   | <a href="#">FontFamilySyntax</a>  |
| <b>(properties)</b>    |   |
| <b>Baseline</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b>   | The distance between the baseline and the character cell top.   |
| <b>FamilyMaps</b>      | <a href="#">FontFamilyMapCollection</a>   |
| <b>(description)</b>   | The collection of FontFamilyMap objects.  |
| <b>[read only]</b>     | true  |
| <b>FamilyNames</b>     | <a href="#">LanguageSpecificStringDictionary</a>  |
| <b>(description)</b>   | A collection of strings and CultureInfo values that represent the font family names of the FontFamily object.   |
| <b>[read only]</b>     | true  |
| <b>FamilyTypefaces</b> | <a href="#">FamilyTypefaceCollection</a>  |
| <b>(description)</b>   | A collection of typefaces for the FontFamily object.  |
| <b>[read only]</b>     | true  |
| <b>LineSpacing</b>     | <a href="#">x:Double</a>  |
| <b>(description)</b>   | The line spacing value for the FontFamily object. The line spacing is the recommended baseline-to-baseline distance for the text in this font relative to the em size.                        |

### 4.303 FontFamilyMap

[x:Object](#) > FontFamilyMap

|                      |   |
|----------------------|---|
| (usage)              | <FontFamilyMap />   |
| <b>(description)</b> | Defines which FontFamily to use for a specified set of Unicode code points and a culture-specific language. |
| <b>(used by)</b>     | <a href="#">FontFamilyMapCollection</a>   |
| <b>(properties)</b>  |   |
| <b>Language</b>      | <a href="#">XmlLanguage</a>   |
| <b>(description)</b> | The culture-specific language for the FontFamilyMap.  |
| <b>Scale</b>         | <a href="#">x:Double</a>  |
| <b>(description)</b> | The font scale factor for the target FontFamily.  |
| <b>Target</b>        | <a href="#">x:String</a>  |

|                      |   |
|----------------------|---|
| (usage)              | <FontFamilyMap />   |
| <b>(description)</b> | The target font family name for which the Unicode range applies to. |
| <b>Unicode</b>       | <a href="#">x:String</a>  |
| <b>(description)</b> | A string value representing one or more Unicode code point ranges.  |

#### 4.304 FontFamilyMapCollection

[x:Object](#) > FontFamilyMapCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Represents an ordered collection of FontFamilyMap objects. |
| <b>(used by)</b>                  | <a href="#">FontFamily</a>                                 |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">FontFamilyMap</a>                              |

#### 4.305 FontFraction

[x:Object](#) > FontFraction

|                      |   |
|----------------------|---|
| (usage)              | <b>Normal   Slashed   Stacked</b>                     |
| <b>(description)</b> | Describes the fraction style for a Typography object. |
| <b>(used by)</b>     | <a href="#">Typography</a>                            |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">FontFractionSyntax</a>                    |

#### 4.306 FontNumeralAlignment

[x:Object](#) > FontNumeralAlignment

|                      |  |
|----------------------|--|
| (usage)              | <b>Normal   Proportional   Tabular</b>                   |
| <b>(description)</b> | Describes the numeral alignment for a Typography object. |
| <b>(used by)</b>     | <a href="#">Typography</a>                               |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">FontNumeralAlignmentSyntax</a>               |

#### 4.307 FontNumeralStyle

[x:Object](#) > FontNumeralStyle

|                      |  |
|----------------------|--|
| (usage)              | <b>Normal  Lining  OldStyle</b>                      |
| <b>(description)</b> | Describes the numeral style for a Typography object. |
| <b>(used by)</b>     | <a href="#">Typography</a>                           |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">FontNumeralStyleSyntax</a>               |

## 4.308 Fonts

[x:Object](#) > Fonts

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static Fonts.StaticPropertyName}                               |
| <b>(description)</b>              | Provides enumeration support for FontFamily and Typeface objects. |
| <b>[is default constructible]</b> | false   |
| <b>(attachable properties)</b>    |   |
| <b>Fonts.FontFamilies</b>         | <a href="#">ICollection(FontFamily)</a>                           |
| <b>(description)</b>              |   |
| <b>[target type]</b>              | <a href="#">x:String</a>  |
| <b>[read only]</b>                | true  |
| <b>Fonts.Typefaces</b>            | <a href="#">ICollection(Typeface)</a>                             |
| <b>(description)</b>              |   |
| <b>[target type]</b>              | <a href="#">x:String</a>  |
| <b>[read only]</b>                | true  |
| <b>(static properties)</b>        |   |

## 4.309 FontStretch

[x:Object](#) > FontStretch

|                      |  |
|----------------------|--|
| (usage)              | <b>Condensed  Expanded  ExtraCondensed  ExtraExpanded  Medium  Normal  SemiCondensed  SemiExpanded  UltraCondensed...</b>  |
| <b>(description)</b> | Describes the degree to which a font has been stretched compared to the normal aspect ratio of that font.  |
| <b>(used by)</b>     | <a href="#">AccessText</a> <a href="#">Control</a> <a href="#">FamilyTypeface</a> <a href="#">FlowDocument</a> <a href="#">TextBlock</a> <a href="#">TextElement</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">FontStretchSyntax</a>  |

## 4.310 FontStretches

[x:Object](#) > FontStretches

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static FontStretches.StaticPropertyName}             |
| <b>(description)</b>              | Provides a set of static predefined FontStretch values. |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |
| <b>Condensed</b>                  | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies a condensed FontStretch.                      |
| <b>Expanded</b>                   | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies an expanded FontStretch.                      |
| <b>ExtraCondensed</b>             | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies an extra-condensed FontStretch.               |
| <b>ExtraExpanded</b>              | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies an extra-expanded FontStretch.                |
| <b>Medium</b>                     | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies a medium FontStretch.                         |
| <b>Normal</b>                     | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies a normal FontStretch.                         |
| <b>SemiCondensed</b>              | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies a semi-condensed FontStretch.                 |
| <b>SemiExpanded</b>               | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies a semi-expanded FontStretch.                  |
| <b>UltraCondensed</b>             | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies an ultra-condensed FontStretch.               |
| <b>UltraExpanded</b>              | <a href="#">FontStretch</a>                             |
| <b>(description)</b>              | Specifies an ultra-expanded FontStretch.                |

## 4.311 FontStyle

[x:Object](#) > FontStyle

|                      |   |
|----------------------|---|
| (usage)              | <a href="#">Italic</a>   <b>Normal</b>   <b>Oblique</b>                                     |
| <b>(description)</b> | Defines a structure that represents the style of a font face as normal, italic, or oblique. |

|               |   |
|---------------|---|
| (usage)       | <a href="#">Italic</a>   <b>Normal</b>   <b>Oblique</b>   |
| (used by)     | <a href="#">AccessText</a> <a href="#">Control</a> <a href="#">DataGridTextColumn</a> <a href="#">FamilyTypeface</a> <a href="#">FlowDocument</a> <a href="#">TextBlock</a> <a href="#">TextElement</a> |
| [is nullable] | false   |
| [text syntax] | <a href="#">FontStyleSyntax</a>   |

#### 4.312 FontStyles

[x:Object](#) > FontStyles

|                            |   |
|----------------------------|---|
| (usage)                    | {x:Static FontStyles.StaticPropertyName}              |
| (description)              | Provides a set of static predefined FontStyle values. |
| [is default constructible] | false   |
| (static properties)        |   |
| <b>Italic</b>              | <a href="#">FontStyle</a>                             |
| (description)              | Specifies an italic FontStyle.                        |
| <b>Normal</b>              | <a href="#">FontStyle</a>                             |
| (description)              | Specifies a normal FontStyle.                         |
| <b>Oblique</b>             | <a href="#">FontStyle</a>                             |
| (description)              | Specifies an oblique FontStyle.                       |

#### 4.313 FontVariants

[x:Object](#) > FontVariants

|               |  |
|---------------|--|
| (usage)       | <b>Normal</b>   <b>Superscript</b>   <b>Subscript</b>   <b>Ordinal</b>   <b>Inferior</b>   <b>Ruby</b> |
| (description) | Renders variant typographic glyph forms.   |
| (used by)     | <a href="#">Typography</a>   |
| [is nullable] | false  |
| [text syntax] | <a href="#">FontVariantsSyntax</a>   |

#### 4.314 FontWeight

[x:Object](#) > FontWeight

|               |  |
|---------------|--|
| (usage)       | <b>Black</b>   <a href="#">Bold</a>   <b>DemiBold</b>   <b>ExtraBlack</b>   <b>ExtraBold</b>   <b>ExtraLight</b>   <b>Heavy</b>   <a href="#">Light</a>   <b>Medium...</b> |
| (description) | Refers to the density of a typeface, in terms of the lightness or heaviness of the strokes.  |

|                      |   |
|----------------------|---|
| (usage)              | <b>Black</b>   <a href="#">Bold</a>   <b>DemiBold</b>   <b>ExtraBlack</b>   <b>ExtraBold</b>   <b>ExtraLight</b>   <b>Heavy</b>   <a href="#">Light</a>   <b>Medium</b> ...                             |
| <b>(used by)</b>     | <a href="#">AccessText</a> <a href="#">Control</a> <a href="#">DataGridTextColumn</a> <a href="#">FamilyTypeface</a> <a href="#">FlowDocument</a> <a href="#">TextBlock</a> <a href="#">TextElement</a> |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">FontWeightSyntax</a>  |

### 4.315 FontWeights

[x:Object](#) > FontWeights

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static FontWeights.StaticPropertyName}              |
| <b>(description)</b>              | Provides a set of static predefined FontWeight values. |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>Black</b>                      | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies a "Black" font weight.                       |
| <b>Bold</b>                       | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies a "Bold" font weight.                        |
| <b>DemiBold</b>                   | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies a "Demi-bold" font weight.                   |
| <b>ExtraBlack</b>                 | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies an "Extra-black" font weight.                |
| <b>ExtraBold</b>                  | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies an "Extra-bold" font weight.                 |
| <b>ExtraLight</b>                 | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies an "Extra-light" font weight.                |
| <b>Heavy</b>                      | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies a "Heavy" font weight.                       |
| <b>Light</b>                      | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies a "Light" font weight.                       |
| <b>Medium</b>                     | <a href="#">FontWeight</a>                             |
| <b>(description)</b>              | Specifies a "Medium" font weight.                      |



|                      |  |
|----------------------|--|
| (usage)              | {x:Static FontWeight.StaticPropertyName} |
| <b>Normal</b>        | <a href="#">FontWeight</a>               |
| <b>(description)</b> | Specifies a "Normal" font weight.        |
| <b>Regular</b>       | <a href="#">FontWeight</a>               |
| <b>(description)</b> | Specifies a "Regular" font weight.       |
| <b>SemiBold</b>      | <a href="#">FontWeight</a>               |
| <b>(description)</b> | Specifies a "Semi-bold" font weight.     |
| <b>Thin</b>          | <a href="#">FontWeight</a>               |
| <b>(description)</b> | Specifies a "Thin" font weight.          |
| <b>UltraBlack</b>    | <a href="#">FontWeight</a>               |
| <b>(description)</b> | Specifies an "Ultra-black" font weight.  |
| <b>UltraBold</b>     | <a href="#">FontWeight</a>               |
| <b>(description)</b> | Specifies an "Ultra-bold" font weight.   |
| <b>UltraLight</b>    | <a href="#">FontWeight</a>               |
| <b>(description)</b> | Specifies an "Ultra-light" font weight.  |

#### 4.316 FormatConvertedBitmap

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > FormatConvertedBitmap

|                          |   |
|--------------------------|---|
| (usage)                  | <FormatConvertedBitmap> string </FormatConvertedBitmap>   |
| <b>(description)</b>     | Provides pixel format conversion functionality for a BitmapSource.  |
| <b>[text syntax]</b>     | x:Uri, from <a href="#">[MS-XAML]</a>   |
| <b>(properties)</b>      |   |
| <b>AlphaThreshold</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>     | The alpha channel threshold of a bitmap when converting to palletized formats that recognizes an alpha color. |
| <b>DestinationFormat</b> | <a href="#">PixelFormat</a>   |
| <b>(description)</b>     | The pixel format to convert the bitmap to.  |
| <b>Source</b>            | <a href="#">BitmapSource</a>  |
| <b>(description)</b>     | The source for the bitmap.  |

## 4.317 Frame

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > Frame, [IInputElement](#)

|                               |  |
|-------------------------------|--|
| (usage)                       | <Frame />  |
| <b>(description)</b>          | Frame is a content control that supports navigation.   |
| <b>[name property]</b>        | Name   |
| <b>[xml lang property]</b>    | Language   |
| <b>(properties)</b>           |  |
| <b>JournalOwnership</b>       | <a href="#">JournalOwnership</a>   |
| <b>(description)</b>          | Whether a Frame is responsible for managing its own navigation history, or yields navigation history management to a parent navigator (NavigationWindow, Frame).   |
| <b>NavigationUIVisibility</b> | <a href="#">NavigationUIVisibility</a>   |
| <b>(description)</b>          | When the Frame can show its navigation UI.   |
| <b>SandboxExternalContent</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>          | Whether a Frame isolates external XAML content within a partial trust security sandbox (with the default Internet permission set).   |
| <b>Source</b>                 | <a href="#">x:Uri</a>  |
| <b>(description)</b>          | The uniform resource identifier (URI) of the current content, or the URI of new content that is currently being navigated to.  |
| <b>(events)</b>               |  |
| <b>ContentRendered</b>        | Occurs after Frame content has been rendered.  |
| <b>FragmentNavigation</b>     | Occurs when navigation to a content fragment begins, which occurs immediately, if the desired fragment is in the current content, or after the source XAML content has been loaded, if the desired fragment is in different content. |
| <b>LoadCompleted</b>          | Occurs when content that was navigated to has been loaded, parsed, and has begun rendering.  |
| <b>Navigated</b>              | Occurs when the content that is being navigated to has been found, and is available from the Content property, although it may not have completed loading.   |
| <b>Navigating</b>             | Occurs when a new navigation is requested.   |
| <b>NavigationFailed</b>       | Occurs when an error is raised while navigating to the requested content.  |
| <b>NavigationProgress</b>     | Occurs periodically during a download to provide navigation progress information.  |
| <b>NavigationStopped</b>      | Occurs when the StopLoading method is called, or when a new navigation is requested while a current navigation is in progress.   |

## 4.318 FrameworkCompatibilityPreferences

[x:Object](#) > FrameworkCompatibilityPreferences

|  |   |
|--|---|
| (usage)  | {x:Static FrameworkCompatibilityPreferences.StaticPropertyName} |
| (description)  |   |
| [is default constructible]                             | false   |
| (static properties)                                    |   |
| <b>AreInactiveSelectionHighlightBrushKeysSupported</b> | <a href="#">x:Boolean</a>                                       |
| (description)  |   |
| <b>KeepTextBoxDisplaySynchronizedWithTextProperty</b>  | <a href="#">x:Boolean</a>                                       |
| (description)  |   |

## 4.319 FrameworkContentElement

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > FrameworkContentElement, [IInputElement](#)

|   |   |
|---|---|
| <a href="#">DefinitionBase</a> <a href="#">FixedDocument</a> <a href="#">FixedDocumentSequence</a> <a href="#">FlowDocument</a> <a href="#">TableColumn</a> <a href="#">TextElement</a> |   |
| (usage)   | <FrameworkContentElement />   |
| (description)   | Adds support for additional input (including tooltips and context menus), storyboards, data context for databinding, styles, and logical trees. FrameworkContentElement is an implementation of the ContentElement base type. |
| [name property]   | Name  |
| [xml lang property]   | Language  |
| (properties)  |   |
| <b>BindingGroup</b>   | <a href="#">BindingGroup</a>  |
| (description)   | The BindingGroup that is used for the element.  |
| <b>ContextMenu</b>  | <a href="#">ContextMenu</a>   |
| (description)   | The context menu element that should appear whenever the context menu is requested via user interface (UI) from within this element.  |
| <b>Cursor</b>   | <a href="#">Cursor</a>  |
| (description)   | The cursor that displays when the mouse pointer is over this element.   |
| <b>DataContext</b>  | <a href="#">x:Object</a>  |
| (description)   | The data context for an element when it participates in data binding.   |

| <a href="#">DefinitionBase</a> <a href="#">FixedDocument</a> <a href="#">FixedDocumentSequence</a> <a href="#">FlowDocument</a> <a href="#">TableColumn</a> <a href="#">TextElement</a> |   |
|---|---|
| <b>FocusVisualStyle</b>   | <a href="#">Style</a>   |
| <b>(description)</b>  | An object that enables customization of appearance, effects, or other style characteristics that will apply to this element when it captures keyboard focus.                |
| <b>ForceCursor</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value indicating whether this FrameworkContentElement should force the user interface (UI) to render the cursor as declared by this instance's Cursor property.           |
| <b>InputScope</b>   | <a href="#">InputScope</a>  |
| <b>(description)</b>  | The context for input used by this FrameworkContentElement.   |
| <b>Language</b>   | <a href="#">XmlLanguage</a>   |
| <b>(description)</b>  | Localization/globalization language information that applies to an individual element.  |
| <b>Name</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The identifying name of the element. The name provides a reference so that the element can be referred to after it is constructed during XAML parsing.                      |
| <b>OverridesDefaultStyle</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value indicating whether this element incorporates style properties from theme styles.  |
| <b>Resources</b>  | <a href="#">ResourceDictionary</a>  |
| <b>(description)</b>  | The current locally-defined resource dictionary.  |
| <b>Style</b>  | <a href="#">Style</a>   |
| <b>(description)</b>  | The style to be used by this element.   |
| <b>Tag</b>  | <a href="#">x:Object</a>  |
| <b>(description)</b>  | An arbitrary object value that can be used to store custom information about this element.  |
| <b>ToolTip</b>  | <a href="#">x:Object</a>  |
| <b>(description)</b>  | The tool-tip object that is displayed for this element in the user interface (UI).  |
| <b>(events)</b>   |   |
| <b>ContextMenuClosing</b>   | Occurs just before any context menu on the element is closed.   |
| <b>ContextMenuOpening</b>   | Occurs when any context menu on the element is opened.  |
| <b>DataContextChanged</b>   | Occurs when this element's data context changes.  |
| <b>Initialized</b>  | Occurs when this FrameworkContentElement is initialized. This coincides with cases where the value of the IsInitialized property changes from false (or undefined) to true. |

|   |  |
|---|--|
| <a href="#">DefinitionBase</a> <a href="#">FixedDocument</a> <a href="#">FixedDocumentSequence</a> <a href="#">FlowDocument</a> <a href="#">TableColumn</a> <a href="#">TextElement</a> |  |
| <b>Loaded</b>   | Occurs when the element is laid out, rendered, and ready for interaction.                      |
| <b>SourceUpdated</b>  | Occurs when any associated data source participating in a binding on this element changes.     |
| <b>TargetUpdated</b>  | Occurs when any associated target property participating in a binding on this element changes. |
| <b>ToolTipClosing</b>   | Occurs just before any tooltip on the element is closed.                                       |
| <b>ToolTipOpening</b>   | Occurs when any tooltip on the element is opened.  |
| <b>Unloaded</b>   | Occurs when the element is removed from an element tree of loaded elements.                    |

#### 4.320 FrameworkElement

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > FrameworkElement, [IInputElement](#)

|  |  |
|--|--|
| <a href="#">AccessText</a> <a href="#">AdornedElementPlaceholder</a> <a href="#">ContentPresenter</a> <a href="#">Control</a> <a href="#">Decorator</a> <a href="#">DocumentPageView</a> <a href="#">DocumentReference</a> <a href="#">FixedPage</a> <a href="#">Glyphs</a> <a href="#">GridViewRowPresenterBase</a> <a href="#">Image</a> <a href="#">InkCanvas</a> <a href="#">ItemsPresenter</a> <a href="#">MediaElement</a> <a href="#">Page</a> <a href="#">PageContent</a> <a href="#">Panel</a> <a href="#">Popup</a> <a href="#">Shape</a> <a href="#">TextBlock</a> <a href="#">TickBar</a> <a href="#">ToolBarTray</a> <a href="#">Track</a> <a href="#">Viewport3D</a> |  |
| <b>(usage)</b>   | <FrameworkElement />   |
| <b>(description)</b>   | A base type for elements that provides advanced features, such as styling and advanced layout.   |
| <b>[name property]</b>   | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>  |  |
| <b>BindingGroup</b>  | <a href="#">BindingGroup</a>   |
| <b>(description)</b>   | The BindingGroup that is used for the element.   |
| <b>ContextMenu</b>   | <a href="#">ContextMenu</a>  |
| <b>(description)</b>   | The context menu element that should appear whenever the context menu is requested through user interface (UI) from within this element. |
| <b>Cursor</b>  | <a href="#">Cursor</a>   |
| <b>(description)</b>   | The cursor that displays when the mouse pointer is over this element.  |
| <b>DataContext</b>   | <a href="#">x:Object</a>   |
| <b>(description)</b>   | The data context for an element when it participates in data binding.  |
| <b>FlowDirection</b>   | <a href="#">FlowDirection</a>  |
| <b>(description)</b>   | The direction that text and other user interface (UI) elements   |

|  |   |
|--|---|
| <a href="#">AccessText</a> <a href="#">AdornedElementPlaceholder</a> <a href="#">ContentPresenter</a> <a href="#">Control</a> <a href="#">Decorator</a> <a href="#">DocumentPageView</a> <a href="#">DocumentReference</a> <a href="#">FixedPage</a> <a href="#">Glyphs</a> <a href="#">GridViewRowPresenterBase</a> <a href="#">Image</a> <a href="#">InkCanvas</a> <a href="#">ItemsPresenter</a> <a href="#">MediaElement</a> <a href="#">Page</a> <a href="#">PageContent</a> <a href="#">Panel</a> <a href="#">Popup</a> <a href="#">Shape</a> <a href="#">TextBlock</a> <a href="#">TickBar</a> <a href="#">ToolBarTray</a> <a href="#">Track</a> <a href="#">Viewport3D</a> |   |
|  | flow within any parent element that controls their layout.  |
| <b>FocusVisualStyle</b>  | <a href="#">Style</a>   |
| <b>(description)</b>   | A property that enables customization of appearance, effects, or other style characteristics that will apply to this element when it captures keyboard focus. |
| <b>ForceCursor</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether this FrameworkElement should force the user interface (UI) to render the cursor as declared by the Cursor property.            |
| <b>Height</b>  | <a href="#">x:Double</a>  |
| <b>(description)</b>   | The suggested height of the element.  |
| <b>[text syntax]</b>   | <a href="#">LengthSyntax</a>  |
| <b>HorizontalAlignment</b>   | <a href="#">HorizontalAlignment</a>   |
| <b>(description)</b>   | The horizontal alignment characteristics applied to this element when it is composed within a parent element, such as a panel or items control.               |
| <b>InputScope</b>  | <a href="#">InputScope</a>  |
| <b>(description)</b>   | The context for input used by this FrameworkElement.  |
| <b>Language</b>  | <a href="#">XmlLanguage</a>   |
| <b>(description)</b>   | Localization/globalization language information that applies to an element.   |
| <b>LayoutTransform</b>   | <a href="#">Transform</a>   |
| <b>(description)</b>   | A graphics transformation that should apply to this element when layout is performed.   |
| <b>Margin</b>  | <a href="#">Thickness</a>   |
| <b>(description)</b>   | The outer margin of an element.   |
| <b>MaxHeight</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>   | The maximum height constraint of the element.   |
| <b>[text syntax]</b>   | <a href="#">LengthSyntax</a>  |
| <b>MaxWidth</b>  | <a href="#">x:Double</a>  |
| <b>(description)</b>   | The maximum width constraint of the element.  |
| <b>[text syntax]</b>   | <a href="#">LengthSyntax</a>  |

[AccessText](#) [AdornedElementPlaceholder](#) [ContentPresenter](#) [Control](#) [Decorator](#) [DocumentPageView](#) [DocumentReference](#) [FixedPage](#) [Glyphs](#) [GridViewRowPresenterBase](#) [Image](#) [InkCanvas](#) [ItemsPresenter](#) [MediaElement](#) [Page](#) [PageContent](#) [Panel](#) [Popup](#) [Shape](#) [TextBlock](#) [TickBar](#) [ToolBarTray](#) [Track](#) [Viewport3D](#)

|                              |  |
|------------------------------|--|
| <b>MinHeight</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>         | The minimum height constraint of the element.  |
| <b>[text syntax]</b>         | <a href="#">LengthSyntax</a>   |
| <b>MinWidth</b>              | <a href="#">x:Double</a>   |
| <b>(description)</b>         | The minimum width constraint of the element.   |
| <b>[text syntax]</b>         | <a href="#">LengthSyntax</a>   |
| <b>Name</b>                  | <a href="#">x:String</a>   |
| <b>(description)</b>         | The identifying name of the element. The name provides a reference so that the element can be referred to after it is constructed during XAML parsing. |
| <b>OverridesDefaultStyle</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether this element incorporates style properties from theme styles.   |
| <b>Resources</b>             | <a href="#">ResourceDictionary</a>   |
| <b>(description)</b>         | The locally-defined resource dictionary.   |
| <b>Style</b>                 | <a href="#">Style</a>  |
| <b>(description)</b>         | The style used by this element when it is rendered.  |
| <b>Tag</b>                   | <a href="#">x:Object</a>   |
| <b>(description)</b>         | An arbitrary object value that can be used to store custom information about this element.   |
| <b>ToolTip</b>               | <a href="#">x:Object</a>   |
| <b>(description)</b>         | The tool-tip object that is displayed for this element in the user interface (UI).   |
| <b>Triggers</b>              | <a href="#">TriggerCollection</a>  |
| <b>(description)</b>         | The collection of triggers established directly on this element, or in child elements.   |
| <b>[read only]</b>           | true   |
| <b>UseLayoutRounding</b>     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether layout rounding should be applied to this element's size and position during layout.                                    |
| <b>VerticalAlignment</b>     | <a href="#">VerticalAlignment</a>  |

[AccessText](#) [AdornedElementPlaceholder](#) [ContentPresenter](#) [Control](#) [Decorator](#) [DocumentPageView](#) [DocumentReference](#) [FixedPage](#) [Glyphs](#) [GridViewRowPresenterBase](#) [Image](#) [InkCanvas](#) [ItemsPresenter](#) [MediaElement](#) [Page](#) [PageContent](#) [Panel](#) [Popup](#) [Shape](#) [TextBlock](#) [TickBar](#) [ToolBarTray](#) [Track](#) [Viewport3D](#)

|                                       |  |
|---------------------------------------|--|
| <b>(description)</b>                  | The vertical alignment characteristics applied to this element when it is composed within a parent element such as a panel or items control.                               |
| <b>Width</b>                          | <a href="#">x:Double</a>   |
| <b>(description)</b>                  | The width of the element.  |
| <b>[text syntax]</b>                  | <a href="#">LengthSyntax</a>   |
| <b>(attachable properties)</b>        |  |
| <b>FrameworkElement.FlowDirection</b> | <a href="#">FlowDirection</a>  |
| <b>(description)</b>                  | The direction that text and other user interface (UI) elements flow within any parent element that controls their layout.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>   |
| <b>(events)</b>                       |  |
| <b>ContextMenuClosing</b>             | Occurs just before any context menu on the element is closed.  |
| <b>ContextMenuOpening</b>             | Occurs when any context menu on the element is opened.   |
| <b>DataContextChanged</b>             | Occurs when the data context for this element changes.   |
| <b>Initialized</b>                    | Occurs when this FrameworkElement is initialized. This event coincides with cases where the value of the IsInitialized property changes from false (or undefined) to true. |
| <b>Loaded</b>                         | Occurs when the element is laid out, rendered, and ready for interaction.  |
| <b>RequestBringIntoView</b>           | Occurs when an attempt is made to bring the specified element region into view.  |
| <b>SizeChanged</b>                    | Occurs when either the ActualHeight or the ActualWidth properties change value on this element.  |
| <b>SourceUpdated</b>                  | Occurs when the source value changes for any existing property binding on this element.  |
| <b>TargetUpdated</b>                  | Occurs when the target value changes for any property binding on this element.   |
| <b>ToolTipClosing</b>                 | Occurs just before any tooltip on the element is closed.   |
| <b>ToolTipOpening</b>                 | Occurs when any tooltip on the element is opened.  |
| <b>Unloaded</b>                       | Occurs when the element is removed from within an element tree of loaded elements.   |



## 4.321 FrameworkPropertyMetadataOptions

[x:Object](#) > FrameworkPropertyMetadataOptions

|               |  |
|---------------|--|
| (usage)       | <b>None</b>   <b>AffectsMeasure</b>   <b>AffectsArrange</b>   <b>AffectsParentMeasure</b>   <b>AffectsParentArrange</b>   <b>AffectsRender</b>   <b>Inherits</b>   <b>OverridesInheritanceBehavior</b>   <b>NotDataBindable...</b> |
| (description) | Specifies the types of framework-level property behavior that pertain to a particular property in the property system.   |
| [is nullable] | false  |
| [text syntax] | <a href="#">FrameworkPropertyMetadataOptionsSyntax</a>   |

## 4.322 FrameworkTemplate

[x:Object](#) > FrameworkTemplate

|   |  |
|---|--|
| <a href="#">ControlTemplate</a> <a href="#">DataTemplate</a> <a href="#">ItemsPanelTemplate</a> |  |
| (usage)   | None.  |
| (description)   | A base type that defines a tree of elements that comprise the template.  |
| [is default constructible]  | false  |
| [content property]  | Template   |
| [is name scope]   | true   |
| (properties)  |  |
| Resources   | <a href="#">ResourceDictionary</a>   |
| (description)   | The collection of resources that can be used within the scope of this template.  |
| Template  | <a href="#">FrameworkElement</a>   |
| (description)   | A reference to the object that records or plays the XAML nodes for the template when the template is defined or applied by a writer. |

## 4.323 Freezable

[x:Object](#) > [DependencyObject](#) > Freezable

[Animatable](#) [BooleanKeyFrame](#) [BooleanKeyFrameCollection](#) [ByteKeyFrame](#) [ByteKeyFrameCollection](#) [CharKeyFrame](#) [CharKeyFrameCollection](#) [ColorKeyFrame](#) [ColorKeyFrameCollection](#) [DecimalKeyFrame](#) [DecimalKeyFrameCollection](#) [DoubleCollection](#) [DoubleKeyFrame](#) [DoubleKeyFrameCollection](#) [EasingFunctionBase](#) [InputBinding](#) [Int16KeyFrame](#) [Int16KeyFrameCollection](#) [Int32Collection](#) [Int32KeyFrame](#) [Int32KeyFrameCollection](#) [Int64KeyFrame](#) [Int64KeyFrameCollection](#) [KeySpline](#) [MatrixKeyFrame](#) [MatrixKeyFrameCollection](#) [ObjectKeyFrame](#) [ObjectKeyFrameCollection](#) [Point3DCollection](#) [Point3DKeyFrame](#) [Point3DKeyFrameCollection](#) [PointCollection](#) [PointKeyFrame](#) [PointKeyFrameCollection](#) [QuaternionKeyFrame](#) [QuaternionKeyFrameCollection](#) [RectKeyFrame](#) [RectKeyFrameCollection](#) [RibbonControlSizeDefinition](#) [RibbonGroupSizeDefinitionBase](#) [Rotation3DKeyFrame](#) [Rotation3DKeyFrameCollection](#) [SingleKeyFrame](#) [SingleKeyFrameCollection](#) [SizeKeyFrame](#) [SizeKeyFrameCollection](#) [StringKeyFrame](#) [StringKeyFrameCollection](#) [TaskbarItemInfo](#) [ThicknessKeyFrame](#) [ThicknessKeyFrameCollection](#) [ThumbButtonInfo](#) [Vector3DCollection](#) [Vector3DKeyFrame](#) [Vector3DKeyFrameCollection](#) [VectorCollection](#) [VectorKeyFrame](#) [VectorKeyFrameCollection](#) [WindowChrome](#)

|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | None.   |
| <b>(description)</b>              | Defines an object that has a modifiable state and a read-only (frozen) state. Types that derive from Freezable provide detailed change notification, can be made immutable, and can clone themselves. |
| <b>[is default constructible]</b> | false   |
| <b>(events)</b>                   |   |
| <b>Changed</b>                    | Occurs when the Freezable or an object it contains is modified.   |

#### 4.324 GeneralTransform

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > GeneralTransform

|   |   |
|---|---|
| <a href="#">GeneralTransformGroup</a> <a href="#">Transform</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | Provides generalized transformation support for objects, such as points and rectangles. |
| <b>(used by)</b>  | <a href="#">GeneralTransformCollection</a>  |
| <b>[is default constructible]</b>                               | false   |

#### 4.325 GeneralTransform3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > GeneralTransform3D

|   |  |
|---|--|
| <a href="#">GeneralTransform3DGroup</a> <a href="#">Transform3D</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | Provides generalized transformation support for 3-D objects. |
| <b>(used by)</b>  | <a href="#">GeneralTransform3DCollection</a>                 |

|   |       |
|---|-------|
| <a href="#">GeneralTransform3DGroup</a> <a href="#">Transform3D</a> |       |
| [is default constructible]  | false |

#### 4.326 GeneralTransform3DCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > GeneralTransform3DCollection

|                 |  |
|-----------------|--|
| (usage)         | <GeneralTransform3DCollection> <a href="#">GeneralTransform3D</a> *</GeneralTransform3DCollection> |
| (description)   | Represents an ordered collection of GeneralTransform3D objects.                                    |
| (used by)       | <a href="#">GeneralTransform3DGroup</a>  |
| [is list]       | true   |
| [allowed types] | <a href="#">GeneralTransform3D</a>   |

#### 4.327 GeneralTransform3DGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform3D](#) > GeneralTransform3DGroup

|                    |  |
|--------------------|--|
| (usage)            | <GeneralTransform3DGroup> <a href="#">GeneralTransform3D</a> *</GeneralTransform3DGroup>                   |
| (description)      | Represents a GeneralTransform3D that is a composite of the transforms in its GeneralTransform3DCollection. |
| [content property] | Children   |
| (properties)       |  |
| Children           | <a href="#">GeneralTransform3DCollection</a>   |
| (description)      | The collection of GeneralTransform3DGroup objects that form this GeneralTransform3DGroup.                  |

#### 4.328 GeneralTransformCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > GeneralTransformCollection

|                 |  |
|-----------------|--|
| (usage)         | <GeneralTransformCollection> <a href="#">GeneralTransform</a> *</GeneralTransformCollection> |
| (description)   | Represents an ordered collection of GeneralTransform objects.                                |
| (used by)       | <a href="#">GeneralTransformGroup</a>  |
| [is list]       | true   |
| [allowed types] | <a href="#">GeneralTransform</a>   |

## 4.329 GeneralTransformGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform](#) > GeneralTransformGroup

|                           |  |
|---------------------------|--|
| (usage)                   | <GeneralTransformGroup> <a href="#">GeneralTransform</a> *</GeneralTransformGroup>                     |
| <b>(description)</b>      | Represents a GeneralTransform that is a composite of the transforms in its GeneralTransformCollection. |
| <b>[content property]</b> | Children   |
| <b>(properties)</b>       |  |
| <b>Children</b>           | <a href="#">GeneralTransformCollection</a>   |
| <b>(description)</b>      | The collection of GeneralTransformGroup objects that form this GeneralTransformGroup.                  |

## 4.330 GeneratorDirection

[x:Object](#) > GeneratorDirection

|                      |   |
|----------------------|---|
| (usage)              | <b>Forward</b>   <b>Backward</b>  |
| <b>(description)</b> | Specifies the direction in which item generation will occur. GeneratorDirection is used by StartAt. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">GeneratorDirectionSyntax</a>  |

## 4.331 GeneratorPosition

[x:Object](#) > GeneratorPosition

|                      |  |
|----------------------|--|
| (usage)              | <GeneratorPosition />  |
| <b>(description)</b> | GeneratorPosition is used to describe the position of an item that is managed by ItemContainerGenerator. |
| <b>[is nullable]</b> | false  |
| <b>(properties)</b>  |  |
| <b>Index</b>         | <a href="#">x:Int32</a>  |
| <b>(description)</b> | The Int32 index that is relative to the generated (realized) items.                                      |
| <b>Offset</b>        | <a href="#">x:Int32</a>  |
| <b>(description)</b> | The Int32 offset that is relative to the ungenerated (unrealized) items near the indexed item.           |

## 4.332 GeneratorStatus

[x:Object](#) > GeneratorStatus

|               |   |
|---------------|---|
| (usage)       | <b>NotStarted</b>   <b>GeneratingContainers</b>   <b>ContainersGenerated</b>   <b>Error</b> |
| (description) | Used by ItemContainerGenerator to indicate the status of its item generation.               |
| [is nullable] | false   |
| [text syntax] | <a href="#">GeneratorStatusSyntax</a>   |

## 4.333 Geometry

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Geometry

|  |   |
|--|---|
| <a href="#">CombinedGeometry</a> <a href="#">EllipseGeometry</a> <a href="#">GeometryGroup</a> <a href="#">LineGeometry</a> <a href="#">PathGeometry</a><br><a href="#">RectangleGeometry</a> <a href="#">StreamGeometry</a> |   |
| (usage)  | <Geometry> string </Geometry>   |
| (description)  | A base type for geometric shapes.   |
| (used by)  | <a href="#">CombinedGeometry</a> <a href="#">ContainerVisual</a> <a href="#">DrawingGroup</a> <a href="#">GeometryCollection</a><br><a href="#">GeometryDrawing</a> <a href="#">Path</a> <a href="#">RibbonTwoLineText</a> <a href="#">TextEffect</a> <a href="#">UIElement</a><br><a href="#">Viewport3DVisual</a> |
| [is default constructible]   | false   |
| [text syntax]  | <a href="#">GeometrySyntax</a>  |
| (properties)   |   |
| Transform  | <a href="#">Transform</a>   |
| (description)  | The Transform object applied to a Geometry.   |
| (static properties)  |   |
| Empty  | Geometry  |
| (description)  | An empty object.  |
| StandardFlatteningTolerance  | <a href="#">x:Double</a>  |
| (description)  | The standard tolerance used for polygonal approximation.  |

## 4.334 Geometry3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Geometry3D

|                                |   |
|--------------------------------|---|
| <a href="#">MeshGeometry3D</a> |   |
| (usage)                        | None.   |
| (description)                  | A base type for three-dimensional geometric shapes. |

|                                   |  |
|-----------------------------------|--|
| <a href="#">MeshGeometry3D</a>    |  |
| <b>(used by)</b>                  | <a href="#">GeometryModel3D</a> <a href="#">Viewport2DVisual3D</a> |
| <b>[is default constructible]</b> | false  |

#### 4.335 GeometryCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > GeometryCollection

|                        |  |
|------------------------|--|
| <b>(usage)</b>         | <GeometryCollection> <a href="#">Geometry</a> *</GeometryCollection> |
| <b>(description)</b>   | Represents a collection of Geometry objects.                         |
| <b>(used by)</b>       | <a href="#">GeometryGroup</a>  |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">Geometry</a>   |

#### 4.336 GeometryCombineMode

[x:Object](#) > GeometryCombineMode

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <b>Union  Intersect  Xor  Exclude</b>                                 |
| <b>(description)</b> | Specifies the different ways by which two geometries can be combined. |
| <b>(used by)</b>     | <a href="#">CombinedGeometry</a>                                      |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">GeometryCombineModeSyntax</a>                             |

#### 4.337 GeometryDrawing

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Drawing](#) > GeometryDrawing

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <GeometryDrawing />   |
| <b>(description)</b> | Draws a Geometry using the specified Brush and Pen.                                 |
| <b>(properties)</b>  |   |
| <b>Brush</b>         | <a href="#">Brush</a>   |
| <b>(description)</b> | The Brush used to fill the interior of the shape described by this GeometryDrawing. |
| <b>Geometry</b>      | <a href="#">Geometry</a>  |
| <b>(description)</b> | The Geometry that describes the shape of this GeometryDrawing.                      |
| <b>Pen</b>           | <a href="#">Pen</a>   |
| <b>(description)</b> | The Pen used to stroke this GeometryDrawing.  |

## 4.338 GeometryGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Geometry](#) > GeometryGroup

|                    |   |
|--------------------|---|
| (usage)            | <GeometryGroup> string   <a href="#">Geometry</a> *</GeometryGroup>                     |
| (description)      | Represents a composite geometry, composed of other Geometry objects.                    |
| [text syntax]      | <a href="#">GeometrySyntax</a>  |
| [content property] | Children  |
| (properties)       |   |
| Children           | <a href="#">GeometryCollection</a>  |
| (description)      | The GeometryCollection that contains the objects that define this GeometryGroup.        |
| FillRule           | <a href="#">FillRule</a>  |
| (description)      | How the intersecting areas of the objects contained in this GeometryGroup are combined. |

## 4.339 GeometryModel3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Model3D](#) > GeometryModel3D

|               |  |
|---------------|--|
| (usage)       | <GeometryModel3D />  |
| (description) | Renders a Geometry3D with the specified Material.                |
| (properties)  |  |
| BackMaterial  | <a href="#">Material</a>   |
| (description) | The Material used to render the back of this GeometryModel3D.    |
| Geometry      | <a href="#">Geometry3D</a>                                       |
| (description) | The Geometry3D that describes the shape of this GeometryModel3D. |
| Material      | <a href="#">Material</a>   |
| (description) | The Material used to render the front of this GeometryModel3D.   |

## 4.340 GestureRecognizer

[x:Object](#) > [DependencyObject](#) > GestureRecognizer

|               |                          |
|---------------|--------------------------|
| (usage)       | <GestureRecognizer />    |
| (description) | Recognizes ink gestures. |

## 4.341 GifBitmapEncoder

[x:Object](#) > [BitmapEncoder](#) > GifBitmapEncoder

|                      |   |
|----------------------|---|
| (usage)              | <GifBitmapEncoder />  |
| <b>(description)</b> | Defines an encoder that is used to encode Graphics Interchange Format (GIF) images. |

#### 4.342 GlyphRun

[x:Object](#) > GlyphRun

|                            |  |
|----------------------------|--|
| (usage)                    | <GlyphRun />   |
| <b>(description)</b>       | Represents a sequence of glyphs from a single face of a single font at a single size, and with a single rendering style.                     |
| <b>(used by)</b>           | <a href="#">GlyphRunDrawing</a>  |
| <b>(properties)</b>        |  |
| <b>AdvanceWidths</b>       | <a href="#">IList(x:Double)</a>  |
| <b>(description)</b>       | The list of Double values that represent the advance widths corresponding to the glyph indices.  |
| <b>[text syntax]</b>       | DoubleIListSyntax  |
| <b>BaselineOrigin</b>      | <a href="#">Point</a>  |
| <b>(description)</b>       | The baseline origin of the GlyphRun.   |
| <b>BidiLevel</b>           | <a href="#">x:Int32</a>  |
| <b>(description)</b>       | The bidirectional nesting level of the GlyphRun.   |
| <b>CaretStops</b>          | <a href="#">IList(x:Boolean)</a>   |
| <b>(description)</b>       | The list of Boolean values that determine whether there are caret stops for every UTF16 code point in the Unicode representing the GlyphRun. |
| <b>[text syntax]</b>       | BoolIListSyntax  |
| <b>Characters</b>          | <a href="#">IList(x:Char)</a>  |
| <b>(description)</b>       | The list of UTF16 code points that represent the Unicode content of the GlyphRun.  |
| <b>[text syntax]</b>       | CharIListSyntax  |
| <b>ClusterMap</b>          | <a href="#">IList(UInt16)</a>  |
| <b>(description)</b>       | The list of UInt16 values that maps characters in the GlyphRun to glyph indices.   |
| <b>[text syntax]</b>       | UShortIListSyntax  |
| <b>DeviceFontName</b>      | <a href="#">x:String</a>   |
| <b>(description)</b>       | The specific device font for which the GlyphRun has been optimized.  |
| <b>FontRenderingEmSize</b> | <a href="#">x:Double</a>   |



|                      |  |
|----------------------|--|
| (usage)              | <GlyphRun />   |
| <b>(description)</b> | The em size used for rendering the GlyphRun.   |
| <b>GlyphIndices</b>  | <a href="#">IList(UInt16)</a>  |
| <b>(description)</b> | An array of UInt16 values that represent the glyph indices in the rendering physical font. |
| <b>[text syntax]</b> | UShortIListSyntax  |
| <b>GlyphOffsets</b>  | <a href="#">IList(Point)</a>   |
| <b>(description)</b> | An array of Point values representing the offsets of the glyphs in the GlyphRun.           |
| <b>[text syntax]</b> | PointIListSyntax   |
| <b>GlyphTypeface</b> | <a href="#">GlyphTypeface</a>  |
| <b>(description)</b> | The GlyphTypeface for the GlyphRun.  |
| <b>IsSideways</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value indicating whether to rotate glyphs.   |
| <b>Language</b>      | <a href="#">XmlLanguage</a>  |
| <b>(description)</b> | The XmlLanguage for the GlyphRun.  |

#### 4.343 GlyphRunDrawing

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Drawing](#) > GlyphRunDrawing

|                        |  |
|------------------------|--|
| (usage)                | <GlyphRunDrawing />                                  |
| <b>(description)</b>   | Represents a Drawing object that renders a GlyphRun. |
| <b>(properties)</b>    |  |
| <b>ForegroundBrush</b> | <a href="#">Brush</a>                                |
| <b>(description)</b>   | The foreground brush of the GlyphRunDrawing.         |
| <b>GlyphRun</b>        | <a href="#">GlyphRun</a>                             |
| <b>(description)</b>   | The GlyphRun that describes the text to draw.        |

#### 4.344 Glyphs

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Glyphs, [IInputElement](#)

|                        |  |
|------------------------|--|
| (usage)                | <Glyphs />   |
| <b>(description)</b>   | Represents the set of glyphs that are used for rendering fixed text. |
| <b>[name property]</b> | Name   |

|                            |   |
|----------------------------|---|
| (usage)                    | <Glyphs />  |
| [xml lang property]        | Language  |
| (properties)               |   |
| <b>BidiLevel</b>           | <a href="#">x:Int32</a>   |
| (description)              | The bidirectional nesting level of Glyphs.  |
| <b>CaretStops</b>          | <a href="#">x:String</a>  |
| (description)              | The caret stops that correspond to the code points in the Unicode string representing the Glyphs. |
| <b>DeviceFontName</b>      | <a href="#">x:String</a>  |
| (description)              | The specific device font for which the Glyphs object has been optimized.                          |
| <b>Fill</b>                | <a href="#">Brush</a>   |
| (description)              | The sets the Brush that is used for the fill of the Glyphs type.                                  |
| <b>FontRenderingEmSize</b> | <a href="#">x:Double</a>  |
| (description)              | The em size used for rendering the Glyphs type.   |
| [text syntax]              | <a href="#">FontSizeSyntax</a>  |
| <b>FontUri</b>             | <a href="#">x:Uri</a>   |
| (description)              | The Uri that represents the location of the font used for rendering the Glyphs type.              |
| <b>Indices</b>             | <a href="#">x:String</a>  |
| (description)              | A collection of glyph specifications that represents the Glyphs object.                           |
| <b>IsSideways</b>          | <a href="#">x:Boolean</a>   |
| (description)              | Determines whether to rotate the Glyphs object.   |
| <b>OriginX</b>             | <a href="#">x:Double</a>  |
| (description)              | The value of the x origin for the Glyphs object.  |
| [text syntax]              | <a href="#">LengthSyntax</a>  |
| <b>OriginY</b>             | <a href="#">x:Double</a>  |
| (description)              | The value of the y origin for the Glyphs object.  |
| [text syntax]              | <a href="#">LengthSyntax</a>  |
| <b>StyleSimulations</b>    | <a href="#">StyleSimulations</a>  |
| (description)              | The StyleSimulations for the Glyphs type.   |
| <b>UnicodeString</b>       | <a href="#">x:String</a>  |
| (description)              | The String that represents the Unicode string for the Glyphs object.                              |

## 4.345 GlyphTypeface

[x:Object](#) > GlyphTypeface

|                            |  |
|----------------------------|--|
| (usage)                    | <GlyphTypeface />  |
| <b>(description)</b>       | Specifies a physical font face that corresponds to a font file on the disk.  |
| <b>(used by)</b>           | <a href="#">GlyphRun</a>   |
| <b>(properties)</b>        |  |
| <b>AdvanceHeights</b>      | <a href="#">IDictionary(UInt16,x:Double)</a>   |
| <b>(description)</b>       | The advance heights for the glyphs represented by the GlyphTypeface object.  |
| <b>[read only]</b>         | true   |
| <b>AdvanceWidths</b>       | <a href="#">IDictionary(UInt16,x:Double)</a>   |
| <b>(description)</b>       | The advance widths for the glyphs represented by the GlyphTypeface object.   |
| <b>[read only]</b>         | true   |
| <b>BottomSideBearings</b>  | <a href="#">IDictionary(UInt16,x:Double)</a>   |
| <b>(description)</b>       | The distance from bottom edge of the black box to the bottom end of the advance vector for the glyphs represented by the GlyphTypeface object. |
| <b>[read only]</b>         | true   |
| <b>CharacterToGlyphMap</b> | <a href="#">IDictionary(x:Int32,UInt16)</a>  |
| <b>(description)</b>       | The nominal mapping of a Unicode code point to a glyph index as defined by the font 'CMAP' table.  |
| <b>[read only]</b>         | true   |
| <b>Copyrights</b>          | <a href="#">IDictionary(CultureInfo,x:String)</a>  |
| <b>(description)</b>       | The copyright information for the GlyphTypeface object.  |
| <b>[read only]</b>         | true   |
| <b>Descriptions</b>        | <a href="#">IDictionary(CultureInfo,x:String)</a>  |
| <b>(description)</b>       | The description information for the GlyphTypeface object.  |
| <b>[read only]</b>         | true   |
| <b>DesignerNames</b>       | <a href="#">IDictionary(CultureInfo,x:String)</a>  |

|  |  |
|--|--|
| (usage)  | <GlyphTypeface />  |
| <b>(description)</b>                                   | The designer information for the GlyphTypeface object.   |
| <b>[read only]</b>                                     | true   |
| <b>DesignerUrls</b>                                    | <a href="#">IDictionary(CultureInfo,x:String)</a>  |
| <b>(description)</b>                                   | The designer URL information for the GlyphTypeface object.   |
| <b>[read only]</b>                                     | true   |
| <b>DistancesFromHorizontalBaselineToBlackBoxBottom</b> | <a href="#">IDictionary(UInt16,x:Double)</a>   |
| <b>(description)</b>                                   | The offset value from the horizontal Western baseline to the bottom of the glyph black box for the glyphs represented by the GlyphTypeface object. |
| <b>[read only]</b>                                     | true   |
| <b>FaceNames</b>                                       | <a href="#">IDictionary(CultureInfo,x:String)</a>  |
| <b>(description)</b>                                   | The face name for the GlyphTypeface object.  |
| <b>[read only]</b>                                     | true   |
| <b>FamilyNames</b>                                     | <a href="#">IDictionary(CultureInfo,x:String)</a>  |
| <b>(description)</b>                                   | The family name for the GlyphTypeface object.  |
| <b>[read only]</b>                                     | true   |
| <b>FontUri</b>   | <a href="#">x:Uri</a>  |
| <b>(description)</b>                                   | The URI for the GlyphTypeface object.  |
| <b>LeftSideBearings</b>                                | <a href="#">IDictionary(UInt16,x:Double)</a>   |
| <b>(description)</b>                                   | The distance from the leading end of the advance vector to the left edge of the black box for the glyphs represented by the GlyphTypeface object.  |
| <b>[read only]</b>                                     | true   |
| <b>LicenseDescriptions</b>                             | <a href="#">IDictionary(CultureInfo,x:String)</a>  |
| <b>(description)</b>                                   | The font license description information for the GlyphTypeface object.   |
| <b>[read only]</b>                                     | true   |
| <b>ManufacturerNames</b>                               | <a href="#">IDictionary(CultureInfo,x:String)</a>  |
| <b>(description)</b>                                   | The font manufacturer information for the GlyphTypeface object.  |

|                          |   |
|--------------------------|---|
| (usage)                  | <GlyphTypeface />   |
| <b>[read only]</b>       | true  |
| <b>RightSideBearings</b> | <a href="#">IDictionary(UInt16,x:Double)</a>  |
| <b>(description)</b>     | The distance from the right edge of the black box to the right end of the advance vector for the glyphs represented by the GlyphTypeface object.      |
| <b>[read only]</b>       | true  |
| <b>SampleTexts</b>       | <a href="#">IDictionary(CultureInfo,x:String)</a>   |
| <b>(description)</b>     | The sample text information for the GlyphTypeface object.   |
| <b>[read only]</b>       | true  |
| <b>StyleSimulations</b>  | <a href="#">StyleSimulations</a>  |
| <b>(description)</b>     | The StyleSimulations for the GlyphTypeface object.  |
| <b>TopSideBearings</b>   | <a href="#">IDictionary(UInt16,x:Double)</a>  |
| <b>(description)</b>     | The distance from the top end of the vertical advance vector to the top edge of the black box for the glyphs represented by the GlyphTypeface object. |
| <b>[read only]</b>       | true  |
| <b>Trademarks</b>        | <a href="#">IDictionary(CultureInfo,x:String)</a>   |
| <b>(description)</b>     | The trademark notice information for the GlyphTypeface object.  |
| <b>[read only]</b>       | true  |
| <b>VendorUrls</b>        | <a href="#">IDictionary(CultureInfo,x:String)</a>   |
| <b>(description)</b>     | The vendor URL information for the GlyphTypeface object.  |
| <b>[read only]</b>       | true  |
| <b>VersionStrings</b>    | <a href="#">IDictionary(CultureInfo,x:String)</a>   |
| <b>(description)</b>     | The version string information for the GlyphTypeface object interpreted from the font's 'NAME' table.   |
| <b>[read only]</b>       | true  |
| <b>Win32FaceNames</b>    | <a href="#">IDictionary(CultureInfo,x:String)</a>   |
| <b>(description)</b>     | The face name for the font represented by the GlyphTypeface object.   |

|                         |   |
|-------------------------|---|
| (usage)                 | <GlyphTypeface />   |
| [read only]             | true  |
| <b>Win32FamilyNames</b> | <a href="#">IDictionary(CultureInfo,x:String)</a>                     |
| (description)           | The family name for the font represented by the GlyphTypeface object. |
| [read only]             | true  |

#### 4.346 GradientBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > GradientBrush

|   |   |
|---|---|
| <a href="#">LinearGradientBrush</a> <a href="#">RadialGradientBrush</a> |   |
| (usage)   | <GradientBrush> string</GradientBrush>  |
| (description)   | A base type that describes a gradient, composed of gradient stops.  |
| [is default constructible]  | false   |
| [text syntax]   | <a href="#">BrushSyntax</a>   |
| [content property]  | GradientStops   |
| (properties)  |   |
| <b>ColorInterpolationMode</b>   | <a href="#">ColorInterpolationMode</a>  |
| (description)   | A ColorInterpolationMode enumeration that specifies how the gradient's colors are interpolated.   |
| <b>GradientStops</b>  | <a href="#">GradientStopCollection</a>  |
| (description)   | The brush's gradient stops.   |
| <b>MappingMode</b>  | <a href="#">BrushMappingMode</a>  |
| (description)   | A BrushMappingMode enumeration that specifies whether the gradient brush's positioning coordinates are absolute or relative to the output area. |
| <b>SpreadMethod</b>   | <a href="#">GradientSpreadMethod</a>  |
| (description)   | The type of spread method that specifies how to draw a gradient that starts or ends inside the bounds of the object to be painted.              |

#### 4.347 GradientSpreadMethod

[x:Object](#) > GradientSpreadMethod

|               |   |
|---------------|---|
| (usage)       | <b>Pad  Reflect  Repeat</b>   |
| (description) | Specifies how to draw the gradient outside a gradient brush's gradient vector or space. |

|               |  |
|---------------|--|
| (usage)       | <b>Pad  Reflect  Repeat</b>                |
| (used by)     | <a href="#">GradientBrush</a>              |
| [is nullable] | false                                      |
| [text syntax] | <a href="#">GradientSpreadMethodSyntax</a> |

#### 4.348 GradientStop

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > GradientStop

|               |   |
|---------------|---|
| (usage)       | <GradientStop />  |
| (description) | Describes the location and color of a transition point in a gradient. |
| (used by)     | <a href="#">GradientStopCollection</a>                                |
| (properties)  |   |
| Color         | <a href="#">Color</a>   |
| (description) | The color of the gradient stop.                                       |
| Offset        | <a href="#">x:Double</a>  |
| (description) | The location of the gradient stop within the gradient vector.         |

#### 4.349 GradientStopCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > GradientStopCollection

|                 |   |
|-----------------|---|
| (usage)         | <GradientStopCollection> <a href="#">GradientStop</a> *</GradientStopCollection>            |
| (description)   | Represents a collection of GradientStop objects that can be individually accessed by index. |
| (used by)       | <a href="#">GradientBrush</a>   |
| [is list]       | true  |
| [allowed types] | <a href="#">GradientStop</a>  |

#### 4.350 Grid

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > Grid, [IInputElement](#)

|  |   |
|--|---|
| <a href="#">SelectiveScrollingGrid</a> |   |
| (usage)                                | <Grid> <a href="#">UIElement</a> *</Grid>                       |
| (description)                          | Defines a flexible grid area that consists of columns and rows. |
| [content property]                     | Children  |

| <a href="#">SelectiveScrollingGrid</a> |  |
|--|--|
| <b>[name property]</b>                 | Name   |
| <b>[xml lang property]</b>             | Language   |
| <b>(properties)</b>                    |  |
| <b>ColumnDefinitions</b>               | <a href="#">ColumnDefinitionCollection</a>   |
| <b>(description)</b>                   | A ColumnDefinitionCollection defined on this instance of Grid.                             |
| <b>[read only]</b>                     | true   |
| <b>RowDefinitions</b>                  | <a href="#">RowDefinitionCollection</a>  |
| <b>(description)</b>                   | A RowDefinitionCollection defined on this instance of Grid.                                |
| <b>[read only]</b>                     | true   |
| <b>ShowGridLines</b>                   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value that indicates whether grid lines are visible within this Grid.                    |
| <b>(attachable properties)</b>         |  |
| <b>Grid.Column</b>                     | <a href="#">x:Int32</a>  |
| <b>(description)</b>                   | A value that indicates which column child content within a Grid should appear in.          |
| <b>[target type]</b>                   | <a href="#">UIElement</a>  |
| <b>Grid.ColumnSpan</b>                 | <a href="#">x:Int32</a>  |
| <b>(description)</b>                   | A value that indicates the total number of columns that child content spans within a Grid. |
| <b>[target type]</b>                   | <a href="#">UIElement</a>  |
| <b>Grid.IsSharedSizeScope</b>          | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value that indicates that multiple Grid elements are sharing size information.           |
| <b>[target type]</b>                   | <a href="#">UIElement</a>  |
| <b>Grid.Row</b>                        | <a href="#">x:Int32</a>  |
| <b>(description)</b>                   | A value that indicates which row child content within a Grid should appear in.             |
| <b>[target type]</b>                   | <a href="#">UIElement</a>  |
| <b>Grid.RowSpan</b>                    | <a href="#">x:Int32</a>  |
| <b>(description)</b>                   | A value that indicates the total number of rows that child content spans within a Grid.    |
| <b>[target type]</b>                   | <a href="#">UIElement</a>  |



## 4.351 GridLength

[x:Object](#) > GridLength

|                     |   |
|---------------------|---|
| (usage)             | <GridLength> string </GridLength>   |
| (description)       | Represents the length of elements that explicitly support Star unit types.  |
| (used by)           | <a href="#">ColumnDefinition</a> <a href="#">RowDefinition</a> <a href="#">TableColumn</a>                          |
| [is nullable]       | false   |
| [text syntax]       | <a href="#">GridLengthSyntax</a>  |
| (static properties) |   |
| Auto                | GridLength  |
| (description)       | An instance of GridLength that holds a value whose size is determined by the size properties of the content object. |

## 4.352 GridResizeBehavior

[x:Object](#) > GridResizeBehavior

|               |  |
|---------------|--|
| (usage)       | <b>BasedOnAlignment  CurrentAndNext  PreviousAndCurrent  PreviousAndNext</b> |
| (description) | Specifies the rows or columns that are resized by a GridSplitter control.    |
| (used by)     | <a href="#">GridSplitter</a>   |
| [is nullable] | false  |
| [text syntax] | <a href="#">GridResizeBehaviorSyntax</a>                                     |

## 4.353 GridResizeDirection

[x:Object](#) > GridResizeDirection

|               |   |
|---------------|---|
| (usage)       | <b>Auto  Columns  Rows</b>  |
| (description) | Specifies whether a GridSplitter control redistributes space between rows or between columns. |
| (used by)     | <a href="#">GridSplitter</a>  |
| [is nullable] | false   |
| [text syntax] | <a href="#">GridResizeDirectionSyntax</a>   |

## 4.354 GridSplitter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [Thumb](#) > GridSplitter, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <GridSplitter />  |
| <b>(description)</b>       | Represents the control that redistributes space between columns or rows of a Grid control.  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>DragIncrement</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The minimum distance that a user must drag a mouse to resize rows or columns with a GridSplitter control.   |
| <b>KeyboardIncrement</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The distance that each press of an arrow key moves a GridSplitter control.  |
| <b>PreviewStyle</b>        | <a href="#">Style</a>   |
| <b>(description)</b>       | The style that customizes the appearance, effects, or other style characteristics for the GridSplitter control preview indicator that is displayed when the ShowsPreview property is set to true. |
| <b>ResizeBehavior</b>      | <a href="#">GridResizeBehavior</a>  |
| <b>(description)</b>       | Which columns or rows are resized relative to the column or row for which the GridSplitter control is defined.  |
| <b>ResizeDirection</b>     | <a href="#">GridResizeDirection</a>   |
| <b>(description)</b>       | A value that indicates whether the GridSplitter control resizes rows or columns.  |
| <b>ShowsPreview</b>        | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the GridSplitter control updates the column or row size as the user drags the control.   |

#### 4.355 GridUnitType

[x:Object](#) > GridUnitType

|                      |  |
|----------------------|--|
| (usage)              | <b>Auto  Pixel  Star</b>   |
| <b>(description)</b> | Describes the kind of value that a GridLength object is holding. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">GridUnitTypeSyntax</a>                               |

#### 4.356 GridView

[x:Object](#) > [DependencyObject](#) > [ViewBase](#) > GridView

|         |  |
|---------|--|
| (usage) | <GridView> <a href="#">GridViewColumn</a> *</GridView> |
|---------|--|

|                                      |  |
|--------------------------------------|--|
| (usage)                              | <GridView> <a href="#">GridViewColumn</a> *</GridView>   |
| <b>(description)</b>                 | Represents a view mode that displays data items in columns for a ListView control.                                   |
| <b>[content property]</b>            | Columns  |
| <b>(properties)</b>                  |  |
| <b>AllowsColumnReorder</b>           | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                 | Whether columns in a GridView can be reordered by a drag-and-drop operation.   |
| <b>ColumnHeaderContainerStyle</b>    | <a href="#">Style</a>  |
| <b>(description)</b>                 | The style to apply to column headers.  |
| <b>ColumnHeaderContextMenu</b>       | <a href="#">ContextMenu</a>  |
| <b>(description)</b>                 | A ContextMenu for the GridView.  |
| <b>ColumnHeaderStringFormat</b>      | <a href="#">x:String</a>   |
| <b>(description)</b>                 | A composite string that specifies how to format the column headers of the GridView if they are displayed as strings. |
| <b>ColumnHeaderTemplate</b>          | <a href="#">DataTemplate</a>   |
| <b>(description)</b>                 | A template to use to display the column headers.   |
| <b>ColumnHeaderTemplateSelector</b>  | <a href="#">DataTemplateSelector</a>   |
| <b>(description)</b>                 | The selector object that provides logic for selecting a template to use for each column header.                      |
| <b>ColumnHeaderToolTip</b>           | <a href="#">x:Object</a>   |
| <b>(description)</b>                 | The content of a tooltip that appears when the mouse pointer pauses over one of the column headers.                  |
| <b>Columns</b>                       | <a href="#">GridViewColumnCollection</a>   |
| <b>(description)</b>                 | The collection of GridViewColumn objects that is defined for this GridView.  |
| <b>[read only]</b>                   | true   |
| <b>(attachable properties)</b>       |  |
| <b>GridView.ColumnCollection</b>     | <a href="#">GridViewColumnCollection</a>   |
| <b>(description)</b>                 | The attached property that contains the GridViewColumnCollection.  |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>   |
| <b>(static properties)</b>           |  |
| <b>GridViewItemContainerStyleKey</b> | <a href="#">ResourceKey</a>  |

|                                     |   |
|-------------------------------------|---|
| (usage)                             | <GridView> <a href="#">GridViewColumn</a> *</GridView>  |
| <b>(description)</b>                | The key that references the style that is defined for each ListViewItem in a GridView.  |
| <b>GridViewScrollViewerStyleKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                | The key that references the style that is defined for the ScrollViewer control that encloses the content that is displayed by a GridView. |
| <b>GridViewStyleKey</b>             | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                | The key that references the style that is defined for the GridView.   |

#### 4.357 GridViewColumn

[x:Object](#) > [DependencyObject](#) > GridViewColumn

|                             |   |
|-----------------------------|---|
| (usage)                     | <GridViewColumn> <a href="#">x:Object</a> </GridViewColumn>   |
| <b>(description)</b>        | Represents a column that displays data.   |
| <b>(used by)</b>            | <a href="#">GridViewColumnCollection</a>  |
| <b>[content property]</b>   | Header  |
| <b>(properties)</b>         |   |
| <b>ActualWidth</b>          | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The actual width of a GridViewColumn.   |
| <b>CellTemplate</b>         | <a href="#">DataTemplate</a>  |
| <b>(description)</b>        | The template to use to display the contents of a column cell.                                       |
| <b>CellTemplateSelector</b> | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>        | A DataTemplateSelector that determines the template to use to display cells in a column.            |
| <b>DisplayMemberBinding</b> | <a href="#">BindingBase</a>   |
| <b>(description)</b>        | The data item to bind to for this column.   |
| <b>Header</b>               | <a href="#">x:Object</a>  |
| <b>(description)</b>        | The content of the header of a GridViewColumn.  |
| <b>HeaderContainerStyle</b> | <a href="#">Style</a>   |
| <b>(description)</b>        | The style to use for the header of the GridViewColumn.  |
| <b>HeaderStringFormat</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>        | A composite string that specifies how to format the Header property if it is displayed as a string. |

|                               |  |
|-------------------------------|--|
| (usage)                       | <GridViewColumn> <a href="#">x:Object</a> </GridViewColumn>  |
| <b>HeaderTemplate</b>         | <a href="#">DataTemplate</a>   |
| <b>(description)</b>          | The template to use to display the content of the column header.   |
| <b>HeaderTemplateSelector</b> | <a href="#">DataTemplateSelector</a>   |
| <b>(description)</b>          | The DataTemplateSelector that provides logic to select the template to use to display the column header. |
| <b>Width</b>                  | <a href="#">x:Double</a>   |
| <b>(description)</b>          | The width of the column.   |
| <b>[text syntax]</b>          | <a href="#">LengthSyntax</a>   |

#### 4.358 GridViewColumnCollection

[x:Object](#) > [ObservableCollection\(GridViewColumn\)](#) > GridViewColumnCollection

|                        |  |
|------------------------|--|
| (usage)                | <GridViewColumnCollection> <a href="#">GridViewColumn</a> *</GridViewColumnCollection> |
| <b>(description)</b>   | Represents a collection of GridViewColumn objects.                                     |
| <b>(used by)</b>       | <a href="#">GridView</a> <a href="#">GridViewRowPresenterBase</a>                      |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">GridViewColumn</a>   |

#### 4.359 GridViewColumnHeader

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [GridViewColumnHeader](#), [InputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <GridViewColumnHeader> <a href="#">x:Object</a> </GridViewColumnHeader> |
| <b>(description)</b>       | Represents a column header for a GridViewColumn.                        |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.360 GridViewColumnHeaderRole

[x:Object](#) > GridViewColumnHeaderRole

|                      |  |
|----------------------|--|
| (usage)              | <b>Normal  Floating  Padding</b>                             |
| <b>(description)</b> | Defines the state or role of a GridViewColumnHeader control. |
| <b>[is nullable]</b> | false  |

|               |  |
|---------------|--|
| (usage)       | <b>Normal  Floating  Padding</b>               |
| [text syntax] | <a href="#">GridViewColumnHeaderRoleSyntax</a> |

#### 4.361 GridViewHeaderRowPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [GridViewRowPresenterBase](#) > GridViewHeaderRowPresenter, [IInputElement](#)

|                                     |  |
|-------------------------------------|--|
| (usage)                             | <GridViewHeaderRowPresenter />   |
| <b>(description)</b>                | Represents an object that is used to define the layout of a row of column headers.                           |
| [name property]                     | Name   |
| [xml lang property]                 | Language   |
| <b>(properties)</b>                 |  |
| <b>AllowsColumnReorder</b>          | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                | A value that indicates whether columns can change positions.   |
| <b>ColumnHeaderContainerStyle</b>   | <a href="#">Style</a>  |
| <b>(description)</b>                | The Style to use for the column headers.   |
| <b>ColumnHeaderContextMenu</b>      | <a href="#">ContextMenu</a>  |
| <b>(description)</b>                | A ContextMenu for the column headers.  |
| <b>ColumnHeaderStringFormat</b>     | <a href="#">x:String</a>   |
| <b>(description)</b>                | A composite string that specifies how to format the column headers if they are displayed as strings.         |
| <b>ColumnHeaderTemplate</b>         | <a href="#">DataTemplate</a>   |
| <b>(description)</b>                | The template to use to display the column headers.   |
| <b>ColumnHeaderTemplateSelector</b> | <a href="#">DataTemplateSelector</a>   |
| <b>(description)</b>                | A DataTemplateSelector that provides logic that selects the data template to use to display a column header. |
| <b>ColumnHeaderToolTip</b>          | <a href="#">x:Object</a>   |
| <b>(description)</b>                | The content for a tooltip for the column header row.   |

#### 4.362 GridViewRowPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [GridViewRowPresenterBase](#) > GridViewRowPresenter, [IInputElement](#)

|         |                          |
|---------|--------------------------|
| (usage) | <GridViewRowPresenter /> |
|---------|--------------------------|

|                            |  |
|----------------------------|--|
| (usage)                    | <GridViewRowPresenter />   |
| <b>(description)</b>       | Represents an object that specifies the layout of a row of data. |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Content</b>             | <a href="#">x:Object</a>   |
| <b>(description)</b>       | The data content to display in a row.                            |

#### 4.363 GridViewRowPresenterBase

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > GridViewRowPresenterBase, [IInputElement](#)

|   |  |
|---|--|
| <a href="#">GridViewHeaderRowPresenter</a> <a href="#">GridViewRowPresenter</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | Represents the base type for types that define the layout for a row of data where different data items are displayed in different columns. |
| <b>[is default constructible]</b>   | false  |
| <b>[name property]</b>  | Name   |
| <b>[xml lang property]</b>  | Language   |
| <b>(properties)</b>   |  |
| <b>Columns</b>  | <a href="#">GridViewColumnCollection</a>   |
| <b>(description)</b>  | A GridViewColumnCollection.  |

#### 4.364 GroupBox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [HeaderedContentControl](#) > GroupBox, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <GroupBox> <a href="#">x:Object</a> </GroupBox>   |
| <b>(description)</b>       | Represents a control that creates a container that has a border and a header for user interface (UI) content. |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

## 4.365 GroupItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > GroupItem, [IInputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <GroupItem> <a href="#">x:Object</a> </GroupItem>                |
| (description)       | Appears as the root of the visual subtree generated for a group. |
| [content property]  | Content  |
| [name property]     | Name   |
| [xml lang property] | Language   |

## 4.366 GroupStyle

[x:Object](#) > GroupStyle

|                        |   |
|------------------------|---|
| (usage)                | <GroupStyle />  |
| (description)          | Defines how you want the group to look at each level.   |
| (used by)              | <a href="#">ItemsControl</a>  |
| (properties)           |   |
| AlternationCount       | <a href="#">x:Int32</a>   |
| (description)          | The number of alternating GroupItem objects.  |
| ContainerStyle         | <a href="#">Style</a>   |
| (description)          | The style that is applied to the GroupItem generated for each item.   |
| ContainerStyleSelector | <a href="#">StyleSelector</a>   |
| (description)          | Enables the application writer to provide custom selection logic for a style to apply to each generated GroupItem.        |
| HeaderStringFormat     | <a href="#">x:String</a>  |
| (description)          | A composite string that specifies how to format the header if it is displayed as a string.                                |
| HeaderTemplate         | <a href="#">DataTemplate</a>  |
| (description)          | The template that is used to display the group header.  |
| HeaderTemplateSelector | <a href="#">DataTemplateSelector</a>  |
| (description)          | Enables the application writer to provide custom selection logic for a template that is used to display the group header. |
| HidesIfEmpty           | <a href="#">x:Boolean</a>   |
| (description)          | A value that indicates whether items corresponding to empty groups should be displayed.                                   |



|                            |   |
|----------------------------|---|
| (usage)                    | <GroupStyle />  |
| <b>Panel</b>               | <a href="#">ItemsPanelTemplate</a>                          |
| <b>(description)</b>       | A template that creates the panel used to layout the items. |
| <b>(static properties)</b> |   |
| <b>Default</b>             | GroupStyle  |
| <b>(description)</b>       | The default style of the group.                             |

#### 4.367 GuidelineSet

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > GuidelineSet

|                      |  |
|----------------------|--|
| (usage)              | <GuidelineSet />   |
| <b>(description)</b> | Represents a collection of guide lines that can assist in adjusting rendered figures to a device pixel grid. |
| <b>(used by)</b>     | <a href="#">DrawingGroup</a>   |
| <b>(properties)</b>  |  |
| <b>GuidelinesX</b>   | <a href="#">DoubleCollection</a>   |
| <b>(description)</b> | A series of coordinate values that represent guide lines on the X-axis.                                      |
| <b>GuidelinesY</b>   | <a href="#">DoubleCollection</a>   |
| <b>(description)</b> | A series of coordinate values that represent guide lines on the Y-axis.                                      |

#### 4.368 HandoffBehavior

[x:Object](#) > HandoffBehavior

|                      |  |
|----------------------|--|
| (usage)              | <b>SnapshotAndReplace  Compose</b>   |
| <b>(description)</b> | Specifies how new animations interact with any existing ones that are already applied to a property. |
| <b>(used by)</b>     | <a href="#">BeginStoryboard</a>  |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">HandoffBehaviorSyntax</a>  |

#### 4.369 HeaderedContentControl

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > HeaderedContentControl, [IInputElement](#)

|   |
|---|
| <a href="#">Expander</a> <a href="#">GroupBox</a> <a href="#">TabItem</a> |
|---|

| <a href="#">Expander</a> <a href="#">GroupBox</a> <a href="#">TabItem</a> |   |
|---|---|
| <b>(usage)</b>  | <HeaderedContentControl> <a href="#">x:Object</a> </HeaderedContentControl>                               |
| <b>(description)</b>  | Provides the base implementation for all controls that contain single content and have a header.          |
| <b>[content property]</b>   | Content   |
| <b>[name property]</b>  | Name  |
| <b>[xml lang property]</b>  | Language  |
| <b>(properties)</b>   |   |
| <b>Header</b>   | <a href="#">x:Object</a>  |
| <b>(description)</b>  | The data used for the header of each control.   |
| <b>HeaderStringFormat</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | A composite string that specifies how to format the Header property if it is displayed as a string.       |
| <b>HeaderTemplate</b>   | <a href="#">DataTemplate</a>  |
| <b>(description)</b>  | The template used to display the content of the control's header.   |
| <b>HeaderTemplateSelector</b>   | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>  | A data template selector that provides custom logic for choosing the template used to display the header. |

#### 4.370 HeaderedItemsControl

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > HeaderedItemsControl, [InputElement](#)

| <a href="#">MenuItem</a> <a href="#">RibbonGalleryCategory</a> <a href="#">RibbonGroup</a> <a href="#">RibbonTab</a> <a href="#">ToolBar</a> <a href="#">TreeViewItem</a> |  |
|---|--|
| <b>(usage)</b>  | <HeaderedItemsControl> <a href="#">x:Object</a> *</HeaderedItemsControl>     |
| <b>(description)</b>  | Represents a control that contains multiple items and has a header.          |
| <b>[content property]</b>   | Items  |
| <b>[name property]</b>  | Name   |
| <b>[xml lang property]</b>  | Language   |
| <b>(properties)</b>   |  |
| <b>Header</b>   | <a href="#">x:Object</a>   |
| <b>(description)</b>  | The item that labels the control.  |
| <b>HeaderStringFormat</b>   | <a href="#">x:String</a>   |
| <b>(description)</b>  | A composite string that specifies how to format the Header property if it is |

|   |   |
|---|---|
| <a href="#">MenuItem</a> <a href="#">RibbonGalleryCategory</a> <a href="#">RibbonGroup</a> <a href="#">RibbonTab</a> <a href="#">ToolBar</a> <a href="#">TreeViewItem</a> |   |
|   | displayed as a string.  |
| <b>HeaderTemplate</b>   | <a href="#">DataTemplate</a>  |
| <b>(description)</b>  | The template used to display the contents of the control's header.                                      |
| <b>HeaderTemplateSelector</b>   | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>  | The object that provides custom selection logic for a template used to display the header of each item. |

#### 4.371 HierarchicalDataTemplate

[x:Object](#) > [FrameworkTemplate](#) > [DataTemplate](#) > HierarchicalDataTemplate

|                                   |  |
|-----------------------------------|--|
| <b>(usage)</b>                    | <HierarchicalDataTemplate> <a href="#">FrameworkElement</a> </HierarchicalDataTemplate>  |
| <b>(description)</b>              | Represents a DataTemplate that supports HeaderedItemsControl, such as TreeViewItem or MenuItem.  |
| <b>[content property]</b>         | Template   |
| <b>[dictionary key property]</b>  | <a href="#">DataTemplateKey</a>  |
| <b>[is name scope]</b>            | true   |
| <b>(properties)</b>               |  |
| <b>AlternationCount</b>           | <a href="#">x:Int32</a>  |
| <b>(description)</b>              | The number of alternating item containers for the child items.   |
| <b>ItemBindingGroup</b>           | <a href="#">BindingGroup</a>   |
| <b>(description)</b>              | The BindingGroup that is copied to each child item.  |
| <b>ItemContainerStyle</b>         | <a href="#">Style</a>  |
| <b>(description)</b>              | The Style that is applied to the item container for each child item.   |
| <b>ItemContainerStyleSelector</b> | <a href="#">StyleSelector</a>  |
| <b>(description)</b>              | Custom style-selection logic for a style that can be applied to each item container.   |
| <b>ItemsSource</b>                | <a href="#">BindingBase</a>  |
| <b>(description)</b>              | The binding for this data template, which indicates where to find the collection that represents the next level in the data hierarchy. |
| <b>ItemStringFormat</b>           | <a href="#">x:String</a>   |
| <b>(description)</b>              | A composite string that specifies how to format the items in the next level in the data hierarchy if they are displayed as strings.    |

|                             |   |
|-----------------------------|---|
| (usage)                     | <HierarchicalDataTemplate> <a href="#">FrameworkElement</a> </HierarchicalDataTemplate>   |
| <b>ItemTemplate</b>         | <a href="#">DataTemplate</a>  |
| <b>(description)</b>        | The DataTemplate to apply to the ItemTemplate property on a generated HeaderedItemsControl (such as a MenuItem or a TreeViewItem), to indicate how to display items from the next level in the data hierarchy.                                      |
| <b>ItemTemplateSelector</b> | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>        | The DataTemplateSelector to apply to the ItemTemplateSelector property on a generated HeaderedItemsControl (such as a MenuItem or a TreeViewItem), to indicate how to select a template to display items from the next level in the data hierarchy. |

#### 4.372 HierarchicalVirtualizationConstraints (4.5)

[x:Object](#) > HierarchicalVirtualizationConstraints

|                      |  |
|----------------------|--|
| (usage)              | <HierarchicalVirtualizationConstraints />  |
| <b>(description)</b> | Specifies the sizes of a control's viewport and cache. This structure is used by the IHierarchicalVirtualizationAndScrollInfo interface. |
| <b>(used by)</b>     | <a href="#">IHierarchicalVirtualizationAndScrollInfo</a>   |
| <b>[is nullable]</b> | false  |

#### 4.373 HierarchicalVirtualizationHeaderDesiredSizes (4.5)

[x:Object](#) > HierarchicalVirtualizationHeaderDesiredSizes

|                      |  |
|----------------------|--|
| (usage)              | <HierarchicalVirtualizationHeaderDesiredSizes />   |
| <b>(description)</b> | Represents the desired size of the control's header, in pixels and in logical units. This structure is used by the IHierarchicalVirtualizationAndScrollInfo interface. |
| <b>[is nullable]</b> | false  |

#### 4.374 HierarchicalVirtualizationItemDesiredSizes (4.5)

[x:Object](#) > HierarchicalVirtualizationItemDesiredSizes

|                      |  |
|----------------------|--|
| (usage)              | <HierarchicalVirtualizationItemDesiredSizes />   |
| <b>(description)</b> | Represents the desired size of the control's items, in device-independent units (1/96th inch per unit) and in logical units. |
| <b>(used by)</b>     | <a href="#">IHierarchicalVirtualizationAndScrollInfo</a>   |
| <b>[is nullable]</b> | false  |

## 4.375 HitTestFilterBehavior

[x:Object](#) > HitTestFilterBehavior

|               |  |
|---------------|--|
| (usage)       | <b>ContinueSkipChildren  ContinueSkipSelfAndChildren  ContinueSkipSelf  Continue  Stop</b> |
| (description) | Specifies the return behavior of a hit test in a hit test filter callback method.          |
| [is nullable] | false  |
| [text syntax] | <a href="#">HitTestFilterBehaviorSyntax</a>  |

## 4.376 HitTestResultBehavior

[x:Object](#) > HitTestResultBehavior

|               |   |
|---------------|---|
| (usage)       | <b>Stop  Continue</b>   |
| (description) | Determines whether to continue the enumeration of any remaining visual objects during a hit test. |
| [is nullable] | false   |
| [text syntax] | <a href="#">HitTestResultBehaviorSyntax</a>   |

## 4.377 HorizontalAlignment

[x:Object](#) > HorizontalAlignment

|               |  |
|---------------|--|
| (usage)       | <b>Left  Center  Right  <a href="#">Stretch</a></b>  |
| (description) | Indicates where an element should be displayed on the horizontal axis relative to the allocated layout slot of the parent element. |
| (used by)     | <a href="#">Control</a> <a href="#">Floater</a> <a href="#">FrameworkElement</a>   |
| [is nullable] | false  |
| [text syntax] | <a href="#">HorizontalAlignmentSyntax</a>  |

## 4.378 HostVisual

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [ContainerVisual](#) > HostVisual

|               |  |
|---------------|--|
| (usage)       | <HostVisual />   |
| (description) | Represents a Visual object that can be connected anywhere to a parent visual tree. |

## 4.379 Hyperlink

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > [Span](#) > Hyperlink, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <Hyperlink> <a href="#">[Inline UIElement x:String]*</a> </Hyperlink>                                     |
| <b>(description)</b>       | An inline-level flow content element that provides facilities for hosting hyperlinks within flow content. |
| <b>[content property]</b>  | Inlines   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Command</b>             | <a href="#">ICommand</a>  |
| <b>(description)</b>       | A command to associate with the Hyperlink.  |
| <b>CommandParameter</b>    | <a href="#">x:Object</a>  |
| <b>(description)</b>       | Command parameters associated with the command specified by the Command property.                         |
| <b>CommandTarget</b>       | <a href="#">IInputElement</a>   |
| <b>(description)</b>       | A target element on which to execute the command specified by the Command property.                       |
| <b>NavigateUri</b>         | <a href="#">x:Uri</a>   |
| <b>(description)</b>       | A URI to navigate to when the Hyperlink is activated.   |
| <b>TargetName</b>          | <a href="#">x:String</a>  |
| <b>(description)</b>       | The name of a target window or frame for the Hyperlink.   |
| <b>(events)</b>            |   |
| <b>Click</b>               | Occurs when the left mouse button is clicked on a Hyperlink.  |
| <b>RequestNavigate</b>     | Occurs when navigation events are requested.  |

## 4.380 IAnimatable

IAnimatable



|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | None.   |
| <b>(description)</b>              | This type supports the infrastructure. To make a type animatable, it should derive from UIElement, ContentElement, or Animatable. |
| <b>[is default constructible]</b> | false   |

#### 4.381 ICommandSource

ICommandSource

|  |   |
|--|---|
| <a href="#">Button</a> <a href="#">ButtonBase</a> <a href="#">CalendarButton</a> <a href="#">CalendarDayButton</a> <a href="#">CheckBox</a> <a href="#">DataGridColumnHeader</a> <a href="#">DataRowHeader</a> <a href="#">GridViewColumnHeader</a> <a href="#">Hyperlink</a> <a href="#">InputBinding</a> <a href="#">KeyBinding</a> <a href="#">MenuItem</a> <a href="#">MouseBinding</a> <a href="#">RadioButton</a> <a href="#">RepeatButton</a> <a href="#">RibbonApplicationMenuItem</a> <a href="#">RibbonApplicationSplitMenuItem</a> <a href="#">RibbonButton</a> <a href="#">RibbonCheckBox</a> <a href="#">RibbonGallery</a> <a href="#">RibbonMenuItem</a> <a href="#">RibbonRadioButton</a> <a href="#">RibbonSplitButton</a> <a href="#">RibbonSplitMenuItem</a> <a href="#">RibbonTextBox</a> <a href="#">RibbonToggleButton</a> <a href="#">ThumbButtonInfo</a> <a href="#">ToggleButton</a> |   |
| <b>(usage)</b>   | None.   |
| <b>(description)</b>   | Defines an object that knows how to invoke a command. |
| <b>[is default constructible]</b>  | false   |

#### 4.382 IContainItemStorage

IContainItemStorage

|  |       |
|--|-------|
| <a href="#">ComboBox</a> <a href="#">ContextMenu</a> <a href="#">DataGrid</a> <a href="#">DataGridCellsPresenter</a> <a href="#">DataGridColumnHeadersPresenter</a> <a href="#">GroupItem</a> <a href="#">HeaderedItemsControl</a> <a href="#">ItemsControl</a> <a href="#">ListBox</a> <a href="#">ListView</a> <a href="#">Menu</a> <a href="#">MenuBase</a> <a href="#">MenuItem</a> <a href="#">MultiSelector</a> <a href="#">Ribbon</a> <a href="#">RibbonApplicationMenu</a> <a href="#">RibbonApplicationMenuItem</a> <a href="#">RibbonApplicationSplitMenuItem</a> <a href="#">RibbonComboBox</a> <a href="#">RibbonContextMenu</a> <a href="#">RibbonContextualTabGroupItemsControl</a> <a href="#">RibbonControlGroup</a> <a href="#">RibbonFilterMenuItem</a> <a href="#">RibbonGallery</a> <a href="#">RibbonGalleryCategory</a> <a href="#">RibbonGroup</a> <a href="#">RibbonMenuItem</a> <a href="#">RibbonMenuItem</a> <a href="#">RibbonQuickAccessToolBar</a> <a href="#">RibbonSplitButton</a> <a href="#">RibbonSplitMenuItem</a> <a href="#">RibbonTab</a> <a href="#">RibbonTabHeaderItemsControl</a> <a href="#">Selector</a> <a href="#">StatusBar</a> <a href="#">TabControl</a> <a href="#">ToolBar</a> <a href="#">TreeView</a> <a href="#">TreeViewItem</a> |       |
| <b>(usage)</b>   | None. |
| <b>(description)</b>   |       |
| <b>[is default constructible]</b>  | false |

#### 4.383 IContentHost

IContentHost

|                                   |   |
|-----------------------------------|---|
| <a href="#">TextBlock</a>         |   |
| <b>(usage)</b>                    | None.   |
| <b>(description)</b>              | This interface is implemented by layouts which host ContentElement. |
| <b>[is default constructible]</b> | false   |



## 4.384 IDataObject

IDataObject

|                                   |  |
|-----------------------------------|--|
| <a href="#">DataObject</a>        |  |
| <b>(usage)</b>                    | None.  |
| <b>(description)</b>              | Provides a format-independent mechanism for transferring data. |
| <b>[is default constructible]</b> | false  |

## 4.385 IEasingFunction

IEasingFunction

|  |   |
|--|---|
| <a href="#">BackEase</a> <a href="#">BounceEase</a> <a href="#">CircleEase</a> <a href="#">CubicEase</a> <a href="#">EasingFunctionBase</a> <a href="#">ElasticEase</a> <a href="#">ExponentialEase</a> <a href="#">PowerEase</a> <a href="#">QuadraticEase</a> <a href="#">QuarticEase</a> <a href="#">QuinticEase</a> <a href="#">SineEase</a> |   |
| <b>(usage)</b>   | None.   |
| <b>(description)</b>   | Defines the basic functionality of an easing function.  |
| <b>(used by)</b>   | <a href="#">ByteAnimation</a> <a href="#">ColorAnimation</a> <a href="#">DecimalAnimation</a> <a href="#">DoubleAnimation</a> <a href="#">EasingByteKeyFrame</a> <a href="#">EasingColorKeyFrame</a> <a href="#">EasingDecimalKeyFrame</a> <a href="#">EasingDoubleKeyFrame</a> <a href="#">EasingInt16KeyFrame</a> <a href="#">EasingInt32KeyFrame</a> <a href="#">EasingInt64KeyFrame</a> <a href="#">EasingPoint3DKeyFrame</a> <a href="#">EasingPointKeyFrame</a> <a href="#">EasingQuaternionKeyFrame</a> <a href="#">EasingRectKeyFrame</a> <a href="#">EasingRotation3DKeyFrame</a> <a href="#">EasingSingleKeyFrame</a> <a href="#">EasingSizeKeyFrame</a> <a href="#">EasingThicknessKeyFrame</a> <a href="#">EasingVector3DKeyFrame</a> <a href="#">EasingVectorKeyFrame</a> <a href="#">Int16Animation</a> <a href="#">Int32Animation</a> <a href="#">Int64Animation</a> <a href="#">Point3DAnimation</a> <a href="#">PointAnimation</a> <a href="#">QuaternionAnimation</a> <a href="#">RectAnimation</a> <a href="#">Rotation3DAnimation</a> <a href="#">SingleAnimation</a> <a href="#">SizeAnimation</a> <a href="#">ThicknessAnimation</a> <a href="#">Vector3DAnimation</a> <a href="#">VectorAnimation</a> <a href="#">VisualTransition</a> |
| <b>[is default constructible]</b>  | false   |

## 4.386 IFrameworkInputElement

IFrameworkInputElement, [InputElement](#)

[AccessText](#) [AdornedElementPlaceholder](#) [AdornerDecorator](#) [AnchoredBlock](#) [Block](#) [BlockUIContainer](#) [Bold](#) [Border](#) [BulletDecorator](#) [Button](#) [ButtonBase](#) [Calendar](#) [CalendarButton](#) [CalendarDayButton](#) [CalendarItem](#) [Canvas](#) [CheckBox](#) [ColumnDefinition](#) [ComboBox](#) [ComboBoxItem](#) [ContentControl](#) [ContentPresenter](#) [ContextMenu](#) [Control](#) [DataGrid](#) [DataGridCell](#) [DataGridCellsPanel](#) [DataGridCellsPresenter](#) [DataGridColumnHeader](#) [DataGridColumnHeadersPresenter](#) [DataGridDetailsPresenter](#) [DataGridRow](#) [DataGridRowHeader](#) [DataGridRowsPresenter](#) [DatePicker](#) [DatePickerTextBox](#) [Decorator](#) [DefinitionBase](#) [DockPanel](#) [DocumentPageView](#) [DocumentReference](#) [DocumentViewer](#) [DocumentViewerBase](#) [Ellipse](#) [Expander](#) [Figure](#) [FixedDocument](#) [FixedDocumentSequence](#) [FixedPage](#) [Floater](#) [FlowDocument](#) [FlowDocumentPageViewer](#) [FlowDocumentReader](#) [FlowDocumentScrollViewer](#) [Frame](#) [FrameworkContentElement](#) [FrameworkElement](#) [Glyphs](#) [Grid](#) [GridSplitter](#) [GridViewColumnHeader](#) [GridViewHeaderRowPresenter](#) [GridViewRowPresenter](#) [GridViewRowPresenterBase](#) [GroupBox](#) [GroupItem](#) [HeaderedContentControl](#) [HeaderedItemsControl](#) [Hyperlink](#) [Image](#) [InkCanvas](#) [InkPresenter](#) [Inline](#) [InlineUIContainer](#) [Italic](#) [ItemsControl](#) [ItemsPresenter](#) [KeyTipControl](#) [Label](#) [Line](#) [LineBreak](#) [List](#) [ListBox](#) [ListBoxItem](#) [ListItem](#) [ListView](#) [ListViewItem](#) [MediaElement](#) [Menu](#) [MenuItem](#) [MultiSelector](#) [NavigationWindow](#) [Page](#) [PageContent](#) [Panel](#) [Paragraph](#) [PasswordBox](#) [Path](#) [Polygon](#) [Polyline](#) [Popup](#) [ProgressBar](#) [RadioButton](#) [RangeBase](#) [Rectangle](#) [RepeatButton](#) [ResizeGrip](#) [Ribbon](#) [RibbonApplicationMenu](#) [RibbonApplicationMenuItem](#) [RibbonApplicationSplitMenuItem](#) [RibbonButton](#) [RibbonCheckBox](#) [RibbonComboBox](#) [RibbonContentPresenter](#) [RibbonContextMenu](#) [RibbonContextualTabGroup](#) [RibbonContextualTabGroupItemsControl](#) [RibbonControl](#) [RibbonControlGroup](#) [RibbonFilterMenuItem](#) [RibbonGallery](#) [RibbonGalleryCategory](#) [RibbonGalleryItem](#) [RibbonGroup](#) [RibbonMenuItem](#) [RibbonMenuItem](#) [RibbonQuickAccessToolBar](#) [RibbonRadioButton](#) [RibbonSeparator](#) [RibbonSplitButton](#) [RibbonSplitMenuItem](#) [RibbonTab](#) [RibbonTabHeader](#) [RibbonTabHeaderItemsControl](#) [RibbonTextBox](#) [RibbonToggleButton](#) [RibbonToolTip](#) [RibbonTwoLineText](#) [RibbonWindow](#) [RichTextBox](#) [RowDefinition](#) [Run](#) [ScrollBar](#) [ScrollContentPresenter](#) [ScrollViewer](#) [Section](#) [SelectiveScrollingGrid](#) [Selector](#) [Separator](#) [Shape](#) [Slider](#) [Span](#) [StackPanel](#) [StatusBar](#) [StatusBarItem](#) [TabControl](#) [TabItem](#) [Table](#) [TableCell](#) [TableColumn](#) [TableRow](#) [TableRowGroup](#) [TabPanel](#) [TextBlock](#) [TextBox](#) [TextBoxBase](#) [TextElement](#) [Thumb](#) [TickBar](#) [ToggleButton](#) [ToolBar](#) [ToolBarOverflowPanel](#) [ToolBarPanel](#) [ToolBarTray](#) [ToolTip](#) [Track](#) [TreeView](#) [TreeViewItem](#) [Underline](#) [UniformGrid](#) [UserControl](#) [Viewbox](#) [Viewport3D](#) [VirtualizingPanel](#) [VirtualizingStackPanel](#) [WebBrowser](#) [Window](#) [WrapPanel](#)

|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | None.   |
| <b>(description)</b>              | Declares a namespace contract for framework elements. |
| <b>[is default constructible]</b> | false   |
| <b>(properties)</b>               |   |
| <b>Name</b>                       | <a href="#">x:String</a>                              |
| <b>(description)</b>              | The name of an element.                               |

#### 4.387 IHierarchicalVirtualizationAndScrollInfo (4.5)

IHierarchicalVirtualizationAndScrollInfo

|  |  |
|--|--|
| <a href="#">GroupItem</a> <a href="#">TreeViewItem</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>                                   | Provides properties through which a control that displays hierarchical data communicates with a VirtualizingPanel. |
| <b>[is default constructible]</b>                      | false  |

|  |   |
|--|---|
| <a href="#">GroupItem</a> <a href="#">TreeViewItem</a> |   |
| <b>(properties)</b>                                    |   |
| <b>Constraints</b>                                     | <a href="#">HierarchicalVirtualizationConstraints</a>   |
| <b>(description)</b>                                   | An object that represents the sizes of the control's viewport and cache.  |
| <b>InBackgroundLayout</b>                              | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                                   | A value that indicates whether the control's layout pass occurs at a lower priority.  |
| <b>ItemDesiredSizes</b>                                | <a href="#">HierarchicalVirtualizationItemDesiredSizes</a>  |
| <b>(description)</b>                                   | An object that represents the desired size of the control's items, in device-independent units (1/96th inch per unit) and in logical units. |
| <b>MustDisableVirtualization</b>                       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                                   | A value that indicates whether the owning ItemsControl should virtualize its items.   |

#### 4.388 IInputElement

IInputElement

[AccessText](#) [AdornedElementPlaceholder](#) [AdornerDecorator](#) [AnchoredBlock](#) [Block](#) [BlockUIContainer](#) [Bold](#) [Border](#) [BulletDecorator](#) [Button](#) [ButtonBase](#) [Calendar](#) [CalendarButton](#) [CalendarDayButton](#) [CalendarItem](#) [Canvas](#) [CheckBox](#) [ColumnDefinition](#) [ComboBox](#) [ComboBoxItem](#) [ContainerUIElement3D](#) [ContentControl](#) [ContentElement](#) [ContentPresenter](#) [ContextMenu](#) [Control](#) [DataGrid](#) [DataGridCell](#) [DataGridCellsPanel](#) [DataGridCellsPresenter](#) [DataGridColumnHeader](#) [DataGridColumnHeadersPresenter](#) [DataGridDetailsPresenter](#) [DataGridRow](#) [DataGridRowHeader](#) [DataGridRowsPresenter](#) [DatePicker](#) [DatePickerTextBox](#) [Decorator](#) [DefinitionBase](#) [DockPanel](#) [DocumentPageView](#) [DocumentReference](#) [DocumentViewer](#) [DocumentViewerBase](#) [Ellipse](#) [Expander](#) [Figure](#) [FixedDocument](#) [FixedDocumentSequence](#) [FixedPage](#) [Floater](#) [FlowDocument](#) [FlowDocumentPageViewer](#) [FlowDocumentReader](#) [FlowDocumentScrollViewer](#) [Frame](#) [FrameworkContentElement](#) [FrameworkElement](#) [Glyphs](#) [Grid](#) [GridSplitter](#) [GridViewColumnHeader](#) [GridViewHeaderRowPresenter](#) [GridViewRowPresenter](#) [GridViewRowPresenterBase](#) [GroupBox](#) [GroupItem](#) [HeaderedContentControl](#) [HeaderedItemsControl](#) [Hyperlink](#) [IFrameworkInputElement](#) [Image](#) [InkCanvas](#) [InkPresenter](#) [Inline](#) [InlineUIContainer](#) [Italic](#) [ItemsControl](#) [ItemsPresenter](#) [KeyTipControl](#) [Label](#) [Line](#) [LineBreak](#) [List](#) [ListBox](#) [ListBoxItem](#) [ListItem](#) [ListView](#) [ListViewItem](#) [MediaElement](#) [Menu](#) [MenuBase](#) [MenuItem](#) [ModelUIElement3D](#) [MultiSelector](#) [NavigationWindow](#) [Page](#) [PageContent](#) [Panel](#) [Paragraph](#) [PasswordBox](#) [Path](#) [Polygon](#) [Polyline](#) [Popup](#) [ProgressBar](#) [RadioButton](#) [RangeBase](#) [Rectangle](#) [RepeatButton](#) [ResizeGrip](#) [Ribbon](#) [RibbonApplicationMenu](#) [RibbonApplicationMenuItem](#) [RibbonApplicationSplitMenuItem](#) [RibbonButton](#) [RibbonCheckBox](#) [RibbonComboBox](#) [RibbonContentPresenter](#) [RibbonContextMenu](#) [RibbonContextualTabGroup](#) [RibbonContextualTabGroupItemsControl](#) [RibbonControl](#) [RibbonControlGroup](#) [RibbonFilterMenuItem](#) [RibbonGallery](#) [RibbonGalleryCategory](#) [RibbonGalleryItem](#) [RibbonGroup](#) [RibbonMenuItem](#) [RibbonMenuItem](#) [RibbonQuickAccessToolBar](#) [RibbonRadioButton](#) [RibbonSeparator](#) [RibbonSplitButton](#) [RibbonSplitMenuItem](#) [RibbonTab](#) [RibbonTabHeader](#) [RibbonTabHeaderItemsControl](#) [RibbonTextBox](#) [RibbonToggleButton](#) [RibbonToolTip](#) [RibbonTwoLineText](#) [RibbonWindow](#) [RichTextBox](#) [RowDefinition](#) [Run](#) [ScrollBar](#) [ScrollContentPresenter](#) [ScrollViewer](#) [Section](#) [SelectiveScrollingGrid](#) [Selector](#) [Separator](#) [Shape](#) [Slider](#) [Span](#) [StackPanel](#) [StatusBar](#) [StatusBarItem](#) [TabControl](#) [TabItem](#) [Table](#) [TableCell](#) [TableColumn](#) [TableRow](#) [TableRowGroup](#) [TabPanel](#) [TextBlock](#) [TextBox](#) [TextBoxBase](#) [TextElement](#) [Thumb](#) [TickBar](#) [ToggleButton](#) [ToolBar](#) [ToolBarOverflowPanel](#) [ToolBarPanel](#) [ToolBarTray](#) [ToolTip](#) [Track](#) [TreeView](#) [TreeViewItem](#) [UIElement](#) [UIElement3D](#) [Underline](#) [UniformGrid](#) [UserControl](#) [Viewbox](#) [Viewport3D](#) [VirtualizingPanel](#) [VirtualizingStackPanel](#) [WebBrowser](#) [Window](#) [WrapPanel](#)

|                                   |  |
|-----------------------------------|--|
| <b>(usage)</b>                    | None.  |
| <b>(description)</b>              | Establishes the common events and also the event-related properties and methods for basic input processing by elements.  |
| <b>(used by)</b>                  | <a href="#">ButtonBase</a> <a href="#">FocusManager</a> <a href="#">Hyperlink</a> <a href="#">InputBinding</a> <a href="#">Manipulation</a> <a href="#">MenuItem</a> <a href="#">RibbonGallery</a> <a href="#">RibbonSplitButton</a> <a href="#">RibbonTextBox</a> <a href="#">ThumbButtonInfo</a> |
| <b>[is default constructible]</b> | false  |
| <b>(properties)</b>               |  |
| <b>Focusable</b>                  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>              | A value that indicates whether focus can be set to this element.   |
| <b>(events)</b>                   |  |
| <b>GotKeyboardFocus</b>           | Occurs when the keyboard is focused on this element.   |
| <b>GotMouseCapture</b>            | Occurs when the element captures the mouse.  |
| <b>GotStylusCapture</b>           | Occurs when the element captures the stylus.   |

[AccessText](#) [AdornedElementPlaceholder](#) [AdornerDecorator](#) [AnchoredBlock](#) [Block](#) [BlockUIContainer](#) [Bold](#) [Border](#) [BulletDecorator](#) [Button](#) [ButtonBase](#) [Calendar](#) [CalendarButton](#) [CalendarDayButton](#) [CalendarItem](#) [Canvas](#) [CheckBox](#) [ColumnDefinition](#) [ComboBox](#) [ComboBoxItem](#) [ContainerUIElement3D](#) [ContentControl](#) [ContentElement](#) [ContentPresenter](#) [ContextMenu](#) [Control](#) [DataGrid](#) [DataGridCell](#) [DataGridCellsPanel](#) [DataGridCellsPresenter](#) [DataGridColumnHeader](#) [DataGridColumnHeadersPresenter](#) [DataGridDetailsPresenter](#) [DataGridRow](#) [DataGridRowHeader](#) [DataGridRowsPresenter](#) [DatePicker](#) [DatePickerTextBox](#) [Decorator](#) [DefinitionBase](#) [DockPanel](#) [DocumentPageView](#) [DocumentReference](#) [DocumentViewer](#) [DocumentViewerBase](#) [Ellipse](#) [Expander](#) [Figure](#) [FixedDocument](#) [FixedDocumentSequence](#) [FixedPage](#) [Floater](#) [FlowDocument](#) [FlowDocumentPageViewer](#) [FlowDocumentReader](#) [FlowDocumentScrollViewer](#) [Frame](#) [FrameworkContentElement](#) [FrameworkElement](#) [Glyphs](#) [Grid](#) [GridSplitter](#) [GridViewColumnHeader](#) [GridViewHeaderRowPresenter](#) [GridViewRowPresenter](#) [GridViewRowPresenterBase](#) [GroupBox](#) [GroupItem](#) [HeaderedContentControl](#) [HeaderedItemsControl](#) [Hyperlink](#) [IFrameworkInputElement](#) [Image](#) [InkCanvas](#) [InkPresenter](#) [Inline](#) [InlineUIContainer](#) [Italic](#) [ItemsControl](#) [ItemsPresenter](#) [KeyTipControl](#) [Label](#) [Line](#) [LineBreak](#) [List](#) [ListBox](#) [ListBoxItem](#) [ListItem](#) [ListView](#) [ListViewItem](#) [MediaElement](#) [Menu](#) [MenuBase](#) [MenuItem](#) [ModelUIElement3D](#) [MultiSelector](#) [NavigationWindow](#) [Page](#) [PageContent](#) [Panel](#) [Paragraph](#) [PasswordBox](#) [Path](#) [Polygon](#) [Polyline](#) [Popup](#) [ProgressBar](#) [RadioButton](#) [RangeBase](#) [Rectangle](#) [RepeatButton](#) [ResizeGrip](#) [Ribbon](#) [RibbonApplicationMenu](#) [RibbonApplicationMenuItem](#) [RibbonApplicationSplitMenuItem](#) [RibbonButton](#) [RibbonCheckBox](#) [RibbonComboBox](#) [RibbonContentPresenter](#) [RibbonContextMenu](#) [RibbonContextualTabGroup](#) [RibbonContextualTabGroupItemsControl](#) [RibbonControl](#) [RibbonControlGroup](#) [RibbonFilterMenuItem](#) [RibbonGallery](#) [RibbonGalleryCategory](#) [RibbonGalleryItem](#) [RibbonGroup](#) [RibbonMenuItem](#) [RibbonMenuItem](#) [RibbonQuickAccessToolBar](#) [RibbonRadioButton](#) [RibbonSeparator](#) [RibbonSplitButton](#) [RibbonSplitMenuItem](#) [RibbonTab](#) [RibbonTabHeader](#) [RibbonTabHeaderItemsControl](#) [RibbonTextBox](#) [RibbonToggleButton](#) [RibbonToolTip](#) [RibbonTwoLineText](#) [RibbonWindow](#) [RichTextBox](#) [RowDefinition](#) [Run](#) [ScrollBar](#) [ScrollContentPresenter](#) [ScrollViewer](#) [Section](#) [SelectiveScrollingGrid](#) [Selector](#) [Separator](#) [Shape](#) [Slider](#) [Span](#) [StackPanel](#) [StatusBar](#) [StatusBarItem](#) [TabControl](#) [TabItem](#) [Table](#) [TableCell](#) [TableColumn](#) [TableRow](#) [TableRowGroup](#) [TabPanel](#) [TextBlock](#) [TextBox](#) [TextBoxBase](#) [TextElement](#) [Thumb](#) [TickBar](#) [ToggleButton](#) [ToolBar](#) [ToolBarOverflowPanel](#) [ToolBarPanel](#) [ToolBarTray](#) [ToolTip](#) [Track](#) [TreeView](#) [TreeViewItem](#) [UIElement](#) [UIElement3D](#) [Underline](#) [UniformGrid](#) [UserControl](#) [Viewbox](#) [Viewport3D](#) [VirtualizingPanel](#) [VirtualizingStackPanel](#) [WebBrowser](#) [Window](#) [WrapPanel](#)

|                            |  |
|----------------------------|--|
| <b>KeyDown</b>             | Occurs when a key is pressed while the keyboard is focused on this element.                |
| <b>KeyUp</b>               | Occurs when a key is released while the keyboard is focused on this element.               |
| <b>LostKeyboardFocus</b>   | Occurs when the keyboard is no longer focused on this element.                             |
| <b>LostMouseCapture</b>    | Occurs when this element loses mouse capture.  |
| <b>LostStylusCapture</b>   | Occurs when this element loses stylus capture.   |
| <b>MouseEnter</b>          | Occurs when the mouse pointer enters the bounds of this element.                           |
| <b>MouseLeave</b>          | Occurs when the mouse pointer leaves the bounds of this element.                           |
| <b>MouseLeftButtonDown</b> | Occurs when the left mouse button is pressed while the mouse pointer is over the element.  |
| <b>MouseLeftButtonUp</b>   | Occurs when the left mouse button is released while the mouse pointer is over the element. |
| <b>MouseMove</b>           | Occurs when the mouse pointer moves while the mouse  |

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|                                   |   |
|-----------------------------------|---|
|                                   | pointer is over the element.  |
| <b>MouseRightButtonDown</b>       | Occurs when the right mouse button is pressed while the mouse pointer is over the element.  |
| <b>MouseRightButtonUp</b>         | Occurs when the right mouse button is released while the mouse pointer is over the element. |
| <b>MouseWheel</b>                 | Occurs when the mouse wheel moves while the mouse pointer is over this element.             |
| <b>PreviewGotKeyboardFocus</b>    | Occurs when the keyboard is focused on this element.  |
| <b>PreviewKeyDown</b>             | Occurs when a key is pressed while the keyboard is focused on this element.                 |
| <b>PreviewKeyUp</b>               | Occurs when a key is released while the keyboard is focused on this element.                |
| <b>PreviewLostKeyboardFocus</b>   | Occurs when the keyboard is no longer focused on this element.                              |
| <b>PreviewMouseLeftButtonDown</b> | Occurs when the left mouse button is pressed while the mouse pointer is over the element.   |
| <b>PreviewMouseLeftButtonUp</b>   | Occurs when the left mouse button is released while the mouse pointer is over the element.  |

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|                                    |   |
|------------------------------------|---|
| <b>PreviewMouseMove</b>            | Occurs when the mouse pointer moves while the mouse pointer is over the element.            |
| <b>PreviewMouseRightButtonDown</b> | Occurs when the right mouse button is pressed while the mouse pointer is over the element.  |
| <b>PreviewMouseRightButtonUp</b>   | Occurs when the right mouse button is released while the mouse pointer is over the element. |
| <b>PreviewMouseWheel</b>           | Occurs when the mouse wheel moves while the mouse pointer is over this element.             |
| <b>PreviewStylusButtonDown</b>     | Occurs when the stylus button is pressed down while the stylus is over this element.        |
| <b>PreviewStylusButtonUp</b>       | Occurs when the stylus button is released while the stylus is over this element.            |
| <b>PreviewStylusDown</b>           | Occurs when the stylus touches the digitizer while over this element.                       |
| <b>PreviewStylusInAirMove</b>      | Occurs when the stylus moves over an element, but without touching the digitizer.           |
| <b>PreviewStylusInRange</b>        | Occurs when the stylus is close enough to the digitizer to be detected.                     |

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|                                   |  |
|-----------------------------------|--|
| <b>PreviewStylusMove</b>          | Occurs when the stylus moves while the stylus is over the element.                 |
| <b>PreviewStylusOutOfRange</b>    | Occurs when the stylus is too far from the digitizer to be detected.               |
| <b>PreviewStylusSystemGesture</b> | Occurs when one of several stylus gestures are detected, for example, Tap or Drag. |
| <b>PreviewStylusUp</b>            | Occurs when the stylus is raised off the digitizer while over this element.        |
| <b>PreviewTextInput</b>           | Occurs when this element gets text in a device-independent manner.                 |
| <b>StylusButtonDown</b>           | Occurs when the stylus button is pressed while the stylus is over this element.    |
| <b>StylusButtonUp</b>             | Occurs when the stylus button is released while the stylus is over this element.   |
| <b>StylusDown</b>                 | Occurs when the stylus touches the digitizer while over this element.              |
| <b>StylusEnter</b>                | Occurs when the stylus cursor enters the bounds of the element.                    |



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|                            |  |
|----------------------------|--|
| <b>StylusInAirMove</b>     | Occurs when the stylus moves over an element, but without touching the digitizer.  |
| <b>StylusInRange</b>       | Occurs when the stylus is close enough to the digitizer to be detected.            |
| <b>StylusLeave</b>         | Occurs when the stylus cursor leaves the bounds of the element.                    |
| <b>StylusMove</b>          | Occurs when the stylus cursor moves over the element.                              |
| <b>StylusOutOfRange</b>    | Occurs when the stylus is too far from the digitizer to be detected.               |
| <b>StylusSystemGesture</b> | Occurs when one of several stylus gestures are detected, for example, Tap or Drag. |
| <b>StylusUp</b>            | Occurs when the stylus is raised off the digitizer while over this element.        |
| <b>TextInput</b>           | Occurs when this element gets text in a device-independent manner.                 |

#### 4.389 IKeyFrame

IKeyFrame

[BooleanKeyFrame](#) [ByteKeyFrame](#) [CharKeyFrame](#) [ColorKeyFrame](#) [DecimalKeyFrame](#)  
[DiscreteBooleanKeyFrame](#) [DiscreteByteKeyFrame](#) [DiscreteCharKeyFrame](#) [DiscreteColorKeyFrame](#)  
[DiscreteDecimalKeyFrame](#) [DiscreteDoubleKeyFrame](#) [DiscreteInt16KeyFrame](#)  
[DiscreteInt32KeyFrame](#) [DiscreteInt64KeyFrame](#) [DiscreteMatrixKeyFrame](#)  
[DiscreteObjectKeyFrame](#) [DiscretePoint3DKeyFrame](#) [DiscretePointKeyFrame](#)  
[DiscreteQuaternionKeyFrame](#) [DiscreteRectKeyFrame](#) [DiscreteRotation3DKeyFrame](#)  
[DiscreteSingleKeyFrame](#) [DiscreteSizeKeyFrame](#) [DiscreteStringKeyFrame](#)  
[DiscreteThicknessKeyFrame](#) [DiscreteVector3DKeyFrame](#) [DiscreteVectorKeyFrame](#)  
[DoubleKeyFrame](#) [EasingByteKeyFrame](#) [EasingColorKeyFrame](#) [EasingDecimalKeyFrame](#)  
[EasingDoubleKeyFrame](#) [EasingInt16KeyFrame](#) [EasingInt32KeyFrame](#) [EasingInt64KeyFrame](#)  
[EasingPoint3DKeyFrame](#) [EasingPointKeyFrame](#) [EasingQuaternionKeyFrame](#) [EasingRectKeyFrame](#)  
[EasingRotation3DKeyFrame](#) [EasingSingleKeyFrame](#) [EasingSizeKeyFrame](#)  
[EasingThicknessKeyFrame](#) [EasingVector3DKeyFrame](#) [EasingVectorKeyFrame](#) [Int16KeyFrame](#)  
[Int32KeyFrame](#) [Int64KeyFrame](#) [LinearByteKeyFrame](#) [LinearColorKeyFrame](#)  
[LinearDecimalKeyFrame](#) [LinearDoubleKeyFrame](#) [LinearInt16KeyFrame](#) [LinearInt32KeyFrame](#)  
[LinearInt64KeyFrame](#) [LinearPoint3DKeyFrame](#) [LinearPointKeyFrame](#) [LinearQuaternionKeyFrame](#)  
[LinearRectKeyFrame](#) [LinearRotation3DKeyFrame](#) [LinearSingleKeyFrame](#) [LinearSizeKeyFrame](#)  
[LinearThicknessKeyFrame](#) [LinearVector3DKeyFrame](#) [LinearVectorKeyFrame](#) [MatrixKeyFrame](#)  
[ObjectKeyFrame](#) [Point3DKeyFrame](#) [PointKeyFrame](#) [QuaternionKeyFrame](#) [RectKeyFrame](#)  
[Rotation3DKeyFrame](#) [SingleKeyFrame](#) [SizeKeyFrame](#) [SplineByteKeyFrame](#) [SplineColorKeyFrame](#)  
[SplineDecimalKeyFrame](#) [SplineDoubleKeyFrame](#) [SplineInt16KeyFrame](#) [SplineInt32KeyFrame](#)  
[SplineInt64KeyFrame](#) [SplinePoint3DKeyFrame](#) [SplinePointKeyFrame](#) [SplineQuaternionKeyFrame](#)  
[SplineRectKeyFrame](#) [SplineRotation3DKeyFrame](#) [SplineSingleKeyFrame](#) [SplineSizeKeyFrame](#)  
[SplineThicknessKeyFrame](#) [SplineVector3DKeyFrame](#) [SplineVectorKeyFrame](#) [StringKeyFrame](#)  
[ThicknessKeyFrame](#) [Vector3DKeyFrame](#) [VectorKeyFrame](#)

|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | None.   |
| <b>(description)</b>              | An IKeyFrame interface implementation provides un-typed access to KeyTime properties. |
| <b>[is default constructible]</b> | false   |
| <b>(properties)</b>               |   |
| <b>KeyTime</b>                    | <a href="#">KeyTime</a>   |
| <b>(description)</b>              | KeyTime values associated with a KeyFrame object.                                     |
| <b>Value</b>                      | <a href="#">x:Object</a>  |
| <b>(description)</b>              | The value associated with a KeyTime instance.   |

#### 4.390 IKeyFrameAnimation

IKeyFrameAnimation

[BooleanAnimationUsingKeyFrames](#) [ByteAnimationUsingKeyFrames](#)  
[CharAnimationUsingKeyFrames](#) [ColorAnimationUsingKeyFrames](#)  
[DecimalAnimationUsingKeyFrames](#) [DoubleAnimationUsingKeyFrames](#)  
[Int16AnimationUsingKeyFrames](#) [Int32AnimationUsingKeyFrames](#) [Int64AnimationUsingKeyFrames](#)  
[MatrixAnimationUsingKeyFrames](#) [ObjectAnimationUsingKeyFrames](#)  
[Point3DAnimationUsingKeyFrames](#) [PointAnimationUsingKeyFrames](#)  
[QuaternionAnimationUsingKeyFrames](#) [RectAnimationUsingKeyFrames](#)  
[Rotation3DAnimationUsingKeyFrames](#) [SingleAnimationUsingKeyFrames](#)  
[SizeAnimationUsingKeyFrames](#) [StringAnimationUsingKeyFrames](#)  
[ThicknessAnimationUsingKeyFrames](#) [Vector3DAnimationUsingKeyFrames](#)  
[VectorAnimationUsingKeyFrames](#)

|  |   |
|--|---|
| <a href="#">BooleanAnimationUsingKeyFrames</a> <a href="#">ByteAnimationUsingKeyFrames</a> <a href="#">CharAnimationUsingKeyFrames</a> <a href="#">ColorAnimationUsingKeyFrames</a> <a href="#">DecimalAnimationUsingKeyFrames</a> <a href="#">DoubleAnimationUsingKeyFrames</a> <a href="#">Int16AnimationUsingKeyFrames</a> <a href="#">Int32AnimationUsingKeyFrames</a> <a href="#">Int64AnimationUsingKeyFrames</a> <a href="#">MatrixAnimationUsingKeyFrames</a> <a href="#">ObjectAnimationUsingKeyFrames</a> <a href="#">Point3DAnimationUsingKeyFrames</a> <a href="#">PointAnimationUsingKeyFrames</a> <a href="#">QuaternionAnimationUsingKeyFrames</a> <a href="#">RectAnimationUsingKeyFrames</a> <a href="#">Rotation3DAnimationUsingKeyFrames</a> <a href="#">SingleAnimationUsingKeyFrames</a> <a href="#">SizeAnimationUsingKeyFrames</a> <a href="#">StringAnimationUsingKeyFrames</a> <a href="#">ThicknessAnimationUsingKeyFrames</a> <a href="#">Vector3DAnimationUsingKeyFrames</a> <a href="#">VectorAnimationUsingKeyFrames</a> |   |
| <b>(usage)</b>   | None.   |
| <b>(description)</b>   | An IKeyFrameAnimation interface implementation provides untyped access to key frame collection members. |
| <b>[is default constructible]</b>  | false   |
| <b>(properties)</b>  |   |
| <b>KeyFrames</b>   | <a href="#">IList</a>   |
| <b>(description)</b>   | An ordered collection KeyFrames associated with this animation sequence.                                |

#### 4.391 Image

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Image, [InputElement](#)

|                            |  |
|----------------------------|--|
| <b>(usage)</b>             | <Image />  |
| <b>(description)</b>       | Represents a control that displays an image.   |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Source</b>              | <a href="#">ImageSource</a>  |
| <b>(description)</b>       | The ImageSource for the image.   |
| <b>Stretch</b>             | <a href="#">Stretch</a>  |
| <b>(description)</b>       | A value that describes how an Image should be stretched to fill the destination rectangle. |
| <b>StretchDirection</b>    | <a href="#">StretchDirection</a>   |
| <b>(description)</b>       | A value that indicates how the image is scaled.  |
| <b>(events)</b>            |  |
| <b>ImageFailed</b>         | Occurs when there is a failure in the image.   |

## 4.392 ImageBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > [TileBrush](#) > ImageBrush

|               |   |
|---------------|---|
| (usage)       | <ImageBrush> string </ImageBrush>       |
| (description) | Paints an area with an image.           |
| [text syntax] | <a href="#">BrushSyntax</a>             |
| (properties)  |   |
| ImageSource   | <a href="#">ImageSource</a>             |
| (description) | The image displayed by this ImageBrush. |

## 4.393 ImageDrawing

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Drawing](#) > ImageDrawing

|               |   |
|---------------|---|
| (usage)       | <ImageDrawing />                                  |
| (description) | Draws an image within a region defined by a Rect. |
| (properties)  |   |
| ImageSource   | <a href="#">ImageSource</a>                       |
| (description) | The source of the image                           |
| Rect          | <a href="#">Rect</a>                              |
| (description) | The region in which the image is drawn.           |

## 4.394 ImageSource

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > ImageSource

|   |  |
|---|--|
| <a href="#">BitmapSource</a> <a href="#">DrawingImage</a> |  |
| (usage)   | <ImageSource> string </ImageSource>  |
| (description)   | Represents a object type that has a width, height, and ImageMetadata such as a BitmapSource and a DrawingImage.  |
| (used by)   | <a href="#">Image</a> <a href="#">ImageBrush</a> <a href="#">ImageDrawing</a> <a href="#">RibbonButton</a> <a href="#">RibbonCheckBox</a> <a href="#">RibbonControlService</a> <a href="#">RibbonGallery</a> <a href="#">RibbonGalleryItem</a> <a href="#">RibbonGroup</a> <a href="#">RibbonMenuItem</a> <a href="#">RibbonMenuItem</a> <a href="#">RibbonRadioButton</a> <a href="#">RibbonSplitButton</a> <a href="#">RibbonSplitMenuItem</a> <a href="#">RibbonTextBox</a> <a href="#">RibbonToggleButton</a> <a href="#">RibbonToolTip</a> <a href="#">TaskbarItemInfo</a> <a href="#">ThumbButtonInfo</a> <a href="#">Window</a> |
| [is default constructible]                                | false  |
| [text syntax]   | x:Uri, from <a href="#">[MS-XAML]</a>  |

## 4.395 ImeConversionModeValues

[x:Object](#) > ImeConversionModeValues

|               |   |
|---------------|---|
| (usage)       | <b>Native</b>   <b>Katakana</b>   <b>FullShape</b>   <b>Roman</b>   <b>CharCode</b>   <b>NoConversion</b>   <b>Eudc</b>   <b>Symbol</b>   <b>Fixed...</b> |
| (description) | Describes a mode of input conversion to be performed by an input method.  |
| (used by)     | <a href="#">InputMethod</a>   |
| [is nullable] | false   |
| [text syntax] | <a href="#">ImeConversionModeValuesSyntax</a>   |

## 4.396 ImeSentenceModeValues

[x:Object](#) > ImeSentenceModeValues

|               |   |
|---------------|---|
| (usage)       | <b>None</b>   <b>PluralClause</b>   <b>SingleConversion</b>   <b>Automatic</b>   <b>PhrasePrediction</b>   <b>Conversation</b>   <b>DoNotCare</b> |
| (description) | Specifies the mode of sentence conversion performed by an input method.   |
| (used by)     | <a href="#">InputMethod</a>   |
| [is nullable] | false   |
| [text syntax] | <a href="#">ImeSentenceModeValuesSyntax</a>   |

## 4.397 IMultiValueConverter

IMultiValueConverter

|  |   |
|--|---|
| <a href="#">BorderGapMaskConverter</a> <a href="#">JournalEntryUnifiedViewConverter</a> <a href="#">MenuScrollingVisibilityConverter</a> |   |
| (usage)  | None.   |
| (description)  | Provides a way to apply custom logic in a MultiBinding. |
| (used by)  | <a href="#">MultiBinding</a>                            |
| [is default constructible]   | false   |

## 4.398 InertiaExpansionBehavior

[x:Object](#) > InertiaExpansionBehavior

|               |  |
|---------------|--|
| (usage)       | <InertiaExpansionBehavior />   |
| (description) | Controls the deceleration of a resizing manipulation during inertia. |
| (properties)  |  |

|                            |  |
|----------------------------|--|
| (usage)                    | <InertiaExpansionBehavior />   |
| <b>DesiredDeceleration</b> | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The rate that resizing slows in device-independent units (1/96th inch per unit) per square milliseconds. |
| <b>DesiredExpansion</b>    | <a href="#">Vector</a>   |
| <b>(description)</b>       | The amount the element resizes at the end of inertia.  |
| <b>InitialRadius</b>       | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The initial average radius.  |
| <b>InitialVelocity</b>     | <a href="#">Vector</a>   |
| <b>(description)</b>       | The initial rate the element resizes at the start of inertia.  |

#### 4.399 InertiaRotationBehavior

[x:Object](#) > InertiaRotationBehavior

|                            |  |
|----------------------------|--|
| (usage)                    | <InertiaRotationBehavior />  |
| <b>(description)</b>       | Controls the deceleration of a rotation manipulation during inertia. |
| <b>(properties)</b>        |  |
| <b>DesiredDeceleration</b> | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The rate the rotation slows in degrees per squared millisecond.      |
| <b>DesiredRotation</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The rotation, in degrees, at the end of the inertial movement.       |
| <b>InitialVelocity</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The initial rate of the rotation at the start of the inertia phase.  |

#### 4.400 InertiaTranslationBehavior

[x:Object](#) > InertiaTranslationBehavior

|                            |  |
|----------------------------|--|
| (usage)                    | <InertiaTranslationBehavior />   |
| <b>(description)</b>       | Controls deceleration on a translation manipulation during inertia.  |
| <b>(properties)</b>        |  |
| <b>DesiredDeceleration</b> | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The rate the linear movement slows in device-independent units (1/96th inch per unit) per squared millisecond. |
| <b>DesiredDisplacement</b> | <a href="#">x:Double</a>   |

|                        |  |
|------------------------|--|
| (usage)                | <InertiaTranslationBehavior />   |
| <b>(description)</b>   | The linear movement of the manipulation at the end of inertia.         |
| <b>InitialVelocity</b> | <a href="#">Vector</a>   |
| <b>(description)</b>   | The initial rate of linear movement at the start of the inertia phase. |

#### 4.401 InheritanceBehavior

[x:Object](#) > InheritanceBehavior

|                      |   |
|----------------------|---|
| (usage)              | <b>Default</b>   <b>SkipToAppNow</b>   <b>SkipToAppNext</b>   <b>SkipToThemeNow</b>   <b>SkipToThemeNext</b>   <b>SkipAllNow</b>   <b>SkipAllNext</b> |
| <b>(description)</b> | Indicates the current mode of lookup for both property value inheritance, a resource lookup, and a RelativeSource FindAncestor lookup.                |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">InheritanceBehaviorSyntax</a>   |

#### 4.402 InkCanvas

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > InkCanvas, [IInputElement](#)

|                                      |   |
|--------------------------------------|---|
| (usage)                              | <InkCanvas> <a href="#">UIElement</a> *</InkCanvas>                               |
| <b>(description)</b>                 | Defines an area that receives and displays ink strokes.                           |
| <b>[content property]</b>            | Children  |
| <b>[name property]</b>               | Name  |
| <b>[xml lang property]</b>           | Language  |
| <b>(properties)</b>                  |   |
| <b>Background</b>                    | <a href="#">Brush</a>   |
| <b>(description)</b>                 | A Brush. The brush is used to fill the border area surrounding a InkCanvas.       |
| <b>Children</b>                      | <a href="#">UIElementCollection</a>   |
| <b>(description)</b>                 | Retrieves child elements of the InkCanvas.  |
| <b>[read only]</b>                   | true  |
| <b>DefaultDrawingAttributes</b>      | <a href="#">DrawingAttributes</a>   |
| <b>(description)</b>                 | The drawing attributes that are applied to new ink strokes made on the InkCanvas. |
| <b>DefaultStylusPointDescription</b> | <a href="#">StylusPointDescription</a>  |

|                                |  |
|--------------------------------|--|
| (usage)                        | <InkCanvas> <a href="#">UIElement</a> *</InkCanvas>  |
| <b>(description)</b>           | The stylus point description for an InkCanvas.   |
| <b>EditingMode</b>             | <a href="#">InkCanvasEditingMode</a>   |
| <b>(description)</b>           | The user editing mode used by an active pointing device.   |
| <b>EditingModeInverted</b>     | <a href="#">InkCanvasEditingMode</a>   |
| <b>(description)</b>           | The user editing mode if the stylus is inverted when it interacts with the InkCanvas.                                      |
| <b>MoveEnabled</b>             | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A Boolean value which indicates whether the user is enabled to move selected ink strokes and/or elements on the InkCanvas. |
| <b>ResizeEnabled</b>           | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A Boolean value that indicates whether the user can resize selected ink strokes and/or elements on the InkCanvas.          |
| <b>Strokes</b>                 | <a href="#">StrokeCollection</a>   |
| <b>(description)</b>           | The collection of ink Stroke objects collected by the InkCanvas.   |
| <b>UseCustomCursor</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A Boolean value that indicates whether to override standard InkCanvas cursor functionality to support a custom cursor.     |
| <b>(attachable properties)</b> |  |
| <b>InkCanvas.Bottom</b>        | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The distance between the bottom of an element and the bottom of its parent InkCanvas.                                      |
| <b>[target type]</b>           | <a href="#">UIElement</a>  |
| <b>[text syntax]</b>           | <a href="#">LengthSyntax</a>   |
| <b>InkCanvas.Left</b>          | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The distance between the left side of an element and the left side of its parent InkCanvas.                                |
| <b>[target type]</b>           | <a href="#">UIElement</a>  |
| <b>[text syntax]</b>           | <a href="#">LengthSyntax</a>   |
| <b>InkCanvas.Right</b>         | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The distance between the right side of an element and the right side of its parent InkCanvas.                              |
| <b>[target type]</b>           | <a href="#">UIElement</a>  |
| <b>[text syntax]</b>           | <a href="#">LengthSyntax</a>   |



|   |   |
|---|---|
| (usage)                                 | <InkCanvas> <a href="#">UIElement</a> *</InkCanvas>                                   |
| <b>InkCanvas.Top</b>                    | <a href="#">x:Double</a>  |
| <b>(description)</b>                    | The distance between the top of an element and the top of its parent InkCanvas.       |
| <b>[target type]</b>                    | <a href="#">UIElement</a>   |
| <b>[text syntax]</b>                    | <a href="#">LengthSyntax</a>  |
| <b>(events)</b>                         |   |
| <b>ActiveEditingModeChanged</b>         | Occurs when the current editing mode changes.   |
| <b>DefaultDrawingAttributesReplaced</b> | Occurs when the DefaultDrawingAttributes property is replaced.                        |
| <b>EditingModeChanged</b>               | Occurs when the EditingMode property of an InkCanvas object has been changed.         |
| <b>EditingModeInvertedChanged</b>       | Occurs when the EditingModeInverted property of an InkCanvas object has been changed. |
| <b>Gesture</b>                          | Occurs when the InkCanvas detects a gesture.  |
| <b>SelectionChanged</b>                 | Occurs when the selection on the InkCanvas changes.                                   |
| <b>SelectionChanging</b>                | Occurs when a new set of ink strokes and/or elements is being selected.               |
| <b>SelectionMoved</b>                   | Occurs after the user moves a selection of strokes and/or elements.                   |
| <b>SelectionMoving</b>                  | Occurs before selected strokes and elements are moved.                                |
| <b>SelectionResized</b>                 | Occurs when a selection of strokes and/or elements has been resized by the user.      |
| <b>SelectionResizing</b>                | Occurs before selected strokes and elements are resized.                              |
| <b>StrokeCollected</b>                  | Occurs when a stroke drawn by the user is added to the Strokes property.              |
| <b>StrokeErased</b>                     | Occurs when user erases a stroke.   |
| <b>StrokeErasing</b>                    | Occurs just before a user erases a stroke.  |
| <b>StrokesReplaced</b>                  | Occurs when the Strokes property is replaced.   |

#### 4.403 InkCanvasClipboardFormat

[x:Object](#) > InkCanvasClipboardFormat

|                      |   |
|----------------------|---|
| (usage)              | <b>InkSerializedFormat  Text  Xaml</b>                                  |
| <b>(description)</b> | Specifies the formats that an InkCanvas will accept from the Clipboard. |
| <b>[is nullable]</b> | false   |

|               |  |
|---------------|--|
| (usage)       | <b>InkSerializedFormat  Text  Xaml</b>         |
| [text syntax] | <a href="#">InkCanvasClipboardFormatSyntax</a> |

#### 4.404 InkCanvasEditingMode

[x:Object](#) > InkCanvasEditingMode

|               |   |
|---------------|---|
| (usage)       | <b>None  Ink  GestureOnly  InkAndGesture  Select  EraseByPoint  EraseByStroke</b> |
| (description) | Specifies the editing mode for the InkCanvas                                      |
| (used by)     | <a href="#">InkCanvas</a>   |
| [is nullable] | false   |
| [text syntax] | <a href="#">InkCanvasEditingModeSyntax</a>  |

#### 4.405 InkCanvasSelectionHitResult

[x:Object](#) > InkCanvasSelectionHitResult

|               |  |
|---------------|--|
| (usage)       | <b>None  TopLeft  Top  TopRight  Right  BottomRight  Bottom  BottomLeft  Left...</b> |
| (description) | Identifies the various parts of a selection adorning on an InkCanvas.                |
| [is nullable] | false  |
| [text syntax] | <a href="#">InkCanvasSelectionHitResultSyntax</a>                                    |

#### 4.406 InkPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Decorator](#) > InkPresenter, [IInputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <InkPresenter> <a href="#">UIElement</a> </InkPresenter> |
| (description)       | Renders ink on a surface.                                |
| [content property]  | Child  |
| [name property]     | Name   |
| [xml lang property] | Language   |
| (properties)        |  |
| Strokes             | <a href="#">StrokeCollection</a>                         |
| (description)       | The strokes that the InkPresenter displays.              |

#### 4.407 Inline

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > Inline, [IInputElement](#)

|  |  |
|--|--|
| <a href="#">AnchoredBlock</a> <a href="#">InlineUIContainer</a> <a href="#">LineBreak</a> <a href="#">Run</a> <a href="#">Span</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | A base type that provides a base for all inline flow content elements.                           |
| <b>(used by)</b>   | <a href="#">InlineCollection</a>   |
| <b>[is default constructible]</b>  | false  |
| <b>[name property]</b>   | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>  |  |
| <b>BaselineAlignment</b>   | <a href="#">BaselineAlignment</a>  |
| <b>(description)</b>   | The baseline alignment for the Inline element.   |
| <b>FlowDirection</b>   | <a href="#">FlowDirection</a>  |
| <b>(description)</b>   | A value that specifies the relative direction for flow of content within a Inline element.       |
| <b>SiblingInlines</b>  | <a href="#">InlineCollection</a>   |
| <b>(description)</b>   | An InlineCollection that contains the Inline elements that are siblings (peers) to this element. |
| <b>[read only]</b>   | true   |
| <b>TextDecorations</b>   | <a href="#">TextDecorationCollection</a>   |
| <b>(description)</b>   | A TextDecorationCollection that contains text decorations to apply to this element.              |

#### 4.408 InlineCollection

[x:Object](#) > [TextElementCollection\(Inline\)](#) > InlineCollection

|  |  |
|--|--|
| <b>(usage)</b>                             | None.  |
| <b>(description)</b>                       | Represents a collection of Inline elements. InlineCollection defines the allowable child content of the Paragraph, Span, and TextBlock elements. |
| <b>(used by)</b>                           | <a href="#">Inline</a> <a href="#">Paragraph</a> <a href="#">Span</a> <a href="#">TextBlock</a>  |
| <b>[is default constructible]</b>          | false  |
| <b>[whitespace significant collection]</b> | true   |
| <b>[is list]</b>                           | true   |
| <b>[allowed types]</b>                     | <a href="#">Inline</a> <a href="#">UIElement</a> <a href="#">x:String</a>  |

## 4.409 InlineUIContainer

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > InlineUIContainer, [IInputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <InlineUIContainer> <a href="#">UIElement</a> </InlineUIContainer>   |
| (description)       | An inline-level flow content element which enables UIElement elements (i.e. a Button) to be embedded (hosted) in flow content. |
| [content property]  | Child  |
| [name property]     | Name   |
| [xml lang property] | Language   |
| (properties)        |  |
| Child               | <a href="#">UIElement</a>  |
| (description)       | The UIElement hosted by the InlineUIContainer.   |

## 4.410 InputBinding

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > InputBinding

|   |   |
|---|---|
| <a href="#">KeyBinding</a> <a href="#">MouseBinding</a> |   |
| (usage)   | None.   |
| (description)   | Represents a binding between an InputGesture and a command. The command is potentially a RoutedCommand. |
| (used by)   | <a href="#">InputBindingCollection</a>  |
| [is default constructible]                              | false   |
| (properties)  |   |
| Command   | <a href="#">ICommand</a>  |
| (description)   | The ICommand associated with this input binding.  |
| CommandParameter  | <a href="#">x:Object</a>  |
| (description)   | The command-specific data for a particular command.   |
| CommandTarget   | <a href="#">IInputElement</a>   |
| (description)   | The target element of the command.  |
| Gesture   | <a href="#">InputGesture</a>  |
| (description)   | The InputGesture associated with this input binding.  |

## 4.411 InputBindingCollection

[x:Object](#) > InputBindingCollection

|                 |  |
|-----------------|--|
| (usage)         | <InputBindingCollection> <a href="#">InputBinding</a> *</InputBindingCollection>     |
| (description)   | Represents an ordered collection of InputBinding objects.                            |
| (used by)       | <a href="#">ContentElement</a> <a href="#">UIElement</a> <a href="#">UIElement3D</a> |
| [is list]       | true   |
| [allowed types] | <a href="#">InputBinding</a>   |

## 4.412 InputGesture

[x:Object](#) > InputGesture

|   |   |
|---|---|
| <a href="#">KeyGesture</a> <a href="#">MouseGesture</a> |   |
| (usage)   | None.   |
| (description)   | A base type that describes input device gestures.   |
| (used by)   | <a href="#">InputBinding</a> <a href="#">InputGestureCollection</a> <a href="#">KeyBinding</a> <a href="#">MouseBinding</a> |
| [is default constructible]                              | false   |

## 4.413 InputGestureCollection

[x:Object](#) > InputGestureCollection

|                 |  |
|-----------------|--|
| (usage)         | <InputGestureCollection> <a href="#">InputGesture</a> *</InputGestureCollection> |
| (description)   | Represents an ordered collection of InputGesture objects.                        |
| (used by)       | <a href="#">RoutedCommand</a>  |
| [is list]       | true   |
| [allowed types] | <a href="#">InputGesture</a>   |

## 4.414 InputLanguageManager

[x:Object](#) > InputLanguageManager

|                             |  |
|-----------------------------|--|
| (usage)                     | {x:Static<br><a href="#">InputLanguageManager.StaticPropertyName</a> } |
| (description)               | Provides facilities for managing input languages in.                   |
| [is default constructible]  | false  |
| (properties)                |  |
| <b>CurrentInputLanguage</b> | <a href="#">CultureInfo</a>  |

|  |  |
|--|--|
| (usage)  | {x:Static<br>InputLanguageManager.StaticPropertyName}  |
| <b>(description)</b>                             | The current input language.  |
| <b>[text syntax]</b>                             | <a href="#">CultureInfoIetfLanguageTagSyntax</a>   |
| <b>(attachable properties)</b>                   |  |
| <b>InputLanguageManager.InputLanguage</b>        | <a href="#">CultureInfo</a>  |
| <b>(description)</b>                             | The preferred input language for the associated dependency object.   |
| <b>[target type]</b>                             | <a href="#">DependencyObject</a>   |
| <b>[text syntax]</b>                             | <a href="#">CultureInfoIetfLanguageTagSyntax</a>   |
| <b>InputLanguageManager.RestoreInputLanguage</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                             | A value that indicates whether or not the previously active input language should be restored when the associated dependency object loses the input focus. |
| <b>[target type]</b>                             | <a href="#">DependencyObject</a>   |
| <b>(static properties)</b>                       |  |
| <b>Current</b>                                   | InputLanguageManager   |
| <b>(description)</b>                             | The input language manager associated with the current context.  |
| <b>(events)</b>                                  |  |
| <b>InputLanguageChanged</b>                      | Occurs when a change of input language is completed.   |
| <b>InputLanguageChanging</b>                     | Occurs when a change of input language is initiated.   |

#### 4.415 InputManager

[x:Object](#) > InputManager

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static InputManager.StaticPropertyName}           |
| <b>(description)</b>              | Manages all the input systems in.                    |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>Current</b>                    | InputManager   |
| <b>(description)</b>              | The InputManager associated with the current thread. |

|                                |  |
|--------------------------------|--|
| (usage)                        | {x:Static InputManager.StaticPropertyName}   |
| <b>(events)</b>                |  |
| <b>EnterMenuMode</b>           | Occurs when a control enters menu mode by calling the PresentationSource) method.  |
| <b>HitTestInvalidatedAsync</b> | Occurs when the result of a hit-test may have changed.   |
| <b>LeaveMenuMode</b>           | Occurs when a control leaves menu mode by calling the PresentationSource) method.  |
| <b>PostNotifyInput</b>         | Occurs after the PreNotifyInput handlers have finished processing the input and the corresponding events have been raised. |
| <b>PostProcessInput</b>        | Occurs after the PreNotifyInput handlers have finished processing the input.   |
| <b>PreNotifyInput</b>          | Occurs when the PreProcessInput handlers have finished processing the input, if the input was not canceled.                |
| <b>PreProcessInput</b>         | Occurs when the InputManager starts to process the input item.   |

#### 4.416 InputMethod

[x:Object](#) > InputMethod

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static InputMethod.StaticPropertyName}  |
| <b>(description)</b>              | Provides facilities for managing and interacting with the Text Services Framework, which provides support for alternate text input methods such as speech and handwriting. |
| <b>[is default constructible]</b> | false  |
| <b>(properties)</b>               |  |
| <b>HandwritingState</b>           | <a href="#">InputMethodState</a>   |
| <b>(description)</b>              | The current state of handwriting input for this input method.  |
| <b>ImeConversionMode</b>          | <a href="#">ImeConversionModeValues</a>  |
| <b>(description)</b>              | The current conversion mode for the input method editor associated with this input method.   |
| <b>ImeSentenceMode</b>            | <a href="#">ImeSentenceModeValues</a>  |
| <b>(description)</b>              | The current sentence mode for the input method editor associated with this input method.   |
| <b>ImeState</b>                   | <a href="#">InputMethodState</a>   |
| <b>(description)</b>              | The current state of the input method editor associated with this input method.  |
| <b>MicrophoneState</b>            | <a href="#">InputMethodState</a>   |

|   |   |
|---|---|
| (usage)                                       | {x:Static InputMethod.StaticPropertyName}   |
| <b>(description)</b>                          | The current state of microphone input for this input method.                          |
| <b>SpeechMode</b>                             | <a href="#">SpeechMode</a>  |
| <b>(description)</b>                          | The speech mode for this input method.  |
| <b>(attachable properties)</b>                |   |
| <b>InputMethod.InputScope</b>                 | <a href="#">InputScope</a>  |
| <b>(description)</b>                          | The input scope for a specified dependency object.                                    |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>  |
| <b>InputMethod.IsInputMethodEnabled</b>       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                          | A value that indicates whether this input method is enabled.                          |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>  |
| <b>InputMethod.IsInputMethodSuspended</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                          | A value that indicates whether this input method is suspended.                        |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>  |
| <b>InputMethod.PreferredImeConversionMode</b> | <a href="#">ImeConversionModeValues</a>   |
| <b>(description)</b>                          | A preferred ImeConversionModeValues value for a specified dependency object.          |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>  |
| <b>InputMethod.PreferredImeSentenceMode</b>   | <a href="#">ImeSentenceModeValues</a>   |
| <b>(description)</b>                          | A preferred ImeSentenceModeValues value for a specified dependency object.            |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>  |
| <b>InputMethod.PreferredImeState</b>          | <a href="#">InputMethodState</a>  |
| <b>(description)</b>                          | A preferred input method state for a specified dependency object.                     |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>  |
| <b>(static properties)</b>                    |   |
| <b>Current</b>                                | InputMethod   |
| <b>(description)</b>                          | A reference to any currently active input method associated with the current context. |
| <b>(events)</b>                               |   |



|                     |  |
|---------------------|--|
| (usage)             | {x:Static InputMethod.StaticPropertyName}  |
| <b>StateChanged</b> | Occurs when the input method state (represented by the ImeState property) changes. |

#### 4.417 InputMethodState

[x:Object](#) > InputMethodState

|                      |  |
|----------------------|--|
| (usage)              | <b>Off  On  DoNotCare</b>              |
| <b>(description)</b> | Describes the state of an InputMethod. |
| <b>(used by)</b>     | <a href="#">InputMethod</a>            |
| <b>[is nullable]</b> | false                                  |
| <b>[text syntax]</b> | <a href="#">InputMethodStateSyntax</a> |

#### 4.418 InputMode

[x:Object](#) > InputMode

|                      |   |
|----------------------|---|
| (usage)              | <b>Foreground  Sink</b>                           |
| <b>(description)</b> | Specifies the possible values for the input mode. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">InputModeSyntax</a>                   |

#### 4.419 InputScope

[x:Object](#) > InputScope

|                      |  |
|----------------------|--|
| (usage)              | <InputScope> string </InputScope>  |
| <b>(description)</b> | Represents information related to the scope of data provided by an input method.                     |
| <b>(used by)</b>     | <a href="#">FrameworkContentElement</a> <a href="#">FrameworkElement</a> <a href="#">InputMethod</a> |
| <b>[text syntax]</b> | <a href="#">InputScopeSyntax</a>   |
| <b>(properties)</b>  |  |
| <b>Names</b>         | <a href="#">IList</a>  |
| <b>(description)</b> | The input scope name.  |
| <b>[read only]</b>   | true   |
| <b>PhraseList</b>    | <a href="#">IList</a>  |
| <b>(description)</b> | A collection of phrases to be used as suggested input patterns by input processors.                  |
| <b>[read only]</b>   | true   |

|                          |   |
|--------------------------|---|
| (usage)                  | <InputScope> string </InputScope>   |
| <b>RegularExpression</b> | <a href="#">x:String</a>  |
| <b>(description)</b>     | A regular expression to be used as a suggested text input pattern by input processors.  |
| <b>SrgsMarkup</b>        | <a href="#">x:String</a>  |
| <b>(description)</b>     | A string that specifies any Speech Recognition Grammar Specification (SRGS) markup to be used as a suggested input pattern by input processors. |

#### 4.420 InputScopeName

[x:Object](#) > InputScopeName

|                           |  |
|---------------------------|--|
| (usage)                   | <InputScopeName> string   <a href="#">InputScopeNameValue</a> </InputScopeName>                    |
| <b>(description)</b>      | Defines a name for text input patterns.  |
| <b>[content property]</b> | NameValue  |
| <b>(properties)</b>       |  |
| <b>NameValue</b>          | <a href="#">InputScopeNameValue</a>  |
| <b>(description)</b>      | The input scope name value which modifies how input from alternative input methods is interpreted. |

#### 4.421 InputScopeNameValue

[x:Object](#) > InputScopeNameValue

|                      |  |
|----------------------|--|
| (usage)              | <b>Default  Uri  FullFilePath  FileName  EmailUserName  EmailSmtpAddress  LogOnName  PersonalFullName  PersonalNamePrefix...</b> |
| <b>(description)</b> | Specifies the input scope name which modifies how input from alternative input methods is interpreted.                           |
| <b>(used by)</b>     | <a href="#">InputScopeName</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">InputScopeNameValueSyntax</a>  |

#### 4.422 InputScopePhrase

[x:Object](#) > InputScopePhrase

|                      |   |
|----------------------|---|
| (usage)              | <InputScopePhrase> <a href="#">x:String</a> </InputScopePhrase> |
| <b>(description)</b> | Represents a suggested input text pattern.                      |
| <b>[content]</b>     | Name  |

|                      |  |
|----------------------|--|
| (usage)              | <InputScopePhrase> <a href="#">x:String</a> </InputScopePhrase>                      |
| <b>property]</b>     |  |
| <b>(properties)</b>  |  |
| <b>Name</b>          | <a href="#">x:String</a>   |
| <b>(description)</b> | A descriptive name associated with the text input pattern for this InputScopePhrase. |

#### 4.423 InputType

[x:Object](#) > InputType

|                      |   |
|----------------------|---|
| (usage)              | <a href="#">Keyboard</a>   <a href="#">Mouse</a>   <a href="#">Stylus</a>   <b>Hid</b>   <b>Text</b>   <b>Command</b> |
| <b>(description)</b> | Specifies the possible types of input being reported.   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">InputTypeSyntax</a>   |

#### 4.424 Int16Animation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Int16AnimationBase](#) > Int16Animation

|                        |  |
|------------------------|--|
| (usage)                | <Int16Animation />   |
| <b>(description)</b>   | Animates the value of a Int16 property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">x:Nullable(x:Int16)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>   | The easing function applied to this animation.   |
| <b>From</b>            | <a href="#">x:Nullable(x:Int16)</a>  |
| <b>(description)</b>   | The animation's starting value.  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.                                      |

|               |                                     |
|---------------|-------------------------------------|
| (usage)       | <Int16Animation />                  |
| To            | <a href="#">x:Nullable(x:Int16)</a> |
| (description) | The animation's ending value.       |

#### 4.425 Int16AnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > Int16AnimationBase

|   |  |
|---|--|
| <a href="#">Int16Animation</a> <a href="#">Int16AnimationUsingKeyFrames</a> |  |
| (usage)   | None.                                    |
| (description)   | A base type that animates a Int16 value. |
| [is default constructible]  | false                                    |
| [name property]   | Name                                     |

#### 4.426 Int16AnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Int16AnimationBase](#) > Int16AnimationUsingKeyFrames

|                    |  |
|--------------------|--|
| (usage)            | <Int16AnimationUsingKeyFrames> <a href="#">Int16KeyFrame</a> *</Int16AnimationUsingKeyFrames>                          |
| (description)      | Animates the value of a Int16 property along a set of KeyFrames.   |
| [content property] | KeyFrames  |
| [name property]    | Name   |
| (properties)       |  |
| IsAdditive         | <a href="#">x:Boolean</a>  |
| (description)      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| IsCumulative       | <a href="#">x:Boolean</a>  |
| (description)      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| KeyFrames          | <a href="#">Int16KeyFrameCollection</a>  |
| (description)      | The collection of Int16KeyFrame objects that define the animation.   |

#### 4.427 Int16KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Int16KeyFrame

|   |
|---|
| <a href="#">DiscreteInt16KeyFrame</a> <a href="#">EasingInt16KeyFrame</a> <a href="#">LinearInt16KeyFrame</a> <a href="#">SplineInt16KeyFrame</a> |
|---|

|   |  |
|---|--|
| <a href="#">DiscreteInt16KeyFrame</a> <a href="#">EasingInt16KeyFrame</a> <a href="#">LinearInt16KeyFrame</a> <a href="#">SplineInt16KeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a <a href="#">Int16AnimationUsingKeyFrames</a> . |
| <b>(used by)</b>  | <a href="#">Int16KeyFrameCollection</a>  |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>  |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.  |
| <b>Value</b>  | <a href="#">x:Int16</a>  |
| <b>(description)</b>  | The key frame's target value.  |

#### 4.428 Int16KeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int16KeyFrameCollection](#)

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | < <a href="#">Int16KeyFrameCollection</a> > <a href="#">Int16KeyFrame</a> *</ <a href="#">Int16KeyFrameCollection</a> > |
| <b>(description)</b>       | Represents a collection of <a href="#">Int16KeyFrame</a> objects.   |
| <b>(used by)</b>           | <a href="#">Int16AnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true  |
| <b>[allowed types]</b>     | <a href="#">Int16KeyFrame</a>   |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | <a href="#">Int16KeyFrameCollection</a>   |
| <b>(description)</b>       | An empty <a href="#">Int16KeyFrameCollection</a> .  |

#### 4.429 Int32Animation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Int32AnimationBase](#) > [Int32Animation](#)

|                        |  |
|------------------------|--|
| <b>(usage)</b>         | < <a href="#">Int32Animation</a> />  |
| <b>(description)</b>   | Animates the value of an <a href="#">Int32</a> property between two target values using linear interpolation over a specified <a href="#">Duration</a> . |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |

|                       |  |
|-----------------------|--|
| (usage)               | <Int32Animation />   |
| <b>By</b>             | <a href="#">x:Nullable(x:Int32)</a>  |
| <b>(description)</b>  | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b> | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>  | The easing function applied to this animation.   |
| <b>From</b>           | <a href="#">x:Nullable(x:Int32)</a>  |
| <b>(description)</b>  | The animation's starting value.  |
| <b>IsAdditive</b>     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>             | <a href="#">x:Nullable(x:Int32)</a>  |
| <b>(description)</b>  | The animation's ending value.  |

#### 4.430 Int32AnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > Int32AnimationBase

|   |  |
|---|--|
| <a href="#">Int32Animation</a> <a href="#">Int32AnimationUsingKeyFrames</a> |  |
| <b>(usage)</b>  | None.                                    |
| <b>(description)</b>  | A base type that animates a Int32 value. |
| <b>[is default constructible]</b>   | false                                    |
| <b>[name property]</b>  | Name                                     |

#### 4.431 Int32AnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Int32AnimationBase](#) > Int32AnimationUsingKeyFrames

|                           |   |
|---------------------------|---|
| (usage)                   | <Int32AnimationUsingKeyFrames> <a href="#">Int32KeyFrame</a> *</Int32AnimationUsingKeyFrames> |
| <b>(description)</b>      | Animates the value of a Int32 property along a set of KeyFrames.                              |
| <b>[content property]</b> | KeyFrames   |
| <b>[name property]</b>    | Name  |

|               |  |
|---------------|--|
| (usage)       | <Int32AnimationUsingKeyFrames> <a href="#">Int32KeyFrame</a> *</Int32AnimationUsingKeyFrames>                          |
| (properties)  |  |
| IsAdditive    | <a href="#">x:Boolean</a>  |
| (description) | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| IsCumulative  | <a href="#">x:Boolean</a>  |
| (description) | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| KeyFrames     | <a href="#">Int32KeyFrameCollection</a>  |
| (description) | The collection of Int32KeyFrame objects that define the animation.   |

#### 4.432 Int32Collection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Int32Collection

|                 |   |
|-----------------|---|
| (usage)         | <Int32Collection> string </Int32Collection> |
| (description)   | Represents a collection of Int32 values.    |
| (used by)       | <a href="#">MeshGeometry3D</a>              |
| [text syntax]   | <a href="#">Int32CollectionSyntax</a>       |
| [is list]       | true  |
| [allowed types] | <a href="#">x:Int32</a>                     |

#### 4.433 Int32KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Int32KeyFrame

|   |   |
|---|---|
| <a href="#">DiscreteInt32KeyFrame</a> <a href="#">EasingInt32KeyFrame</a> <a href="#">LinearInt32KeyFrame</a> <a href="#">SplineInt32KeyFrame</a> |   |
| (usage)   | None.   |
| (description)   | A base type that defines an animation segment with its own target value and interpolation technique for a Int32AnimationUsingKeyFrames. |
| (used by)   | <a href="#">Int32KeyFrameCollection</a>   |
| [is default constructible]  | false   |
| (properties)  |   |
| KeyTime   | <a href="#">KeyTime</a>   |
| (description)   | The time at which the key frame's target Value should be reached.   |
| Value   | <a href="#">x:Int32</a>   |

|   |                               |
|---|-------------------------------|
| <a href="#">DiscreteInt32KeyFrame</a> <a href="#">EasingInt32KeyFrame</a> <a href="#">LinearInt32KeyFrame</a> <a href="#">SplineInt32KeyFrame</a> |                               |
| <b>(description)</b>  | The key frame's target value. |

#### 4.434 Int32KeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Int32KeyFrameCollection

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <Int32KeyFrameCollection> <a href="#">Int32KeyFrame</a> *</Int32KeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of Int32KeyFrame objects.                                   |
| <b>(used by)</b>           | <a href="#">Int32AnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true  |
| <b>[allowed types]</b>     | <a href="#">Int32KeyFrame</a>   |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | Int32KeyFrameCollection   |
| <b>(description)</b>       | An empty Int32KeyFrameCollection.   |

#### 4.435 Int32Rect

[x:Object](#) > Int32Rect

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <Int32Rect> string </Int32Rect>                                    |
| <b>(description)</b> | Describes the width, height, and location of an integer rectangle. |
| <b>(used by)</b>     | <a href="#">BitmapImage</a> <a href="#">CroppedBitmap</a>          |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">Int32RectSyntax</a>                                    |
| <b>(properties)</b>  |  |
| <b>Height</b>        | <a href="#">x:Int32</a>  |
| <b>(description)</b> | The height of the rectangle.                                       |
| <b>Width</b>         | <a href="#">x:Int32</a>  |
| <b>(description)</b> | The width of the rectangle.  |
| <b>X</b>             | <a href="#">x:Int32</a>  |
| <b>(description)</b> | The x-coordinate of the top-left corner of the rectangle.          |
| <b>Y</b>             | <a href="#">x:Int32</a>  |
| <b>(description)</b> | The y-coordinate of the top-left corner of the rectangle.          |
| <b>(static</b>       |  |



|                      |  |
|----------------------|--|
| (usage)              | <Int32Rect> string </Int32Rect>  |
| <b>properties</b>    |  |
| <b>Empty</b>         | Int32Rect  |
| <b>(description)</b> | The empty rectangle, a special value that represents a rectangle with no position or area. |

#### 4.436 Int64Animation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Int64AnimationBase](#) > Int64Animation

|                        |  |
|------------------------|--|
| (usage)                | <Int64Animation />   |
| <b>(description)</b>   | Animates the value of a Int64 property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">x:Nullable(x:Int64)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>   | The easing function applied to this animation.   |
| <b>From</b>            | <a href="#">x:Nullable(x:Int64)</a>  |
| <b>(description)</b>   | The animation's starting value.  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>              | <a href="#">x:Nullable(x:Int64)</a>  |
| <b>(description)</b>   | The animation's ending value.  |

#### 4.437 Int64AnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > Int64AnimationBase

|   |       |
|---|-------|
| <a href="#">Int64Animation</a> <a href="#">Int64AnimationUsingKeyFrames</a> |       |
| <b>(usage)</b>  | None. |

|   |  |
|---|--|
| <a href="#">Int64Animation</a> <a href="#">Int64AnimationUsingKeyFrames</a> |  |
| <b>(description)</b>  | A base type that animates a Int64 value. |
| <b>[is default constructible]</b>   | false                                    |
| <b>[name property]</b>  | Name                                     |

#### 4.438 Int64AnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Int64AnimationBase](#) > Int64AnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| <b>(usage)</b>            | <Int64AnimationUsingKeyFrames> <a href="#">Int64KeyFrame</a> *</Int64AnimationUsingKeyFrames>                          |
| <b>(description)</b>      | Animates the value of a Int64 property along a set of KeyFrames.   |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>KeyFrames</b>          | <a href="#">Int64KeyFrameCollection</a>  |
| <b>(description)</b>      | The collection of Int64KeyFrame objects that define the animation.   |

#### 4.439 Int64KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Int64KeyFrame

|   |   |
|---|---|
| <a href="#">DiscreteInt64KeyFrame</a> <a href="#">EasingInt64KeyFrame</a> <a href="#">LinearInt64KeyFrame</a> <a href="#">SplineInt64KeyFrame</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a Int64AnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">Int64KeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false   |
| <b>(properties)</b>   |   |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>   |

|   |   |
|---|---|
| <a href="#">DiscreteInt64KeyFrame</a> <a href="#">EasingInt64KeyFrame</a> <a href="#">LinearInt64KeyFrame</a> <a href="#">SplineInt64KeyFrame</a> |   |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached. |
| <b>Value</b>  | <a href="#">x:Int64</a>   |
| <b>(description)</b>  | The key frame's target value.                                     |

#### 4.440 Int64KeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Int64KeyFrameCollection

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <Int64KeyFrameCollection> <a href="#">Int64KeyFrame</a> *</Int64KeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of Int64KeyFrame objects.                                   |
| <b>(used by)</b>           | <a href="#">Int64AnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true  |
| <b>[allowed types]</b>     | <a href="#">Int64KeyFrame</a>   |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | Int64KeyFrameCollection   |
| <b>(description)</b>       | An empty Int64KeyFrameCollection.   |

#### 4.441 IntersectionDetail

[x:Object](#) > IntersectionDetail

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <b>NotCalculated  Empty  FullyInside  FullyContains  Intersects</b>   |
| <b>(description)</b> | Provides information about the intersection between the geometries in the GeometryHitTestParameters and the visual which was hit. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">IntersectionDetailSyntax</a>  |

#### 4.442 InvertAxes

[x:Object](#) > InvertAxes

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <b>None  Horizontal  Vertical  Both</b>  |
| <b>(description)</b> | Indicate the inversion of horizontal and vertical axes of the drawing surface. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">InvertAxesSyntax</a>   |

## 4.443 IScrollInfo

IScrollInfo

|   |  |
|---|--|
| <a href="#">DataGridRowsPresenter</a> <a href="#">ScrollContentPresenter</a> <a href="#">StackPanel</a> <a href="#">ToolBarPanel</a> <a href="#">VirtualizingStackPanel</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | Represents the main scrollable region inside a ScrollViewer control.         |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>CanHorizontallyScroll</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether scrolling on the horizontal axis is possible. |
| <b>CanVerticallyScroll</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether scrolling on the vertical axis is possible.   |
| <b>ScrollOwner</b>  | <a href="#">ScrollViewer</a>   |
| <b>(description)</b>  | A ScrollViewer element that controls scrolling behavior.                     |

## 4.444 IsOffscreenBehavior

[x:Object](#) > IsOffscreenBehavior

|                      |   |
|----------------------|---|
| <b>(usage)</b>       |   |
| <b>(description)</b> |   |
| <b>(used by)</b>     | <a href="#">AutomationProperties</a>      |
| <b>[is nullable]</b> | false                                     |
| <b>[text syntax]</b> | <a href="#">IsOffscreenBehaviorSyntax</a> |

## 4.445 Italic

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > [Span](#) > Italic, [InputElement](#)

|                            |  |
|----------------------------|--|
| <b>(usage)</b>             | <Italic> <a href="#">Inline</a> <a href="#">UIElement</a> <a href="#">x:String</a> *</Italic>          |
| <b>(description)</b>       | Provides an inline-level flow content element that causes content to appear with an italic font style. |
| <b>[content property]</b>  | Inlines  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |

## 4.446 ItemCollection

[x:Object](#) > [CollectionView](#) > ItemCollection

|                                      |  |
|--------------------------------------|--|
| (usage)                              | None.  |
| <b>(description)</b>                 | Holds the list of items that constitute the content of an ItemsControl.                              |
| <b>(used by)</b>                     | <a href="#">ItemsControl</a>   |
| <b>[is default constructible]</b>    | false  |
| <b>[is list]</b>                     | true   |
| <b>[allowed types]</b>               | <a href="#">x:Object</a>   |
| <b>(properties)</b>                  |  |
| <b>GroupDescriptions</b>             | <a href="#">ObservableCollection</a> (GroupDescription)  |
| <b>(description)</b>                 | A collection of GroupDescription objects that defines how to group the items.                        |
| <b>[read only]</b>                   | true   |
| <b>IsLiveFiltering (4.5)</b>         | <a href="#">x:Nullable(x:Boolean)</a>  |
| <b>(description)</b>                 | A value that indicates whether filtering data in real time is enabled.                               |
| <b>IsLiveGrouping (4.5)</b>          | <a href="#">x:Nullable(x:Boolean)</a>  |
| <b>(description)</b>                 | A value that indicates whether grouping data in real time is enabled.                                |
| <b>IsLiveSorting (4.5)</b>           | <a href="#">x:Nullable(x:Boolean)</a>  |
| <b>(description)</b>                 | A value that indicates whether sorting in real time is enabled.                                      |
| <b>LiveFilteringProperties (4.5)</b> | <a href="#">ObservableCollection</a> (x:String)  |
| <b>(description)</b>                 | A collection of strings that specify the properties that participate in filtering data in real time. |
| <b>[read only]</b>                   | true   |
| <b>LiveGroupingProperties (4.5)</b>  | <a href="#">ObservableCollection</a> (x:String)  |
| <b>(description)</b>                 | A collection of strings that specify the properties that participate in grouping data in real time.  |
| <b>[read only]</b>                   | true   |
| <b>LiveSortingProperties (4.5)</b>   | <a href="#">ObservableCollection</a> (x:String)  |
| <b>(description)</b>                 | A collection of strings that specify the properties that participate in sorting data in real time.   |
| <b>[read only]</b>                   | true   |

|                         |   |
|-------------------------|---|
| (usage)                 | None.   |
| <b>SortDescriptions</b> | <a href="#">SortDescriptionCollection</a>   |
| <b>(description)</b>    | A collection of SortDescription objects that describe how the items in the collection are sorted in the view. |
| <b>[read only]</b>      | true  |

#### 4.447 ItemContainerTemplate (4.5)

[x:Object](#) > [FrameworkTemplate](#) > [DataTemplate](#) > ItemContainerTemplate

|                                  |   |
|----------------------------------|---|
| (usage)                          | <ItemContainerTemplate> <a href="#">FrameworkElement</a> </ItemContainerTemplate> |
| <b>(description)</b>             | Provides the template for producing a container for an ItemsControl object.       |
| <b>[content property]</b>        | Template  |
| <b>[dictionary key property]</b> | <a href="#">ItemContainerTemplateKey</a>  |
| <b>[is name scope]</b>           | true  |
| <b>(properties)</b>              |   |
| <b>ItemContainerTemplateKey</b>  | <a href="#">x:Object</a>  |
| <b>(description)</b>             | The default key of the ItemContainerTemplate.                                     |
| <b>[read only]</b>               | true  |

#### 4.448 ItemContainerTemplateKey (4.5)

[x:Object](#) > [x:MarkupExtension](#) > [ResourceKey](#) > [TemplateKey](#) > ItemContainerTemplateKey

|                            |  |
|----------------------------|--|
| (usage)                    | {ItemContainerTemplateKey }   <ItemContainerTemplateKey />   |
| <b>(description)</b>       | Provides a resource key for an ItemContainerTemplate object. |
| <b>[return value type]</b> | <a href="#">ResourceKey</a>                                  |
| <b>[constructors]</b>      |  |
| <b>(1 parameter)</b>       |  |
| <b>dataType</b>            | <a href="#">x:Object</a>                                     |
| <b>(description)</b>       | The type for which this template is designed.                |

#### 4.449 ItemsControl

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > ItemsControl, [IInputElement](#)

|  |  |
|--|--|
| <a href="#">DataGridCellsPresenter</a> <a href="#">DataGridColumnHeadersPresenter</a> <a href="#">HeaderedItemsControl</a> <a href="#">MenuBase</a> <a href="#">RibbonContextualTabGroupItemsControl</a> <a href="#">RibbonControlGroup</a> <a href="#">RibbonGallery</a> <a href="#">RibbonQuickAccessToolBar</a> <a href="#">RibbonTabHeaderItemsControl</a> <a href="#">Selector</a> <a href="#">StatusBar</a> <a href="#">TreeView</a> |  |
| <b>(usage)</b>   | <ItemsControl> <a href="#">x:Object</a> *</ItemsControl>   |
| <b>(description)</b>   | Represents a control that can be used to present a collection of items.  |
| <b>[content property]</b>  | Items  |
| <b>[name property]</b>   | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>  |  |
| <b>AlternationCount</b>  | <a href="#">x:Int32</a>  |
| <b>(description)</b>   | The number of alternating item containers in the ItemsControl, which enables alternating containers to have a unique appearance. |
| <b>DisplayMemberPath</b>   | <a href="#">x:String</a>   |
| <b>(description)</b>   | A path to a value on the source object to serve as the visual representation of the object.                                      |
| <b>GroupStyle</b>  | <a href="#">ObservableCollection(GroupStyle)</a>   |
| <b>(description)</b>   | A collection of GroupStyle objects that define the appearance of each level of groups.   |
| <b>[read only]</b>   | true   |
| <b>IsTextSearchCaseSensitive</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether case is a condition when searching for items.   |
| <b>IsTextSearchEnabled</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether TextSearch is enabled on the ItemsControl instance.   |
| <b>ItemBindingGroup</b>  | <a href="#">BindingGroup</a>   |
| <b>(description)</b>   | The BindingGroup that is copied to each item in the ItemsControl.  |
| <b>ItemContainerStyle</b>  | <a href="#">Style</a>  |
| <b>(description)</b>   | The Style that is applied to the container element generated for each item.  |
| <b>ItemContainerStyleSelector</b>  | <a href="#">StyleSelector</a>  |
| <b>(description)</b>   | Custom style-selection logic for a style that can be applied to each generated container element.                                |
| <b>Items</b>   | <a href="#">ItemCollection</a>   |

|  |   |
|--|---|
| <a href="#">DataGridCellsPresenter</a> <a href="#">DataGridColumnHeadersPresenter</a> <a href="#">HeaderedItemsControl</a> <a href="#">MenuBase</a> <a href="#">RibbonContextualTabGroupItemsControl</a> <a href="#">RibbonControlGroup</a> <a href="#">RibbonGallery</a> <a href="#">RibbonQuickAccessToolBar</a> <a href="#">RibbonTabHeaderItemsControl</a> <a href="#">Selector</a> <a href="#">StatusBar</a> <a href="#">TreeView</a> |   |
| <b>(description)</b>   | The collection used to generate the content of the ItemsControl.  |
| <b>[read only]</b>   | true  |
| <b>ItemsPanel</b>  | <a href="#">ItemsPanelTemplate</a>  |
| <b>(description)</b>   | The template that defines the panel that controls the layout of items.  |
| <b>ItemsSource</b>   | <a href="#">IEnumerable</a>   |
| <b>(description)</b>   | A collection used to generate the content of the ItemsControl.  |
| <b>ItemStringFormat</b>  | <a href="#">x:String</a>  |
| <b>(description)</b>   | A composite string that specifies how to format the items in the ItemsControl if they are displayed as strings. |
| <b>ItemTemplate</b>  | <a href="#">DataTemplate</a>  |
| <b>(description)</b>   | The DataTemplate used to display each item.   |
| <b>ItemTemplateSelector</b>  | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>   | The custom logic for choosing a template used to display each item.   |
| <b>(attachable properties)</b>   |   |
| <b>ItemsControl.AlternationIndex</b>   | <a href="#">x:Int32</a>   |
| <b>(description)</b>   | The assigned value of the item container when alternating item containers are used.                             |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>  |

#### 4.450 ItemsPanelTemplate

[x:Object](#) > [FrameworkTemplate](#) > ItemsPanelTemplate

|                           |   |
|---------------------------|---|
| <b>(usage)</b>            | <ItemsPanelTemplate> <a href="#">FrameworkElement</a> </ItemsPanelTemplate>                         |
| <b>(description)</b>      | Specifies the panel that the ItemsPresenter creates for the layout of the items of an ItemsControl. |
| <b>(used by)</b>          | <a href="#">DataRow</a> <a href="#">GroupStyle</a> <a href="#">ItemsControl</a>                     |
| <b>[content property]</b> | Template  |
| <b>[is name scope]</b>    | true  |



## 4.451 ItemsPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > ItemsPresenter, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <ItemsPresenter />   |
| <b>(description)</b>       | Used within the template of an item control to specify the place in the control's visual tree where the ItemsPanel defined by the ItemsControl is to be added. |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |

## 4.452 IValueConverter

IValueConverter

|   |   |
|---|---|
| <a href="#">AlternationConverter</a> <a href="#">BooleanToVisibilityConverter</a> <a href="#">JournalEntryListConverter</a> <a href="#">ZoomPercentageConverter</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | Provides a way to apply custom logic to a binding.  |
| <b>(used by)</b>  | <a href="#">Binding</a> <a href="#">PropertyGroupDescription</a> <a href="#">TemplateBindingExtension</a> |
| <b>[is default constructible]</b>   | false   |

## 4.453 IWeakEventListener

IWeakEventListener

|  |  |
|--|--|
| <a href="#">CollectionContainer</a> <a href="#">CollectionViewSource</a> <a href="#">CompositeCollection</a> <a href="#">GridViewHeaderRowPresenter</a> <a href="#">GridViewRowPresenter</a> <a href="#">GridViewRowPresenterBase</a> <a href="#">ItemCollection</a> <a href="#">RibbonGallery</a> <a href="#">RibbonGalleryCategory</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | Provides event listening support for types that expect to receive events through the WeakEvent pattern and a WeakEventManager. |
| <b>[is default constructible]</b>  | false  |

## 4.454 JournalEntry

[x:Object](#) > [DependencyObject](#) > JournalEntry

|                      |   |
|----------------------|---|
| (usage)              | None.   |
| <b>(description)</b> | Represents an entry in either back or forward navigation history. |

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>[is default constructible]</b> | false   |
| <b>(properties)</b>               |   |
| <b>Name</b>                       | <a href="#">x:String</a>  |
| <b>(description)</b>              | The name of the journal entry.  |
| <b>Source</b>                     | <a href="#">x:Uri</a>   |
| <b>(description)</b>              | The URI of the content that was navigated to.   |
| <b>(attachable properties)</b>    |   |
| <b>JournalEntry.KeepAlive</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value that indicates whether the content of a journal entry is either retained or re-created when navigated to in navigation history. |
| <b>[target type]</b>              | <a href="#">DependencyObject</a>  |
| <b>JournalEntry.Name</b>          | <a href="#">x:String</a>  |
| <b>(description)</b>              | The name of the journal entry.  |
| <b>[target type]</b>              | <a href="#">DependencyObject</a>  |

#### 4.455 JournalEntryListConverter

[x:Object](#) > JournalEntryListConverter, [IValueConverter](#)

|                      |   |
|----------------------|---|
| (usage)              | <JournalEntryListConverter />                                   |
| <b>(description)</b> | This type or member supports the Microsoft .NET infrastructure. |

#### 4.456 JournalEntryPosition

[x:Object](#) > JournalEntryPosition

|                      |   |
|----------------------|---|
| (usage)              | <b>Back  Current  Forward</b>   |
| <b>(description)</b> | Specifies the position in navigation history of a piece of content with respect to current content. JournalEntryPosition is used by JournalEntryUnifiedViewConverter. |
| <b>(used by)</b>     | <a href="#">JournalEntryUnifiedViewConverter</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">JournalEntryPositionSyntax</a>  |

#### 4.457 JournalEntryUnifiedViewConverter

[x:Object](#) > JournalEntryUnifiedViewConverter, [IMultiValueConverter](#)

|  |  |
|--|--|
| (usage)  | <JournalEntryUnifiedViewConverter />   |
| <b>(description)</b>   | Merges navigation back history and navigation forward history (as exposed by Frame or NavigationWindow) into a single navigation menu.       |
| <b>(attachable properties)</b>                               |  |
| <b>JournalEntryUnifiedViewConverter.JournalEntryPosition</b> | <a href="#">JournalEntryPosition</a>   |
| <b>(description)</b>   | A value that specifies whether an entry is in back navigation history, forward navigation history, or is the current content of a navigator. |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>   |

#### 4.458 JournalOwnership

[x:Object](#) > JournalOwnership

|                      |  |
|----------------------|--|
| (usage)              | <b>Automatic  OwnsJournal  UsesParentJournal</b>   |
| <b>(description)</b> | Specifies whether a Frame uses its own journal. JournalOwnership is used by the JournalOwnership property. |
| <b>(used by)</b>     | <a href="#">Frame</a>  |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">JournalOwnershipSyntax</a>   |

#### 4.459 JpegBitmapEncoder

[x:Object](#) > [BitmapEncoder](#) > JpegBitmapEncoder

|                       |   |
|-----------------------|---|
| (usage)               | <JpegBitmapEncoder />   |
| <b>(description)</b>  | Defines an encoder that is used to encode Joint Photographics Experts Group (JPEG) format images.                               |
| <b>(properties)</b>   |   |
| <b>FlipHorizontal</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether a Joint Photographics Experts Group (JPEG) image should be flipped horizontally during encoding. |
| <b>FlipVertical</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether a Joint Photographics Experts Group (JPEG) image should be flipped vertically during encoding.   |
| <b>QualityLevel</b>   | <a href="#">x:Int32</a>   |

|                      |   |
|----------------------|---|
| (usage)              | <JpegBitmapEncoder />   |
| <b>(description)</b> | A value that indicates the quality level of the resulting Joint Photographics Experts Group (JPEG) image. |
| <b>Rotation</b>      | <a href="#">Rotation</a>  |
| <b>(description)</b> | A value that represents the degree to which a Joint Photographics Experts Group (JPEG) image is rotated.  |

#### 4.460 JumpItem

[x:Object](#) > JumpItem

|   |   |
|---|---|
| <a href="#">JumpPath</a> <a href="#">JumpTask</a> |   |
| <b>(usage)</b>                                    | None.   |
| <b>(description)</b>                              | Represents the base type for the JumpPath and JumpTask types.                             |
| <b>(used by)</b>                                  | <a href="#">JumpList</a>  |
| <b>[is default constructible]</b>                 | false   |
| <b>(properties)</b>                               |   |
| <b>CustomCategory</b>                             | <a href="#">x:String</a>  |
| <b>(description)</b>                              | The name of the category the JumpItem is grouped with in the Windows 7 taskbar Jump List. |

#### 4.461 JumpItemRejectionReason

[x:Object](#) > JumpItemRejectionReason

|                      |  |
|----------------------|--|
| (usage)              | <b>None   InvalidItem   NoRegisteredHandler   RemovedByUser</b>                    |
| <b>(description)</b> | Describes why a JumpItem could not be added to the Jump List by the Windows shell. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">JumpItemRejectionReasonSyntax</a>                                      |

#### 4.462 JumpList

[x:Object](#) > JumpList

|                           |   |
|---------------------------|---|
| (usage)                   | <JumpList> <a href="#">JumpItem</a> *</JumpList>  |
| <b>(description)</b>      | Represents a list of items and tasks displayed as a menu on a Windows 7 taskbar button. |
| <b>(used by)</b>          | JumpList  |
| <b>[content property]</b> | JumpItems   |

|                                |   |
|--------------------------------|---|
| (usage)                        | <JumpList> <a href="#">JumpItem</a> *</JumpList>  |
| <b>(properties)</b>            |   |
| <b>JumpItems</b>               | <a href="#">List(JumpItem)</a>  |
| <b>(description)</b>           | The collection of JumpItem objects that are displayed in the Jump List.                   |
| <b>[read only]</b>             | true  |
| <b>ShowFrequentCategory</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether frequently used items are displayed in the Jump List.      |
| <b>ShowRecentCategory</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether recently used items are displayed in the Jump List.        |
| <b>(attachable properties)</b> |   |
| <b>JumpList.JumpList</b>       | JumpList  |
| <b>(description)</b>           |   |
| <b>[target type]</b>           | <a href="#">Application</a>   |
| <b>(events)</b>                |   |
| <b>JumpItemsRejected</b>       | Occurs when jump items are not successfully added to the Jump List by the Windows shell.  |
| <b>JumpItemsRemovedByUser</b>  | Occurs when jump items previously in the Jump List are removed from the list by the user. |

#### 4.463 JumpPath

[x:Object](#) > [JumpItem](#) > JumpPath

|                      |   |
|----------------------|---|
| (usage)              | <JumpPath />  |
| <b>(description)</b> | Represents a link to a file that is displayed in a Windows 7 taskbar Jump List. |
| <b>(properties)</b>  |   |
| <b>Path</b>          | <a href="#">x:String</a>  |
| <b>(description)</b> | The path to the file to be included in the Jump List.                           |

#### 4.464 JumpTask

[x:Object](#) > [JumpItem](#) > JumpTask

|                      |   |
|----------------------|---|
| (usage)              | <JumpTask />  |
| <b>(description)</b> | Represents a shortcut to an application in the Windows 7 taskbar Jump List. |

|                          |  |
|--------------------------|--|
| (usage)                  | <JumpTask />   |
| <b>(properties)</b>      |  |
| <b>ApplicationPath</b>   | <a href="#">x:String</a>   |
| <b>(description)</b>     | The path to the application.   |
| <b>Arguments</b>         | <a href="#">x:String</a>   |
| <b>(description)</b>     | The arguments passed to the application on startup.                        |
| <b>Description</b>       | <a href="#">x:String</a>   |
| <b>(description)</b>     | The text displayed in the tooltip for the task in the Jump List.           |
| <b>IconResourceIndex</b> | <a href="#">x:Int32</a>  |
| <b>(description)</b>     | The zero-based index of an icon embedded in a resource.                    |
| <b>IconResourcePath</b>  | <a href="#">x:String</a>   |
| <b>(description)</b>     | The path to a resource that contains the icon to display in the Jump List. |
| <b>Title</b>             | <a href="#">x:String</a>   |
| <b>(description)</b>     | The text displayed for the task in the Jump List.                          |
| <b>WorkingDirectory</b>  | <a href="#">x:String</a>   |
| <b>(description)</b>     | The working directory of the application on startup.                       |

#### 4.465 KernelType

[x:Object](#) > KernelType

|                      |   |
|----------------------|---|
| (usage)              | <b>Gaussian  Box</b>                            |
| <b>(description)</b> | Describes the kernel used to create the effect. |
| <b>(used by)</b>     | <a href="#">BlurEffect</a>                      |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">KernelTypeSyntax</a>                |

#### 4.466 Key

[x:Object](#) > Key

|                      |  |
|----------------------|--|
| (usage)              | <b>None  Cancel  Back  Tab  LineFeed  Clear  Return  Enter  Pause...</b> |
| <b>(description)</b> | Specifies the possible key values on a keyboard.                         |
| <b>(used by)</b>     | <a href="#">KeyBinding</a>   |
| <b>[is nullable]</b> | false  |

|               |  |
|---------------|--|
| (usage)       | <b>None  Cancel  Back  Tab  LineFeed  Clear  Return  Enter  Pause...</b> |
| [text syntax] | <a href="#">KeySyntax</a>  |

#### 4.467 KeyBinding

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [InputBinding](#) > KeyBinding

|                      |   |
|----------------------|---|
| (usage)              | <KeyBinding />  |
| <b>(description)</b> | Binds a KeyGesture to a RoutedCommand (or another ICommand implementation). |
| <b>(properties)</b>  |   |
| <b>Gesture</b>       | <a href="#">InputGesture</a>  |
| <b>(description)</b> | The gesture associated with this KeyBinding.                                |
| [text syntax]        | <a href="#">KeyGestureSyntax</a>  |
| <b>Key</b>           | <a href="#">Key</a>   |
| <b>(description)</b> | The Key of the KeyGesture associated with this KeyBinding.                  |
| <b>Modifiers</b>     | <a href="#">ModifierKeys</a>  |
| <b>(description)</b> | The ModifierKeys of the KeyGesture associated with this KeyBinding.         |

#### 4.468 Keyboard

[x:Object](#) > Keyboard

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static Keyboard.StaticPropertyName}              |
| <b>(description)</b>              | Represents the keyboard device.                     |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |
| <b>DefaultRestoreFocusMode</b>    | <a href="#">RestoreFocusMode</a>                    |
| <b>(description)</b>              | The behavior of when restoring focus.               |
| <b>FocusedElement</b>             | <a href="#">InputElement</a>                        |
| <b>(description)</b>              | The element that has keyboard focus.                |
| <b>Modifiers</b>                  | <a href="#">ModifierKeys</a>                        |
| <b>(description)</b>              | The set of ModifierKeys that are currently pressed. |
| <b>PrimaryDevice</b>              | KeyboardDevice                                      |
| <b>(description)</b>              | The primary keyboard input device.                  |

|  |   |
|--|---|
| (usage)  | {x:Static Keyboard.StaticPropertyName}  |
| <b>(attachable events)</b>                               |   |
| <b>Keyboard.GotKeyboardFocus</b>                         | Occurs when an element receives keyboard focus.                               |
| <b>Keyboard.KeyboardInputProviderAcquireFocus</b>        | Occurs when the keyboard input provider acquires focus.                       |
| <b>Keyboard.KeyDown</b>                                  | Occurs when a key on the keyboard is pressed.                                 |
| <b>Keyboard.KeyUp</b>                                    | Occurs when a key on the keyboard is released.                                |
| <b>Keyboard.LostKeyboardFocus</b>                        | Occurs when an element loses keyboard focus.                                  |
| <b>Keyboard.PreviewGotKeyboardFocus</b>                  | Occurs when an element is in the process of acquiring keyboard focus.         |
| <b>Keyboard.PreviewKeyboardInputProviderAcquireFocus</b> | Occurs when the keyboard input provider is in the process of acquiring focus. |
| <b>Keyboard.PreviewKeyDown</b>                           | Occurs when a key on the keyboard is pressed.                                 |
| <b>Keyboard.PreviewKeyUp</b>                             | Occurs when a key on the keyboard is released.                                |
| <b>Keyboard.PreviewLostKeyboardFocus</b>                 | Occurs when an element is in the process of losing keyboard focus.            |

#### 4.469 KeyboardNavigation

[x:Object](#) > KeyboardNavigation

|  |   |
|--|---|
| (usage)  | None.   |
| <b>(description)</b>                           | Provides logical and directional navigation between focusable objects.                                    |
| <b>[is default constructible]</b>              | false   |
| <b>(attachable properties)</b>                 |   |
| <b>KeyboardNavigation.AcceptsReturn</b>        | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                           | A value indicating whether the Return character is accepted by a control.                                 |
| <b>[target type]</b>                           | <a href="#">DependencyObject</a>  |
| <b>KeyboardNavigation.ControlTabNavigation</b> | <a href="#">KeyboardNavigationMode</a>  |
| <b>(description)</b>                           | The logical control tab navigation behavior for the children of the element that this property is set on. |



|   |   |
|---|---|
| (usage)   | None.   |
| [target type]                                   | <a href="#">DependencyObject</a>  |
| <b>KeyboardNavigation.DirectionalNavigation</b> | <a href="#">KeyboardNavigationMode</a>  |
| (description)                                   | The directional navigation behavior for the children of the element that this property is set on. |
| [target type]                                   | <a href="#">DependencyObject</a>  |
| <b>KeyboardNavigation.IsTabStop</b>             | <a href="#">x:Boolean</a>   |
| (description)                                   | A value indicating whether the element that this property is set on is a tab stop.                |
| [target type]                                   | <a href="#">DependencyObject</a>  |
| <b>KeyboardNavigation.TabIndex</b>              | <a href="#">x:Int32</a>   |
| (description)                                   | The tab index for the element that this property is set on.                                       |
| [target type]                                   | <a href="#">DependencyObject</a>  |
| <b>KeyboardNavigation.TabNavigation</b>         | <a href="#">KeyboardNavigationMode</a>  |
| (description)                                   | The logical tab navigation behavior for the children of the element that this property is set on. |
| [target type]                                   | <a href="#">DependencyObject</a>  |

#### 4.470 KeyboardNavigationMode

[x:Object](#) > KeyboardNavigationMode

|               |  |
|---------------|--|
| (usage)       | <b>Continue  Once  Cycle  None  Contained  Local</b>   |
| (description) | Specifies the possible values for changes in focus when logical and directional navigation occurs. |
| (used by)     | <a href="#">KeyboardNavigation</a>   |
| [is nullable] | false  |
| [text syntax] | <a href="#">KeyboardNavigationModeSyntax</a>   |

#### 4.471 KeyGesture

[x:Object](#) > [InputGesture](#) > KeyGesture

|                            |  |
|----------------------------|--|
| (usage)                    | <code>&lt;KeyGesture&gt; string &lt;/KeyGesture&gt;</code>           |
| (description)              | Defines a keyboard combination that can be used to invoke a command. |
| [is default constructible] | false  |

|               |                                   |
|---------------|-----------------------------------|
| (usage)       | <KeyGesture> string </KeyGesture> |
| [text syntax] | <a href="#">KeyGestureSyntax</a>  |

#### 4.472 KeySpline

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > KeySpline

|                      |  |
|----------------------|--|
| (usage)              | <KeySpline> string </KeySpline>  |
| <b>(description)</b> | This type is used by a spline key frame to define animation progress.  |
| <b>(used by)</b>     | <a href="#">SplineByteKeyFrame</a> <a href="#">SplineColorKeyFrame</a> <a href="#">SplineDecimalKeyFrame</a> <a href="#">SplineDoubleKeyFrame</a> <a href="#">SplineInt16KeyFrame</a> <a href="#">SplineInt32KeyFrame</a> <a href="#">SplineInt64KeyFrame</a> <a href="#">SplinePoint3DKeyFrame</a> <a href="#">SplinePointKeyFrame</a> <a href="#">SplineQuaternionKeyFrame</a> <a href="#">SplineRectKeyFrame</a> <a href="#">SplineRotation3DKeyFrame</a> <a href="#">SplineSingleKeyFrame</a> <a href="#">SplineSizeKeyFrame</a> <a href="#">SplineThicknessKeyFrame</a> <a href="#">SplineVector3DKeyFrame</a> <a href="#">SplineVectorKeyFrame</a> |
| [text syntax]        | <a href="#">KeySplineSyntax</a>  |
| <b>(properties)</b>  |  |
| <b>ControlPoint1</b> | <a href="#">Point</a>  |
| <b>(description)</b> | The first control point used to define a Bezier curve that describes a KeySpline.  |
| <b>ControlPoint2</b> | <a href="#">Point</a>  |
| <b>(description)</b> | The second control point used to define a Bezier curve that describes a KeySpline.   |

#### 4.473 KeyStates

[x:Object](#) > KeyStates

|                      |   |
|----------------------|---|
| (usage)              | <b>None  Down  Toggled</b>                          |
| <b>(description)</b> | Specifies constants that define the state of a key. |
| [is nullable]        | false   |
| [text syntax]        | <a href="#">KeyStatesSyntax</a>                     |

#### 4.474 KeyTime

[x:Object](#) > KeyTime

|                      |  |
|----------------------|--|
| (usage)              | <KeyTime> string </KeyTime>  |
| <b>(description)</b> | During the relative course of an animation, a KeyTime instance specifies the precise timing when a particular key frame should take place.   |
| <b>(used by)</b>     | <a href="#">BooleanKeyFrame</a> <a href="#">ByteKeyFrame</a> <a href="#">CharKeyFrame</a> <a href="#">ColorKeyFrame</a> <a href="#">DecimalKeyFrame</a> <a href="#">DoubleKeyFrame</a> <a href="#">IKeyFrame</a> <a href="#">Int16KeyFrame</a> <a href="#">Int32KeyFrame</a> <a href="#">Int64KeyFrame</a> <a href="#">MatrixKeyFrame</a> <a href="#">ObjectKeyFrame</a> <a href="#">Point3DKeyFrame</a> <a href="#">PointKeyFrame</a> <a href="#">QuaternionKeyFrame</a> <a href="#">RectKeyFrame</a> <a href="#">Rotation3DKeyFrame</a> <a href="#">SingleKeyFrame</a> |

|                     |   |
|---------------------|---|
| (usage)             | <KeyTime> string </KeyTime>   |
|                     | <a href="#">SizeKeyFrame</a> <a href="#">StringKeyFrame</a> <a href="#">ThicknessKeyFrame</a> <a href="#">Vector3DKeyFrame</a> <a href="#">VectorKeyFrame</a> |
| [is nullable]       | false   |
| [text syntax]       | <a href="#">KeyTimeSyntax</a>   |
| (static properties) |   |
| <b>Paced</b>        | KeyTime   |
| (description)       | The Paced value which creates timing behavior resulting in an animation that interpolates at a constant rate.   |
| <b>Uniform</b>      | KeyTime   |
| (description)       | The Uniform value which divides the allotted time of the animation evenly between key frames.   |

#### 4.475 KeyTimeType

[x:Object](#) > KeyTimeType

|               |   |
|---------------|---|
| (usage)       | <b>Uniform   Percent   TimeSpan   Paced</b>                           |
| (description) | Represents the different types that may represent a KeyTime instance. |
| [is nullable] | false   |
| [text syntax] | <a href="#">KeyTimeTypeSyntax</a>                                     |

#### 4.476 KeyTipControl (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > KeyTipControl, [IInputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <KeyTipControl />                              |
| (description)       | Represents the control used inside the KeyTip. |
| [name property]     | Name   |
| [xml lang property] | Language                                       |
| (properties)        |  |
| <b>Text</b>         | <a href="#">x:String</a>                       |
| (description)       | The text associated with this control.         |

#### 4.477 KeyTipHorizontalPlacement (4.5)

[x:Object](#) > KeyTipHorizontalPlacement

|                      |  |
|----------------------|--|
| (usage)              | <b>KeyTipLeftAtTargetLeft  KeyTipLeftAtTargetCenter  KeyTipLeftAtTargetRight  KeyTipCenterAtTargetLeft  KeyTipCenterAtTargetCenter  KeyTipCenterAtTargetRight  KeyTipRightAtTargetLeft  KeyTipRightAtTargetCenter  KeyTipRightAtTargetRight...</b> |
| <b>(description)</b> | Specifies the values for the horizontal placement of the KeyTip relative to its placement target.  |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">KeyTipHorizontalPlacementSyntax</a>  |

#### 4.478 KeyTipService (4.5)

[x:Object](#) > KeyTipService

|  |   |
|--|---|
| (usage)                                    | None.   |
| <b>(description)</b>                       | Represents a service that provides properties, methods, and events to enable and manage KeyTips in Ribbon controls. |
| <b>[is default constructible]</b>          | false   |
| <b>(attachable properties)</b>             |   |
| <b>KeyTipService.IsKeyTipScope</b>         | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                       | A value that indicates whether the element that this property is attached to is in KeyTip scope.                    |
| <b>[target type]</b>                       | <a href="#">DependencyObject</a>  |
| <b>KeyTipService.KeyTip</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>                       | The text to use for the KeyTip.   |
| <b>[target type]</b>                       | <a href="#">DependencyObject</a>  |
| <b>KeyTipService.KeyTipStyle</b>           | <a href="#">Style</a>   |
| <b>(description)</b>                       | The style to use with the KeyTip.   |
| <b>[target type]</b>                       | <a href="#">DependencyObject</a>  |
| <b>(attachable events)</b>                 |   |
| <b>KeyTipService.ActivatingKeyTip</b>      | Occurs when the KeyTip is activated.  |
| <b>KeyTipService.KeyTipAccessed</b>        | Occurs when the KeyTip is accessed.   |
| <b>KeyTipService.PreviewKeyTipAccessed</b> | Occurs when the KeyTip is accessed.   |

#### 4.479 KeyTipVerticalPlacement (4.5)

[x:Object](#) > KeyTipVerticalPlacement

|                      |   |
|----------------------|---|
| (usage)              | <b>KeyTipTopAtTargetTop</b>   <b>KeyTipTopAtTargetCenter</b>   <b>KeyTipTopAtTargetBottom</b>   <b>KeyTipCenterAtTargetTop</b>   <b>KeyTipCenterAtTargetCenter</b>   <b>KeyTipCenterAtTargetBottom</b>   <b>KeyTipBottomAtTargetTop</b>   <b>KeyTipBottomAtTargetCenter</b>   <b>KeyTipBottomAtTargetBottom</b> ... |
| <b>(description)</b> | Specifies the values for the vertical placement of the KeyTip relative to its placement target.   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">KeyTipVerticalPlacementSyntax</a>   |

#### 4.480 Label

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > Label, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <Label> <a href="#">x:Object</a> </Label>                                     |
| <b>(description)</b>       | Represents the text label for a control and provides support for access keys. |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Target</b>              | <a href="#">UIElement</a>   |
| <b>(description)</b>       | The element that receives focus when the user presses the label's access key. |
| <b>[text syntax]</b>       | x:NameReference, from <a href="#">[MS-XAML]</a>                               |

#### 4.481 LanguageSpecificStringDictionary

[x:Object](#) > LanguageSpecificStringDictionary

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Represents a dictionary of strings that are used to represent the name of an object in different languages. |
| <b>(used by)</b>                  | <a href="#">FontFamily</a>  |
| <b>[is default constructible]</b> | false   |
| <b>[is dictionary]</b>            | true  |
| <b>[allowed types]</b>            | <a href="#">x:String</a>  |
| <b>[allowed key types]</b>        | <a href="#">XmlLanguage</a>   |
| <b>(properties)</b>               |   |

|                      |  |
|----------------------|--|
| (usage)              | None.  |
| <b>Keys</b>          | <a href="#">ICollection(XmlLanguage)</a>                                     |
| <b>(description)</b> | A collection containing the keys, or XmlLanguage objects, in the dictionary. |
| <b>[read only]</b>   | true   |
| <b>Values</b>        | <a href="#">ICollection(x:String)</a>  |
| <b>(description)</b> | A collection containing the values, or strings, in the dictionary.           |
| <b>[read only]</b>   | true   |

#### 4.482 Light

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Model3D](#) > Light

|   |   |
|---|---|
| <b><a href="#">AmbientLight</a> <a href="#">DirectionalLight</a> <a href="#">PointLightBase</a></b> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | Model3D object that represents lighting applied to a 3-D scene. |
| <b>[is default constructible]</b>   | false   |
| <b>(properties)</b>   |   |
| <b>Color</b>  | <a href="#">Color</a>   |
| <b>(description)</b>  | The color of the light.   |

#### 4.483 Line

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Shape](#) > Line, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <Line />                                  |
| <b>(description)</b>       | Draws a straight line between two points. |
| <b>[name property]</b>     | Name                                      |
| <b>[xml lang property]</b> | Language                                  |
| <b>(properties)</b>        |   |
| <b>X1</b>                  | <a href="#">x:Double</a>                  |
| <b>(description)</b>       | The x-coordinate of the Line start point. |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>              |
| <b>X2</b>                  | <a href="#">x:Double</a>                  |
| <b>(description)</b>       | The x-coordinate of the Line end point.   |

|               |   |
|---------------|---|
| (usage)       | <Line />                                  |
| [text syntax] | <a href="#">LengthSyntax</a>              |
| Y1            | <a href="#">x:Double</a>                  |
| (description) | The y-coordinate of the Line start point. |
| [text syntax] | <a href="#">LengthSyntax</a>              |
| Y2            | <a href="#">x:Double</a>                  |
| (description) | The y-coordinate of the Line end point.   |
| [text syntax] | <a href="#">LengthSyntax</a>              |

#### 4.484 LinearByteKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ByteKeyFrame](#) > LinearByteKeyFrame

|               |   |
|---------------|---|
| (usage)       | <LinearByteKeyFrame />  |
| (description) | Animates from the Byte value of the previous key frame to its own Value using linear interpolation. |

#### 4.485 LinearColorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ColorKeyFrame](#) > LinearColorKeyFrame

|               |  |
|---------------|--|
| (usage)       | <LinearColorKeyFrame />  |
| (description) | Animates from the Color value of the previous key frame to its own Value using linear interpolation. |

#### 4.486 LinearDecimalKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [DecimalKeyFrame](#) > LinearDecimalKeyFrame

|               |  |
|---------------|--|
| (usage)       | <LinearDecimalKeyFrame />  |
| (description) | Animates from the Decimal value of the previous key frame to its own Value using linear interpolation. |

#### 4.487 LinearDoubleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [DoubleKeyFrame](#) > LinearDoubleKeyFrame

|               |   |
|---------------|---|
| (usage)       | <LinearDoubleKeyFrame />  |
| (description) | Animates from the Double value of the previous key frame to its own Value using linear interpolation. |

## 4.488 LinearGradientBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > [GradientBrush](#) > LinearGradientBrush

|                    |   |
|--------------------|---|
| (usage)            | <LinearGradientBrush> string   <a href="#">GradientStop</a> *</LinearGradientBrush> |
| (description)      | Paints an area with a linear gradient.  |
| [text syntax]      | <a href="#">BrushSyntax</a>   |
| [content property] | GradientStops   |
| (properties)       |   |
| EndPoint           | <a href="#">Point</a>   |
| (description)      | The ending two-dimensional coordinates of the linear gradient.                      |
| StartPoint         | <a href="#">Point</a>   |
| (description)      | The starting two-dimensional coordinates of the linear gradient.                    |

## 4.489 LinearInt16KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int16KeyFrame](#) > LinearInt16KeyFrame

|               |  |
|---------------|--|
| (usage)       | <LinearInt16KeyFrame />  |
| (description) | Animates from the Int16 value of the previous key frame to its own Value using linear interpolation. |

## 4.490 LinearInt32KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int32KeyFrame](#) > LinearInt32KeyFrame

|               |  |
|---------------|--|
| (usage)       | <LinearInt32KeyFrame />  |
| (description) | Animates from the Int32 value of the previous key frame to its own Value using linear interpolation. |

## 4.491 LinearInt64KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int64KeyFrame](#) > LinearInt64KeyFrame

|               |  |
|---------------|--|
| (usage)       | <LinearInt64KeyFrame />  |
| (description) | Animates from the Int64 value of the previous key frame to its own Value using linear interpolation. |

## 4.492 LinearPoint3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Point3DKeyFrame](#) > LinearPoint3DKeyFrame



|                      |  |
|----------------------|--|
| (usage)              | <LinearPoint3DKeyFrame />  |
| <b>(description)</b> | Animates from the Point3D value of the previous key frame to its own Value using linear interpolation. |

#### 4.493 LinearPointKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [PointKeyFrame](#) > LinearPointKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <LinearPointKeyFrame />  |
| <b>(description)</b> | Animates from the Point value of the previous key frame to its own Value using linear interpolation. |

#### 4.494 LinearQuaternionKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [QuaternionKeyFrame](#) > LinearQuaternionKeyFrame

|                        |   |
|------------------------|---|
| (usage)                | <LinearQuaternionKeyFrame />  |
| <b>(description)</b>   | Animates from the Quaternion value of the previous key frame to its own Value using linear interpolation.                                 |
| <b>(properties)</b>    |   |
| <b>UseShortestPath</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A Boolean value that indicates whether the animation uses spherical linear interpolation to calculate the shortest arc between positions. |

#### 4.495 LinearRectKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [RectKeyFrame](#) > LinearRectKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <LinearRectKeyFrame />  |
| <b>(description)</b> | Animates from the Rect value of the previous key frame to its own Value using linear interpolation. |

#### 4.496 LinearRotation3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Rotation3DKeyFrame](#) > LinearRotation3DKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <LinearRotation3DKeyFrame />  |
| <b>(description)</b> | Animates from the Rotation3D value of the previous key frame to its own Value using linear interpolation. |

#### 4.497 LinearSingleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [SingleKeyFrame](#) > LinearSingleKeyFrame

|         |                          |
|---------|--------------------------|
| (usage) | <LinearSingleKeyFrame /> |
|---------|--------------------------|

|                      |   |
|----------------------|---|
| (usage)              | <LinearSingleKeyFrame />  |
| <b>(description)</b> | Animates from the Single value of the previous key frame to its own Value using linear interpolation. |

#### 4.498 LinearSizeKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [SizeKeyFrame](#) > LinearSizeKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <LinearSizeKeyFrame />  |
| <b>(description)</b> | Animates from the Size value of the previous key frame to its own Value using linear interpolation. |

#### 4.499 LinearThicknessKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ThicknessKeyFrame](#) > LinearThicknessKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <LinearThicknessKeyFrame />  |
| <b>(description)</b> | Animates from the Thickness value of the previous key frame to its own Value using linear interpolation. |

#### 4.500 LinearVector3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Vector3DKeyFrame](#) > LinearVector3DKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <LinearVector3DKeyFrame />  |
| <b>(description)</b> | Animates from the Vector3D value of the previous key frame to its own Value using linear interpolation. |

#### 4.501 LinearVectorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [VectorKeyFrame](#) > LinearVectorKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <LinearVectorKeyFrame />  |
| <b>(description)</b> | Animates from the Vector value of the previous key frame to its own Value using linear interpolation. |

#### 4.502 LineBreak

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > LineBreak, [IInputElement](#)

|                        |   |
|------------------------|---|
| (usage)                | <LineBreak />   |
| <b>(description)</b>   | An inline flow content element that causes a line break to occur in flow content. |
| <b>[name property]</b> | Name  |

|                               |               |
|-------------------------------|---------------|
| (usage)                       | <LineBreak /> |
| [xml lang property]           | Language      |
| [trim surrounding whitespace] | true          |

#### 4.503 LineBreakCondition

[x:Object](#) > LineBreakCondition

|               |  |
|---------------|--|
| (usage)       | <b>BreakDesired  BreakPossible  BreakRestrained  BreakAlways</b> |
| (description) | Describes the breaking condition around an inline object.        |
| [is nullable] | false  |
| [text syntax] | <a href="#">LineBreakConditionSyntax</a>                         |

#### 4.504 LineGeometry

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Geometry](#) > LineGeometry

|                   |                                       |
|-------------------|---------------------------------------|
| (usage)           | <LineGeometry> string </LineGeometry> |
| (description)     | Represents the geometry of a line.    |
| [text syntax]     | <a href="#">GeometrySyntax</a>        |
| (properties)      |                                       |
| <b>EndPoint</b>   | <a href="#">Point</a>                 |
| (description)     | The end point of a line.              |
| <b>StartPoint</b> | <a href="#">Point</a>                 |
| (description)     | The start point of the line.          |

#### 4.505 LineSegment

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [PathSegment](#) > LineSegment

|               |  |
|---------------|--|
| (usage)       | <LineSegment />                                    |
| (description) | Creates a line between two points in a PathFigure. |
| (properties)  |  |
| <b>Point</b>  | <a href="#">Point</a>                              |
| (description) | The end point of the line segment.                 |

## 4.506 LineStackingStrategy

[x:Object](#) > LineStackingStrategy

|               |  |
|---------------|--|
| (usage)       | <b>BlockLineHeight  MaxHeight</b>  |
| (description) | Describes a mechanism by which a line box is determined for each line.   |
| (used by)     | <a href="#">AccessText</a> <a href="#">AnchoredBlock</a> <a href="#">Block</a> <a href="#">FlowDocument</a> <a href="#">ListItem</a> <a href="#">RibbonTwoLineText</a> <a href="#">TableCell</a> <a href="#">TextBlock</a> |
| [is nullable] | false  |
| [text syntax] | <a href="#">LineStackingStrategySyntax</a>   |

## 4.507 LinkTarget

[x:Object](#) > LinkTarget

|               |  |
|---------------|--|
| (usage)       | <LinkTarget />   |
| (description) | Represents an element on a page that can be linked to from other documents or other places in the same document. |
| (used by)     | <a href="#">LinkTargetCollection</a>   |
| (properties)  |  |
| Name          | <a href="#">x:String</a>   |
| (description) | The name of the element that this LinkTarget identifies as a linkable element.                                   |

## 4.508 LinkTargetCollection

[x:Object](#) > [CollectionBase](#) > LinkTargetCollection

|                 |  |
|-----------------|--|
| (usage)         | <LinkTargetCollection> <a href="#">LinkTarget</a> *</LinkTargetCollection> |
| (description)   | Provides a collection of all of the LinkTarget elements in a Package.      |
| (used by)       | <a href="#">PageContent</a>  |
| [is list]       | true   |
| [allowed types] | <a href="#">LinkTarget</a>   |

## 4.509 List

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Block](#) > List, [IInputElement](#)

|               |   |
|---------------|---|
| (usage)       | <List> <a href="#">ListItem</a> *</List>  |
| (description) | A block-level flow content element that provides facilities for presenting content in an ordered or unordered list. |

|                            |   |
|----------------------------|---|
| (usage)                    | <List> <a href="#">ListItem</a> *</List>  |
| <b>[content property]</b>  | ListItems   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>ListItems</b>           | <a href="#">ListItemCollection</a>  |
| <b>(description)</b>       | A ListItemCollection containing the ListItem elements that comprise the contents of the List.             |
| <b>[read only]</b>         | true  |
| <b>MarkerOffset</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The desired distance between the contents of each ListItem element, and the near edge of the list marker. |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>MarkerStyle</b>         | <a href="#">TextMarkerStyle</a>   |
| <b>(description)</b>       | The marker style for the List.  |
| <b>StartIndex</b>          | <a href="#">x:Int32</a>   |
| <b>(description)</b>       | The starting index for labeling the items in an ordered list.   |

#### 4.510 ListBox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [Selector](#) > ListBox, [IInputElement](#)

|                            |  |
|----------------------------|--|
| <a href="#">ListView</a>   |  |
| <b>(usage)</b>             | <ListBox> <a href="#">x:Object</a> *</ListBox> |
| <b>(description)</b>       | Contains a list of selectable items.           |
| <b>[content property]</b>  | Items  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language                                       |
| <b>(properties)</b>        |  |
| <b>SelectedItems</b>       | <a href="#">IList</a>                          |
| <b>(description)</b>       | The currently selected items.                  |
| <b>[read only]</b>         | true   |

|                          |                                       |
|--------------------------|---------------------------------------|
| <a href="#">ListView</a> |                                       |
| <b>SelectionMode</b>     | <a href="#">SelectionMode</a>         |
| <b>(description)</b>     | The selection behavior for a ListBox. |

#### 4.511 ListBoxItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ListBoxItem](#), [IInputElement](#)

|   |   |
|---|---|
| <a href="#">ComboBoxItem</a> <a href="#">ListViewItem</a> |   |
| <b>(usage)</b>  | <ListBoxItem> <a href="#">x:Object</a> </ListBoxItem>     |
| <b>(description)</b>                                      | Represents a selectable item in a ListBox.                |
| <b>[content property]</b>                                 | Content   |
| <b>[name property]</b>                                    | Name  |
| <b>[xml lang property]</b>                                | Language  |
| <b>(properties)</b>                                       |   |
| <b>IsSelected</b>   | <a href="#">x:Boolean</a>                                 |
| <b>(description)</b>                                      | A value that indicates whether a ListBoxItem is selected. |
| <b>(events)</b>   |   |
| <b>Selected</b>   | Occurs when a ListBoxItem is selected.                    |
| <b>Unselected</b>   | Occurs when a ListBoxItem is unselected.                  |

#### 4.512 ListItem

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [ListItem](#), [IInputElement](#)

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <ListItem> <a href="#">Block</a> *</ListItem>   |
| <b>(description)</b>       | A flow content element that represents a particular content item in an ordered or unordered List. |
| <b>(used by)</b>           | <a href="#">ListItemCollection</a>  |
| <b>[content property]</b>  | Blocks  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Blocks</b>              | <a href="#">BlockCollection</a>   |

|                             |   |
|-----------------------------|---|
| (usage)                     | <ListItem> <a href="#">Block</a> *</ListItem>   |
| <b>(description)</b>        | A block collection that contains the top-level Block elements of the ListItem.                              |
| <b>[read only]</b>          | true  |
| <b>BorderBrush</b>          | <a href="#">Brush</a>   |
| <b>(description)</b>        | A Brush to use when painting the element's border.  |
| <b>BorderThickness</b>      | <a href="#">Thickness</a>   |
| <b>(description)</b>        | The border thickness for the element.   |
| <b>FlowDirection</b>        | <a href="#">FlowDirection</a>   |
| <b>(description)</b>        | The relative direction for flow of content within a ListItem element.                                       |
| <b>LineHeight</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The height of each line of content.   |
| <b>[text syntax]</b>        | <a href="#">LengthSyntax</a>  |
| <b>LineStackingStrategy</b> | <a href="#">LineStackingStrategy</a>  |
| <b>(description)</b>        | The mechanism by which a line box is determined for each line of text within the ListItem.                  |
| <b>Margin</b>               | <a href="#">Thickness</a>   |
| <b>(description)</b>        | The margin thickness for the element.   |
| <b>Padding</b>              | <a href="#">Thickness</a>   |
| <b>(description)</b>        | The padding thickness for the element.  |
| <b>SiblingListItems</b>     | <a href="#">ListItemCollection</a>  |
| <b>(description)</b>        | A ListItemCollection that contains the ListItem elements that are siblings of the current ListItem element. |
| <b>[read only]</b>          | true  |
| <b>TextAlignment</b>        | <a href="#">TextAlignment</a>   |
| <b>(description)</b>        | A value that indicates the horizontal alignment of text content.  |

#### 4.513 ListItemCollection

[x:Object](#) > [TextElementCollection\(ListItem\)](#) > ListItemCollection

|                      |   |
|----------------------|---|
| (usage)              | None.   |
| <b>(description)</b> | Represents a collection of ListItem elements. ListItemCollection defines the allowable child content of a List element. |
| <b>(used by)</b>     | <a href="#">List</a> <a href="#">ListItem</a>   |

|                                   |                          |
|-----------------------------------|--------------------------|
| (usage)                           | None.                    |
| <b>[is default constructible]</b> | false                    |
| <b>[is list]</b>                  | true                     |
| <b>[allowed types]</b>            | <a href="#">ListItem</a> |

#### 4.514 ListView

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [Selector](#) > [ListBox](#) > ListView, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <ListView> <a href="#">x:Object</a> *</ListView>                                   |
| <b>(description)</b>       | Represents a control that displays a list of data items.                           |
| <b>[content property]</b>  | Items  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>View</b>                | <a href="#">ViewBase</a>   |
| <b>(description)</b>       | An object that defines how the data is styled and organized in a ListView control. |

#### 4.515 ListViewItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ListBoxItem](#) > ListViewItem, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <ListViewItem> <a href="#">x:Object</a> </ListViewItem> |
| <b>(description)</b>       | Represents an item in a ListView control.               |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.516 Localization

[x:Object](#) > Localization

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | The Localization type defines attached properties for localization attributes and comments. |
| <b>[is default constructible]</b> | false   |



|                                |   |
|--------------------------------|---|
| (usage)                        | None.   |
| <b>(attachable properties)</b> |   |
| <b>Localization.Attributes</b> | <a href="#">x:String</a>  |
| <b>(description)</b>           | Which resources, such as FontFamily, are to be localized.           |
| <b>[target type]</b>           | <a href="#">x:Object</a>  |
| <b>Localization.Comments</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>           | Comments, which are free-form text that the markup author includes. |
| <b>[target type]</b>           | <a href="#">x:Object</a>  |

#### 4.517 LocalizationCategory

[x:Object](#) > LocalizationCategory

|                      |   |
|----------------------|---|
| (usage)              | <b>None</b>   <b>Text</b>   <b>Title</b>   <a href="#">Label</a>   <a href="#">Button</a>   <a href="#">CheckBox</a>   <a href="#">ComboBox</a>   <a href="#">ListBox</a>   <a href="#">Menu...</a> |
| <b>(description)</b> | Specifies the category value of a LocalizabilityAttribute for a type or type member.  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">LocalizationCategorySyntax</a>  |

#### 4.518 LocalValueEntry

[x:Object](#) > LocalValueEntry

|                      |   |
|----------------------|---|
| (usage)              | <LocalValueEntry />   |
| <b>(description)</b> | Represents a property identifier and the property value for a locally set property. |
| <b>[is nullable]</b> | false   |

#### 4.519 LocalValueEnumerator

[x:Object](#) > LocalValueEnumerator

|                      |   |
|----------------------|---|
| (usage)              | <LocalValueEnumerator />  |
| <b>(description)</b> | Provides enumeration support for the local values of any properties that exist on a DependencyObject. |
| <b>[is nullable]</b> | false   |

#### 4.520 LogicalDirection

[x:Object](#) > LogicalDirection

|         |                                  |
|---------|----------------------------------|
| (usage) | <b>Backward</b>   <b>Forward</b> |
|---------|----------------------------------|

|                      |  |
|----------------------|--|
| (usage)              | <b>Backward  Forward</b>   |
| <b>(description)</b> | Specifies a logical direction in which to perform certain text operations, such as inserting, retrieving, or navigating through text relative to a specified position (a TextPointer). |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">LogicalDirectionSyntax</a>   |

#### 4.521 Manipulation

[x:Object](#) > Manipulation

|   |  |
|---|--|
| (usage)                                   | None.  |
| <b>(description)</b>                      | Contains methods to get and update information about a manipulation. |
| <b>[is default constructible]</b>         | false  |
| <b>(attachable properties)</b>            |  |
| <b>Manipulation.ManipulationContainer</b> | <a href="#">IInputElement</a>  |
| <b>(description)</b>                      |  |
| <b>[target type]</b>                      | <a href="#">UIElement</a>  |
| <b>Manipulation.ManipulationMode</b>      | <a href="#">ManipulationModes</a>                                    |
| <b>(description)</b>                      |  |
| <b>[target type]</b>                      | <a href="#">UIElement</a>  |
| <b>Manipulation.ManipulationParameter</b> | <a href="#">ManipulationParameters2D</a>                             |
| <b>(description)</b>                      |  |
| <b>[target type]</b>                      | <a href="#">UIElement</a>  |
| <b>Manipulation.ManipulationPivot</b>     | <a href="#">ManipulationPivot</a>                                    |
| <b>(description)</b>                      |  |
| <b>[target type]</b>                      | <a href="#">UIElement</a>  |

#### 4.522 ManipulationModes

[x:Object](#) > ManipulationModes

|                      |  |
|----------------------|--|
| (usage)              | <b>None  TranslateX  TranslateY  Translate  Rotate  Scale  All</b> |
| <b>(description)</b> | Specifies how manipulation events are interpreted.                 |
| <b>(used by)</b>     | <a href="#">Manipulation</a>                                       |

|               |  |
|---------------|--|
| (usage)       | <b>None  TranslateX  TranslateY  Translate  Rotate  Scale  All</b> |
| [is nullable] | false  |
| [text syntax] | <a href="#">ManipulationModesSyntax</a>                            |

#### 4.523 ManipulationPivot

[x:Object](#) > ManipulationPivot

|               |   |
|---------------|---|
| (usage)       | <ManipulationPivot />   |
| (description) | Specifies how a rotation occurs with one point of user input.   |
| (used by)     | <a href="#">Manipulation</a>  |
| (properties)  |   |
| Center        | <a href="#">Point</a>   |
| (description) | The center of a single-point manipulation.  |
| Radius        | <a href="#">x:Double</a>  |
| (description) | The area around the pivot that is used to determine how much rotation and translation occurs when a single point of contact initiates the manipulation. |

#### 4.524 Material

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Material

|   |   |
|---|---|
| <a href="#">DiffuseMaterial</a> <a href="#">EmissiveMaterial</a> <a href="#">MaterialGroup</a> <a href="#">SpecularMaterial</a> |   |
| (usage)   | None.   |
| (description)   | A base type for materials.  |
| (used by)   | <a href="#">GeometryModel3D</a> <a href="#">MaterialCollection</a> <a href="#">Viewport2DVisual3D</a> |
| [is default constructible]  | false   |

#### 4.525 MaterialCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > MaterialCollection

|                 |  |
|-----------------|--|
| (usage)         | <MaterialCollection> <a href="#">Material</a> *</MaterialCollection> |
| (description)   | Collection of Material objects.                                      |
| (used by)       | <a href="#">MaterialGroup</a>  |
| [is list]       | true   |
| [allowed types] | <a href="#">Material</a>   |

## 4.526 MaterialGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Material](#) > MaterialGroup

|                           |   |
|---------------------------|---|
| (usage)                   | <MaterialGroup> <a href="#">Material</a> *</MaterialGroup>                    |
| <b>(description)</b>      | Represents a Material that is a composite of the Materials in its collection. |
| <b>[content property]</b> | Children  |
| <b>(properties)</b>       |   |
| <b>Children</b>           | <a href="#">MaterialCollection</a>  |
| <b>(description)</b>      | A collection of child Material objects.                                       |

## 4.527 Matrix

[x:Object](#) > Matrix

|                            |  |
|----------------------------|--|
| (usage)                    | <Matrix> string </Matrix>  |
| <b>(description)</b>       | Represents a 3x3 affine transformation matrix used for transformations in 2-D space.             |
| <b>(used by)</b>           | <a href="#">DrawingAttributes</a> <a href="#">MatrixKeyFrame</a> <a href="#">MatrixTransform</a> |
| <b>[is nullable]</b>       | false  |
| <b>[text syntax]</b>       | <a href="#">MatrixSyntax</a>   |
| <b>(properties)</b>        |  |
| <b>M11</b>                 | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The value of the first row and first column of this Matrix structure.                            |
| <b>M12</b>                 | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The value of the first row and second column of this Matrix structure.                           |
| <b>M21</b>                 | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The value of the second row and first column of this Matrix structure.                           |
| <b>M22</b>                 | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The value of the second row and second column of this Matrix structure.                          |
| <b>OffsetX</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The value of the third row and first column of this Matrix structure.                            |
| <b>OffsetY</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The value of the third row and second column of this Matrix structure.                           |
| <b>(static properties)</b> |  |

|                      |                           |
|----------------------|---------------------------|
| (usage)              | <Matrix> string </Matrix> |
| <b>Identity</b>      | Matrix                    |
| <b>(description)</b> | An identity Matrix.       |

## 4.528 Matrix3D

[x:Object](#) > Matrix3D

|                      |   |
|----------------------|---|
| (usage)              | <Matrix3D> string </Matrix3D>   |
| <b>(description)</b> | Represents a 4 x 4 matrix used for transformations in 3-D space.          |
| <b>(used by)</b>     | <a href="#">MatrixCamera</a> <a href="#">MatrixTransform3D</a>            |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">Matrix3DSyntax</a>  |
| <b>(properties)</b>  |   |
| <b>M11</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the first row and first column of this Matrix3D structure.   |
| <b>M12</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the first row and second column of this Matrix3D structure.  |
| <b>M13</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the first row and third column of this Matrix3D structure.   |
| <b>M14</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the first row and fourth column of this Matrix3D structure.  |
| <b>M21</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the second row and first column of this Matrix3D structure.  |
| <b>M22</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the second row and second column of this Matrix3D structure. |
| <b>M23</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the second row and third column of this Matrix3D structure.  |
| <b>M24</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the second row and fourth column of this Matrix3D structure. |
| <b>M31</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b> | The value of the third row and first column of this Matrix3D structure.   |
| <b>M32</b>           | <a href="#">x:Double</a>  |

|                            |   |
|----------------------------|---|
| (usage)                    | <Matrix3D> string </Matrix3D>   |
| <b>(description)</b>       | The value of the third row and second column of this Matrix3D structure.  |
| <b>M33</b>                 | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The value of the third row and third column of this Matrix3D structure.   |
| <b>M34</b>                 | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The value of the third row and fourth column of this Matrix3D structure.  |
| <b>M44</b>                 | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The value of the fourth row and fourth column of this Matrix3D structure. |
| <b>OffsetX</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The value of the fourth row and first column of this Matrix3D structure.  |
| <b>OffsetY</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The value of the fourth row and second column of this Matrix3D structure. |
| <b>OffsetZ</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The value of the fourth row and third column of this Matrix3D structure.  |
| <b>(static properties)</b> |   |
| <b>Identity</b>            | Matrix3D  |
| <b>(description)</b>       | Changes a Matrix3D structure into an identity Matrix3D.                   |

#### 4.529 MatrixAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > MatrixAnimationBase

|  |   |
|--|---|
| <a href="#">MatrixAnimationUsingKeyFrames</a> <a href="#">MatrixAnimationUsingPath</a> |   |
| <b>(usage)</b>   | None.                                     |
| <b>(description)</b>   | A base type that animates a Matrix value. |
| <b>[is default constructible]</b>  | false                                     |
| <b>[name property]</b>   | Name                                      |

#### 4.530 MatrixAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [MatrixAnimationBase](#) > MatrixAnimationUsingKeyFrames

|                      |  |
|----------------------|--|
| (usage)              | <MatrixAnimationUsingKeyFrames> <a href="#">MatrixKeyFrame</a> *</MatrixAnimationUsingKeyFrames> |
| <b>(description)</b> | Animates the value of a Matrix property along a set of KeyFrames.                                |

|                           |  |
|---------------------------|--|
| (usage)                   | <MatrixAnimationUsingKeyFrames> <a href="#">MatrixKeyFrame</a> *</MatrixAnimationUsingKeyFrames> |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>KeyFrames</b>          | <a href="#">MatrixKeyFrameCollection</a>   |
| <b>(description)</b>      | The collection of MatrixKeyFrame objects that define the animation.                              |

#### 4.531 MatrixAnimationUsingPath

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [MatrixAnimationBase](#) > MatrixAnimationUsingPath

|                              |   |
|------------------------------|---|
| (usage)                      | <MatrixAnimationUsingPath />  |
| <b>(description)</b>         | Animates the value of a Matrix property by using a PathGeometry to generate the animated values. This animation can be used to move a visual object along a path. |
| <b>[name property]</b>       | Name  |
| <b>(properties)</b>          |   |
| <b>DoesRotateWithTangent</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>         | A value indicating whether the object rotates along the tangent of the path.  |
| <b>IsAdditive</b>            | <a href="#">x:Boolean</a>   |
| <b>(description)</b>         | A value that indicates whether the target property's current value should be added to this animation's starting value.  |
| <b>IsAngleCumulative</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>         | A value that specifies whether the rotation angle of the animated matrix should accumulate over repetitions.  |
| <b>IsOffsetCumulative</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>         | A value indicating whether the offset produced by the animated matrix will accumulate over repetitions.   |
| <b>PathGeometry</b>          | <a href="#">PathGeometry</a>  |
| <b>(description)</b>         | The geometry used to generate this animation's output values.   |

#### 4.532 MatrixCamera

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Camera](#) > MatrixCamera

|         |                  |
|---------|------------------|
| (usage) | <MatrixCamera /> |
|---------|------------------|

|                         |   |
|-------------------------|---|
| (usage)                 | <MatrixCamera />  |
| <b>(description)</b>    | Camera which specifies the view and projection transforms as Matrix3D objects |
| <b>(properties)</b>     |   |
| <b>ProjectionMatrix</b> | <a href="#">Matrix3D</a>  |
| <b>(description)</b>    | A Matrix3D as the projection transformation matrix.                           |
| <b>ViewMatrix</b>       | <a href="#">Matrix3D</a>  |
| <b>(description)</b>    | A Matrix3D as the view transformation matrix.                                 |

#### 4.533 MatrixKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > MatrixKeyFrame

|   |  |
|---|--|
| <b><a href="#">DiscreteMatrixKeyFrame</a></b> |  |
| <b>(usage)</b>                                | None.  |
| <b>(description)</b>                          | A base type that defines an animation segment with its own target value and interpolation technique for a MatrixAnimationUsingKeyFrames. |
| <b>(used by)</b>                              | <a href="#">MatrixKeyFrameCollection</a>   |
| <b>[is default constructible]</b>             | false  |
| <b>(properties)</b>                           |  |
| <b>KeyTime</b>                                | <a href="#">KeyTime</a>  |
| <b>(description)</b>                          | The time at which the key frame's target Value should be reached.  |
| <b>Value</b>                                  | <a href="#">Matrix</a>   |
| <b>(description)</b>                          | The key frame's target value.  |

#### 4.534 MatrixKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > MatrixKeyFrameCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <MatrixKeyFrameCollection> <a href="#">MatrixKeyFrame</a> *</MatrixKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of MatrixKeyFrame objects.                                     |
| <b>(used by)</b>           | <a href="#">MatrixAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">MatrixKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | MatrixKeyFrameCollection   |



|                      |  |
|----------------------|--|
| (usage)              | <MatrixKeyFrameCollection> <a href="#">MatrixKeyFrame</a> *</MatrixKeyFrameCollection> |
| <b>(description)</b> | An empty MatrixKeyFrameCollection.   |

#### 4.535 MatrixTransform

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform](#) > [Transform](#) > MatrixTransform

|                      |  |
|----------------------|--|
| (usage)              | <MatrixTransform> string </MatrixTransform>  |
| <b>(description)</b> | Creates an arbitrary affine matrix transformation that is used to manipulate objects or coordinate systems in a 2-D plane. |
| <b>[text syntax]</b> | <a href="#">TransformSyntax</a>  |
| <b>(properties)</b>  |  |
| <b>Matrix</b>        | <a href="#">Matrix</a>   |
| <b>(description)</b> | The Matrix structure that defines this transformation.   |

#### 4.536 MatrixTransform3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform3D](#) > [Transform3D](#) > MatrixTransform3D

|                      |  |
|----------------------|--|
| (usage)              | <MatrixTransform3D />  |
| <b>(description)</b> | Creates a transformation specified by a Matrix3D, used to manipulate objects or coordinate systems in 3-D world space. |
| <b>(properties)</b>  |  |
| <b>Matrix</b>        | <a href="#">Matrix3D</a>   |
| <b>(description)</b> | A Matrix3D that specifies a 3-D transformation.  |

#### 4.537 MediaCommands

[x:Object](#) > MediaCommands

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static MediaCommands.StaticPropertyName}        |
| <b>(description)</b>              | Provides a standard set of media related commands. |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>BoostBass</b>                  | <a href="#">RoutedUICommand</a>                    |
| <b>(description)</b>              | The value that represents the Boost Base command.  |
| <b>ChannelDown</b>                | <a href="#">RoutedUICommand</a>                    |

|                                 |   |
|---------------------------------|---|
| (usage)                         | {x:Static MediaCommands.StaticPropertyName}                       |
| <b>(description)</b>            | The value that represents the Channel Down command.               |
| <b>ChannelUp</b>                | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Channel Up command.                 |
| <b>DecreaseBass</b>             | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Decrease Bass command.              |
| <b>DecreaseMicrophoneVolume</b> | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Decrease Microphone Volume command. |
| <b>DecreaseTreble</b>           | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Decrease Treble command.            |
| <b>DecreaseVolume</b>           | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Decrease Volume command.            |
| <b>FastForward</b>              | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Fast Forward command.               |
| <b>IncreaseBass</b>             | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Increase Bass command.              |
| <b>IncreaseMicrophoneVolume</b> | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Increase Microphone Volume command. |
| <b>IncreaseTreble</b>           | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Increase Treble command.            |
| <b>IncreaseVolume</b>           | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Increase Volume command.            |
| <b>MuteMicrophoneVolume</b>     | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Mute Microphone Volume command.     |
| <b>MuteVolume</b>               | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Mute Volume command.                |
| <b>NextTrack</b>                | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Next Track command.                 |
| <b>Pause</b>                    | <a href="#">RoutedUICommand</a>                                   |
| <b>(description)</b>            | The value that represents the Pause command.                      |
| <b>Play</b>                     | <a href="#">RoutedUICommand</a>                                   |

|                              |   |
|------------------------------|---|
| (usage)                      | {x:Static MediaCommands.StaticPropertyName}                     |
| <b>(description)</b>         | The value that represents the Play command.                     |
| <b>PreviousTrack</b>         | <a href="#">RoutedUICommand</a>                                 |
| <b>(description)</b>         | The value that represents the Previous Track command.           |
| <b>Record</b>                | <a href="#">RoutedUICommand</a>                                 |
| <b>(description)</b>         | The value that represents the Record command.                   |
| <b>Rewind</b>                | <a href="#">RoutedUICommand</a>                                 |
| <b>(description)</b>         | The value that represents the Rewind command.                   |
| <b>Select</b>                | <a href="#">RoutedUICommand</a>                                 |
| <b>(description)</b>         | The value that represents the Select command.                   |
| <b>Stop</b>                  | <a href="#">RoutedUICommand</a>                                 |
| <b>(description)</b>         | The value that represents the Stop command.                     |
| <b>ToggleMicrophoneOnOff</b> | <a href="#">RoutedUICommand</a>                                 |
| <b>(description)</b>         | The value that represents the Toggle Microphone On Off command. |
| <b>TogglePlayPause</b>       | <a href="#">RoutedUICommand</a>                                 |
| <b>(description)</b>         | The value that represents the Toggle Play Pause command.        |

#### 4.538 MediaElement

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > MediaElement, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <MediaElement />                                       |
| <b>(description)</b>       | Represents a control that contains audio and/or video. |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Balance</b>             | <a href="#">x:Double</a>                               |
| <b>(description)</b>       | A ratio of volume across speakers.                     |
| <b>IsMuted</b>             | <a href="#">x:Boolean</a>                              |
| <b>(description)</b>       | A value indicating whether the audio is muted.         |
| <b>LoadedBehavior</b>      | <a href="#">MediaState</a>                             |
| <b>(description)</b>       | The load behavior MediaState for the media.            |

|                         |  |
|-------------------------|--|
| (usage)                 | <MediaElement />   |
| <b>Position</b>         | <a href="#">x:TimeSpan</a>   |
| <b>(description)</b>    | The current position of progress through the media's playback time.                                  |
| <b>ScrubbingEnabled</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>    | A value that indicates whether the MediaElement will update frames for seek operations while paused. |
| <b>Source</b>           | <a href="#">x:Uri</a>  |
| <b>(description)</b>    | A media source on the MediaElement.  |
| <b>SpeedRatio</b>       | <a href="#">x:Double</a>   |
| <b>(description)</b>    | The speed ratio of the media.  |
| <b>Stretch</b>          | <a href="#">Stretch</a>  |
| <b>(description)</b>    | A Stretch value that describes how a MediaElement fills the destination rectangle.                   |
| <b>StretchDirection</b> | <a href="#">StretchDirection</a>   |
| <b>(description)</b>    | A value that determines the restrictions on scaling that are applied to the image.                   |
| <b>UnloadedBehavior</b> | <a href="#">MediaState</a>   |
| <b>(description)</b>    | The unload behavior MediaState for the media.  |
| <b>Volume</b>           | <a href="#">x:Double</a>   |
| <b>(description)</b>    | The media's volume.  |
| <b>(events)</b>         |  |
| <b>BufferingEnded</b>   | Occurs when media buffering has ended.   |
| <b>BufferingStarted</b> | Occurs when media buffering has begun.   |
| <b>MediaEnded</b>       | Occurs when the media has ended.   |
| <b>MediaFailed</b>      | Occurs when an error is encountered.   |
| <b>MediaOpened</b>      | Occurs when media loading has finished.  |
| <b>ScriptCommand</b>    | Occurs when a script command is encountered in the media.  |

#### 4.539 MediaPlayer

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > MediaPlayer

|                      |                                       |
|----------------------|---------------------------------------|
| (usage)              | <MediaPlayer />                       |
| <b>(description)</b> | Provides media playback for drawings. |
| <b>(used by)</b>     | <a href="#">VideoDrawing</a>          |

|                         |   |
|-------------------------|---|
| (usage)                 | <MediaPlayer />   |
| <b>(properties)</b>     |   |
| <b>Balance</b>          | <a href="#">x:Double</a>  |
| <b>(description)</b>    | The balance between the left and right speaker volumes.             |
| <b>IsMuted</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>    | A value that indicates whether the media is muted.                  |
| <b>Position</b>         | <a href="#">x:TimeSpan</a>  |
| <b>(description)</b>    | The current position of the media.                                  |
| <b>ScrubbingEnabled</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>    | A value that indicates whether scrubbing is enabled.                |
| <b>SpeedRatio</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b>    | The ratio of speed that media is played at.                         |
| <b>Volume</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>    | The media's volume.   |
| <b>(events)</b>         |   |
| <b>BufferingEnded</b>   | Occurs when buffering has finished.                                 |
| <b>BufferingStarted</b> | Occurs when buffering has started.                                  |
| <b>MediaEnded</b>       | Occurs when the media has finished playback.                        |
| <b>MediaFailed</b>      | Occurs when an error is encountered                                 |
| <b>MediaOpened</b>      | Occurs when the media is opened.                                    |
| <b>ScriptCommand</b>    | Occurs when a script command has been encountered within the media. |

#### 4.540 MediaState

[x:Object](#) > MediaState

|                      |  |
|----------------------|--|
| (usage)              | <b>Manual  Play  Close  Pause  Stop</b>  |
| <b>(description)</b> | Specifies the states that can be applied to a MediaElement for the LoadedBehavior and UnloadedBehavior properties. |
| <b>(used by)</b>     | <a href="#">MediaElement</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">MediaStateSyntax</a>   |

## 4.541 MediaTimeline

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > MediaTimeline

|                 |  |
|-----------------|--|
| (usage)         | <MediaTimeline />                              |
| (description)   | Provides a Timeline for media content.         |
| [name property] | Name   |
| (properties)    |  |
| Source          | <a href="#">x:Uri</a>                          |
| (description)   | The media source associated with the timeline. |

## 4.542 Menu

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [MenuBase](#) > Menu, [IInputElement](#)

|                                  |   |
|----------------------------------|---|
| <a href="#">RibbonMenuButton</a> |   |
| (usage)                          | <Menu> <a href="#">x:Object</a> *</Menu>  |
| (description)                    | Represents a menu control that enables you to hierarchically organize elements associated with commands and event handlers. |
| [content property]               | Items   |
| [name property]                  | Name  |
| [xml lang property]              | Language  |
| (properties)                     |   |
| IsMainMenu                       | <a href="#">x:Boolean</a>   |
| (description)                    | A value that indicates whether this Menu receives a main menu activation notification.                                      |

## 4.543 MenuBase

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > MenuBase, [IInputElement](#)

|  |  |
|--|--|
| <a href="#">ContextMenu</a> <a href="#">Menu</a> |  |
| (usage)  | None.  |
| (description)                                    | Represents a control that defines choices for users to select. |
| [is default constructible]                       | false  |
| [content property]                               | Items  |

|  |  |
|--|--|
| <a href="#">ContextMenu</a> <a href="#">Menu</a> |  |
| <b>[name property]</b>                           | Name   |
| <b>[xml lang property]</b>                       | Language   |
| <b>(properties)</b>                              |  |
| <b>UsesItemContainerTemplate (4.5)</b>           | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                             | A value that indicates whether the menu selects different item containers, depending on the type of the item in the underlying collection or some other heuristic. |

#### 4.544 MenuItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > MenuItem, [InputElement](#)

|                                |   |
|--------------------------------|---|
| <a href="#">RibbonMenuItem</a> |   |
| <b>(usage)</b>                 | <MenuItem> <a href="#">x:Object</a> *</MenuItem>  |
| <b>(description)</b>           | Represents a selectable item inside a Menu.   |
| <b>[content property]</b>      | Items   |
| <b>[name property]</b>         | Name  |
| <b>[xml lang property]</b>     | Language  |
| <b>(properties)</b>            |   |
| <b>Command</b>                 | <a href="#">ICommand</a>  |
| <b>(description)</b>           | The command associated with the menu item.  |
| <b>CommandParameter</b>        | <a href="#">x:Object</a>  |
| <b>(description)</b>           | The parameter to pass to the Command property of a MenuItem.                                |
| <b>CommandTarget</b>           | <a href="#">InputElement</a>  |
| <b>(description)</b>           | The target element on which to raise the specified command.                                 |
| <b>Icon</b>                    | <a href="#">x:Object</a>  |
| <b>(description)</b>           | The icon that appears in a MenuItem.  |
| <b>InputGestureText</b>        | <a href="#">x:String</a>  |
| <b>(description)</b>           | The text describing an input gesture that will call the command tied to the specified item. |
| <b>IsCheckable</b>             | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a MenuItem can be checked.                                   |

| <a href="#">RibbonMenuItem</a>         |  |
|--|--|
| <b>IsChecked</b>                       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value that indicates whether the MenuItem is checked.  |
| <b>IsSubMenuOpen</b>                   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value that indicates whether the submenu of the MenuItem is open.  |
| <b>StaysOpenOnClick</b>                | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value that indicates that the submenu in which this MenuItem is located should not close when this item is clicked.  |
| <b>UsesItemContainerTemplate (4.5)</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value that indicates whether the menu selects different item containers, depending on the type of the item in the underlying collection or some other heuristic. |
| <b>(static properties)</b>             |  |
| <b>SeparatorStyleKey</b>               | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The resource key for a style applied to a MenuItem when the MenuItem is a Separator.   |
| <b>SubMenuHeaderTemplateKey</b>        | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The resource key for a style applied to a MenuItem when the MenuItem is a header of a submenu.   |
| <b>SubMenuItemTemplateKey</b>          | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The resource key for a style applied to a MenuItem when the MenuItem is a submenu.   |
| <b>TopLevelHeaderTemplateKey</b>       | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The resource key for a style applied to a MenuItem when the MenuItem is a header of a top-level menu.  |
| <b>TopLevelItemTemplateKey</b>         | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The resource key for a style applied to a MenuItem when it is a top-level MenuItem that can invoke commands.   |
| <b>(events)</b>                        |  |
| <b>Checked</b>                         | Occurs when a menu item is checked.  |
| <b>Click</b>                           | Occurs when a MenuItem is clicked.   |
| <b>SubMenuClosed</b>                   | Occurs when the state of the IsSubMenuOpen property changes to false.  |
| <b>SubMenuOpened</b>                   | Occurs when the state of the IsSubMenuOpen property changes to true.   |



|                                |                                      |
|--------------------------------|--------------------------------------|
| <a href="#">RibbonMenuItem</a> |                                      |
| <b>Unchecked</b>               | Occurs when a MenuItem is unchecked. |

#### 4.545 MenuItemRole

[x:Object](#) > MenuItemRole

|                      |   |
|----------------------|---|
| (usage)              | <b>TopLevelItem</b>   <b>TopLevelHeader</b>   <b>SubmenuItem</b>   <b>SubmenuHeader</b> |
| <b>(description)</b> | Defines the different roles that a MenuItem can have.                                   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">MenuItemRoleSyntax</a>  |

#### 4.546 MenuScrollingVisibilityConverter

[x:Object](#) > MenuScrollingVisibilityConverter, [IMultiValueConverter](#)

|                      |  |
|----------------------|--|
| (usage)              | <MenuScrollingVisibilityConverter />   |
| <b>(description)</b> | Represents a data-binding converter to handle the visibility of repeat buttons in scrolling menus. |

#### 4.547 MeshGeometry3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Geometry3D](#) > MeshGeometry3D

|                           |   |
|---------------------------|---|
| (usage)                   | <MeshGeometry3D />  |
| <b>(description)</b>      | Triangle primitive for building a 3-D shape.                |
| <b>(properties)</b>       |   |
| <b>Normals</b>            | <a href="#">Vector3DCollection</a>                          |
| <b>(description)</b>      | A collection of normal vectors for the MeshGeometry3D.      |
| <b>Positions</b>          | <a href="#">Point3DCollection</a>                           |
| <b>(description)</b>      | A collection of vertex positions for a MeshGeometry3D.      |
| <b>TextureCoordinates</b> | <a href="#">PointCollection</a>                             |
| <b>(description)</b>      | A collection of texture coordinates for the MeshGeometry3D. |
| <b>TriangleIndices</b>    | <a href="#">Int32Collection</a>                             |
| <b>(description)</b>      | A collection of triangle indices for the MeshGeometry3D.    |

#### 4.548 MessageBoxButton

[x:Object](#) > MessageBoxButton

|                      |  |
|----------------------|--|
| (usage)              | <b>OK  OKCancel  YesNoCancel  YesNo</b>  |
| <b>(description)</b> | Specifies the buttons that are displayed on a message box. Used as an argument of the Show method. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">MessageBoxButtonSyntax</a>   |

#### 4.549 MessageBoxImage

[x:Object](#) > MessageBoxImage

|                      |  |
|----------------------|--|
| (usage)              | <b>None  Hand  Question  Exclamation  Asterisk  Stop  Error  Warning  Information...</b> |
| <b>(description)</b> | Specifies the icon that is displayed by a message box.                                   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">MessageBoxImageSyntax</a>  |

#### 4.550 MessageBoxOptions

[x:Object](#) > MessageBoxOptions

|                      |  |
|----------------------|--|
| (usage)              | <b>None  ServiceNotification  DefaultDesktopOnly  RightAlign  RtlReading</b> |
| <b>(description)</b> | Specifies special display options for a message box.                         |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">MessageBoxOptionsSyntax</a>                                      |

#### 4.551 MessageBoxResult

[x:Object](#) > MessageBoxResult

|                      |   |
|----------------------|---|
| (usage)              | <b>None  OK  Cancel  Yes  No</b>  |
| <b>(description)</b> | Specifies which message box button that a user clicks. MessageBoxResult is returned by the Show method. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">MessageBoxResultSyntax</a>  |

#### 4.552 MinMaxParagraphWidth

[x:Object](#) > MinMaxParagraphWidth

|         |                          |
|---------|--------------------------|
| (usage) | <MinMaxParagraphWidth /> |
|---------|--------------------------|

|                      |   |
|----------------------|---|
| (usage)              | <MinMaxParagraphWidth />  |
| <b>(description)</b> | Represents the smallest and largest possible paragraph width that can fully contain the specified text content. |
| <b>[is nullable]</b> | false   |

#### 4.553 Model3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Model3D

|  |  |
|--|--|
| <a href="#">GeometryModel3D</a> <a href="#">Light</a> <a href="#">Model3DGroup</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | Provides functionality for 3-D models.   |
| <b>(used by)</b>   | <a href="#">Model3DCollection</a> <a href="#">ModelUIElement3D</a> <a href="#">ModelVisual3D</a> |
| <b>[is default constructible]</b>  | false  |
| <b>(properties)</b>  |  |
| <b>Transform</b>   | <a href="#">Transform3D</a>  |
| <b>(description)</b>   | The Transform3D set on the model.  |

#### 4.554 Model3DCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Model3DCollection

|                        |   |
|------------------------|---|
| (usage)                | <Model3DCollection> <a href="#">Model3D</a> *</Model3DCollection> |
| <b>(description)</b>   | Represents an ordered collection of Model3D objects.              |
| <b>(used by)</b>       | <a href="#">Model3DGroup</a>                                      |
| <b>[is list]</b>       | true  |
| <b>[allowed types]</b> | <a href="#">Model3D</a>   |

#### 4.555 Model3DGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Model3D](#) > Model3DGroup

|                           |   |
|---------------------------|---|
| (usage)                   | <Model3DGroup> <a href="#">Model3D</a> *</Model3DGroup> |
| <b>(description)</b>      | Enables using a number of 3-D models as a unit.         |
| <b>[content property]</b> | Children  |
| <b>(properties)</b>       |   |
| <b>Children</b>           | <a href="#">Model3DCollection</a>                       |
| <b>(description)</b>      | A collection of Model3D objects.                        |

## 4.556 ModelUIElement3D

[x:Object](#) > [DependencyObject](#) > [Visual3D](#) > [UIElement3D](#) > ModelUIElement3D, [InputElement](#)

|                    |  |
|--------------------|--|
| (usage)            | <ModelUIElement3D> <a href="#">Model3D</a> </ModelUIElement3D> |
| (description)      | Renders a 3-D model that supports input, focus, and events.    |
| [content property] | Model  |
| (properties)       |  |
| Model              | <a href="#">Model3D</a>  |
| (description)      | The Model3D to render.   |

## 4.557 ModelVisual3D

[x:Object](#) > [DependencyObject](#) > [Visual3D](#) > ModelVisual3D

|                    |  |
|--------------------|--|
| (usage)            | <ModelVisual3D> <a href="#">Visual3D</a> *</ModelVisual3D> |
| (description)      | Provides a Visual3D that renders Model3D objects.          |
| [content property] | Children   |
| (properties)       |  |
| Children           | <a href="#">Visual3DCollection</a>                         |
| (description)      | A collection of child Visual3D objects.                    |
| [read only]        | true   |
| Content            | <a href="#">Model3D</a>                                    |
| (description)      | The model that comprises the content of the ModelVisual3D. |
| Transform          | <a href="#">Transform3D</a>                                |
| (description)      | The transform set on the ModelVisual3D.                    |

## 4.558 Modifiability

[x:Object](#) > Modifiability

|               |   |
|---------------|---|
| (usage)       | <b>Unmodifiable  Modifiable  Inherit</b>  |
| (description) | Specifies the modifiability value of a LocalizabilityAttribute for a type or type member. |
| [is nullable] | false   |
| [text syntax] | <a href="#">ModifiabilitySyntax</a>   |

## 4.559 ModifierKeys

[x:Object](#) > ModifierKeys

|                      |   |
|----------------------|---|
| (usage)              | <b>None  Alt  <a href="#">Control</a>  Shift  Windows</b> |
| <b>(description)</b> | Specifies the set of modifier keys.                       |
| <b>(used by)</b>     | <a href="#">KeyBinding</a> <a href="#">MouseGesture</a>   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ModifierKeysSyntax</a>                        |

## 4.560 Mouse

[x:Object](#) > Mouse

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static Mouse.StaticPropertyName}               |
| <b>(description)</b>              | Represents the mouse device to a specific thread. |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |
| <b>Captured</b>                   | <a href="#">InputElement</a>                      |
| <b>(description)</b>              | The element that has captured the mouse.          |
| <b>DirectlyOver</b>               | <a href="#">InputElement</a>                      |
| <b>(description)</b>              | The element the mouse pointer is directly over.   |
| <b>LeftButton</b>                 | <a href="#">MouseButtonState</a>                  |
| <b>(description)</b>              | The state of the left button of the mouse.        |
| <b>MiddleButton</b>               | <a href="#">MouseButtonState</a>                  |
| <b>(description)</b>              | The state of the middle button of the mouse.      |
| <b>OverrideCursor</b>             | <a href="#">Cursor</a>                            |
| <b>(description)</b>              | The cursor for the entire application.            |
| <b>PrimaryDevice</b>              | MouseDevice                                       |
| <b>(description)</b>              | The primary mouse device.                         |
| <b>RightButton</b>                | <a href="#">MouseButtonState</a>                  |
| <b>(description)</b>              | The state of the right button.                    |
| <b>XButton1</b>                   | <a href="#">MouseButtonState</a>                  |
| <b>(description)</b>              | The state of the first extended button.           |
| <b>XButton2</b>                   | <a href="#">MouseButtonState</a>                  |
| <b>(description)</b>              | The state of the second extended button.          |

|   |  |
|---|--|
| (usage)   | {x:Static Mouse.StaticPropertyName}  |
| <b>(attachable events)</b>                          |  |
| <b>Mouse.GotMouseCapture</b>                        | Occurs when an element captures the mouse.   |
| <b>Mouse.LostMouseCapture</b>                       | Occurs when an element loses mouse capture.  |
| <b>Mouse.MouseDown</b>                              | Occurs when any mouse button is depressed.   |
| <b>Mouse.MouseEnter</b>                             | Occurs when the mouse pointer enters the boundaries of an element.                                   |
| <b>Mouse.MouseLeave</b>                             | Occurs when the mouse pointer leaves the boundaries of an element.                                   |
| <b>Mouse.MouseMove</b>                              | Occurs when the mouse pointer moves.   |
| <b>Mouse.MouseUp</b>                                | Occurs when any mouse button is released.  |
| <b>Mouse.MouseWheel</b>                             | Occurs when the mouse wheel is rotated.  |
| <b>Mouse.PreviewMouseDown</b>                       | Occurs when any mouse button is depressed.   |
| <b>Mouse.PreviewMouseDownOutsideCapturedElement</b> | Occurs when the primary mouse button is pressed outside the element that is capturing mouse events.  |
| <b>Mouse.PreviewMouseMove</b>                       | Occurs when the mouse moves over an element.   |
| <b>Mouse.PreviewMouseUp</b>                         | Occurs when any mouse button is released.  |
| <b>Mouse.PreviewMouseUpOutsideCapturedElement</b>   | Occurs when the primary mouse button is released outside the element that is capturing mouse events. |
| <b>Mouse.PreviewMouseWheel</b>                      | Occurs when the mouse wheel rotates.   |
| <b>Mouse.QueryCursor</b>                            | Occurs when an element queries for the current mouse cursor.   |

#### 4.561 MouseAction

[x:Object](#) > MouseAction

|                      |   |
|----------------------|---|
| (usage)              | <b>None  LeftClick  RightClick  MiddleClick  WheelClick  LeftDoubleClick  RightDoubleClick  MiddleDoubleClick</b> |
| <b>(description)</b> | Specifies constants that define actions performed by the mouse.   |
| <b>(used by)</b>     | <a href="#">MouseBinding</a> <a href="#">MouseGesture</a>   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">MouseActionSyntax</a>   |

## 4.562 MouseBinding

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [InputBinding](#) > MouseBinding

|                      |   |
|----------------------|---|
| (usage)              | <MouseBinding />  |
| <b>(description)</b> | Binds a MouseGesture to a RoutedCommand (or another ICommand implementation). |
| <b>(properties)</b>  |   |
| <b>Gesture</b>       | <a href="#">InputGesture</a>  |
| <b>(description)</b> | The gesture associated with this MouseBinding.                                |
| <b>[text syntax]</b> | <a href="#">MouseGestureSyntax</a>  |
| <b>MouseAction</b>   | <a href="#">MouseAction</a>   |
| <b>(description)</b> | The MouseAction associated with this MouseBinding.                            |

## 4.563 MouseButton

[x:Object](#) > MouseButton

|                      |  |
|----------------------|--|
| (usage)              | <b>Left  Middle  Right  XButton1  XButton2</b>             |
| <b>(description)</b> | Defines values that specify the buttons on a mouse device. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">MouseButtonSyntax</a>                          |

## 4.564 MouseButtonState

[x:Object](#) > MouseButtonState

|                      |  |
|----------------------|--|
| (usage)              | <b>Released  Pressed</b>                         |
| <b>(description)</b> | Specifies the possible states of a mouse button. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">MouseButtonStateSyntax</a>           |

## 4.565 MouseGesture

[x:Object](#) > [InputGesture](#) > MouseGesture

|                      |   |
|----------------------|---|
| (usage)              | <MouseGesture> string </MouseGesture>                               |
| <b>(description)</b> | Defines a mouse input gesture that can be used to invoke a command. |
| <b>[text syntax]</b> | <a href="#">MouseGestureSyntax</a>                                  |
| <b>(properties)</b>  |   |

|                      |  |
|----------------------|--|
| (usage)              | <MouseGesture> string </MouseGesture>                |
| <b>Modifiers</b>     | <a href="#">ModifierKeys</a>                         |
| <b>(description)</b> | The modifier keys associated with this MouseGesture. |
| <b>MouseAction</b>   | <a href="#">MouseAction</a>                          |
| <b>(description)</b> | The MouseAction associated with this gesture.        |

## 4.566 MultiBinding

[x:Object](#) > [x:MarkupExtension](#) > [BindingBase](#) > MultiBinding

|                              |  |
|------------------------------|--|
| (usage)                      | <MultiBinding> <a href="#">BindingBase</a> *</MultiBinding>  |
| <b>(description)</b>         | Describes a collection of Binding objects attached to a single binding target property.  |
| <b>[content property]</b>    | Bindings   |
| <b>[return value type]</b>   | <a href="#">x:Object</a>   |
| <b>(properties)</b>          |  |
| <b>Bindings</b>              | <a href="#">Collection</a> ( <a href="#">BindingBase</a> )   |
| <b>(description)</b>         | The collection of Binding objects within this MultiBinding instance.   |
| <b>[read only]</b>           | true   |
| <b>Converter</b>             | <a href="#">IMultiValueConverter</a>   |
| <b>(description)</b>         | The converter to use to convert the source values to or from the target value.   |
| <b>ConverterCulture</b>      | <a href="#">CultureInfo</a>  |
| <b>(description)</b>         | The CultureInfo object that applies to any converter assigned to bindings wrapped by the MultiBinding or on the MultiBinding itself.       |
| <b>[text syntax]</b>         | <a href="#">CultureInfoIetfLanguageTagSyntax</a>   |
| <b>ConverterParameter</b>    | <a href="#">x:Object</a>   |
| <b>(description)</b>         | An optional parameter to pass to a converter as additional information.  |
| <b>Mode</b>                  | <a href="#">BindingMode</a>  |
| <b>(description)</b>         | A value that indicates the direction of the data flow of this binding.   |
| <b>NotifyOnSourceUpdated</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether to raise the SourceUpdated event when a value is transferred from the binding target to the binding source. |
| <b>NotifyOnTargetUpdated</b> | <a href="#">x:Boolean</a>  |



|  |  |
|--|--|
| (usage)                                  | <MultiBinding> <a href="#">BindingBase</a> *</MultiBinding>  |
| <b>(description)</b>                     | A value that indicates whether to raise the TargetUpdated event when a value is transferred from the binding source to the binding target. |
| <b>NotifyOnValidationError</b>           | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value that indicates whether to raise the Error attached event on the bound element.   |
| <b>UpdateSourceTrigger</b>               | <a href="#">UpdateSourceTrigger</a>  |
| <b>(description)</b>                     | A value that determines the timing of binding source updates.  |
| <b>ValidatesOnDataErrors</b>             | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value that indicates whether to include the DataErrorValidationRule.   |
| <b>ValidatesOnExceptions</b>             | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value that indicates whether to include the ExceptionValidationRule.   |
| <b>ValidatesOnNotifyDataErrors (4.5)</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value that indicates whether to include the NotifyDataErrorValidationRule.   |
| <b>ValidationRules</b>                   | <a href="#">Collection(ValidationRule)</a>   |
| <b>(description)</b>                     | The collection of ValidationRule objects for this instance of MultiBinding.  |
| <b>[read only]</b>                       | true   |

#### 4.567 MultiDataTrigger

[x:Object](#) > [DependencyObject](#) > [TriggerBase](#) > MultiDataTrigger

|                           |  |
|---------------------------|--|
| (usage)                   | <MultiDataTrigger> <a href="#">SetterBase</a> *</MultiDataTrigger>   |
| <b>(description)</b>      | Represents a trigger that applies property values or performs actions when the bound data meet a set of conditions.          |
| <b>[content property]</b> | Setters  |
| <b>(properties)</b>       |  |
| <b>Conditions</b>         | <a href="#">ConditionCollection</a>  |
| <b>(description)</b>      | A collection of Condition objects. Changes to property values are applied when all the conditions in the collection are met. |
| <b>[read only]</b>        | true   |
| <b>Setters</b>            | <a href="#">SetterBaseCollection</a>   |
| <b>(description)</b>      | A collection of Setter objects that describe the property values to apply when all the                                       |

|             |  |
|-------------|--|
| (usage)     | <MultiDataTrigger> <a href="#">SetterBase</a> *</MultiDataTrigger> |
|             | conditions of the MultiDataTrigger are met.                        |
| [read only] | true   |

#### 4.568 MultiSelector

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [Selector](#) > MultiSelector, [IInputElement](#)

|                            |   |
|----------------------------|---|
| <a href="#">DataGrid</a>   |   |
| (usage)                    | None.   |
| (description)              | Provides a base type for controls that allow multiple items to be selected. |
| [is default constructible] | false   |
| [content property]         | Items   |
| [name property]            | Name  |
| [xml lang property]        | Language  |
| (properties)               |   |
| SelectedItems              | <a href="#">IList</a>   |
| (description)              | The items in the MultiSelector that are selected.                           |
| [read only]                | true  |

#### 4.569 MultiTrigger

[x:Object](#) > [DependencyObject](#) > [TriggerBase](#) > MultiTrigger

|                    |   |
|--------------------|---|
| (usage)            | <MultiTrigger> <a href="#">SetterBase</a> *</MultiTrigger>  |
| (description)      | Represents a trigger that applies property values or performs actions when a set of conditions are satisfied.                       |
| [content property] | Setters   |
| (properties)       |   |
| Conditions         | <a href="#">ConditionCollection</a>   |
| (description)      | A collection of Condition objects. Changes to property values are applied when all of the conditions in the collection are met.     |
| [read only]        | true  |
| Setters            | <a href="#">SetterBaseCollection</a>  |
| (description)      | A collection of Setter objects, which describe the property values to apply when all of the conditions of the MultiTrigger are met. |

|             |  |
|-------------|--|
| (usage)     | <MultiTrigger> <a href="#">SetterBase</a> *</MultiTrigger> |
| [read only] | true   |

## 4.570 NavigationCommands

[x:Object](#) > NavigationCommands

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static NavigationCommands.StaticPropertyName}        |
| <b>(description)</b>              | Provides a standard set of navigation-related commands. |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |
| <b>BrowseBack</b>                 | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Browse Back command.      |
| <b>BrowseForward</b>              | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Browse Forward command.   |
| <b>BrowseHome</b>                 | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Browse Home command.      |
| <b>BrowseStop</b>                 | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Browse Stop command.      |
| <b>DecreaseZoom</b>               | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Decrease Zoom command.    |
| <b>Favorites</b>                  | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Favorites command.        |
| <b>FirstPage</b>                  | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the First Page command.       |
| <b>GoToPage</b>                   | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Go To Page command.       |
| <b>IncreaseZoom</b>               | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Increase Zoom command.    |
| <b>LastPage</b>                   | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Last Page command.        |
| <b>NavigateJournal</b>            | <a href="#">RoutedUICommand</a>                         |
| <b>(description)</b>              | The value that represents the Navigate Journal command. |

|                      |  |
|----------------------|--|
| (usage)              | {x:Static NavigationCommands.StaticPropertyName}     |
| <b>NextPage</b>      | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Next Page command.     |
| <b>PreviousPage</b>  | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Previous Page command. |
| <b>Refresh</b>       | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Refresh command.       |
| <b>Search</b>        | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Search command.        |
| <b>Zoom</b>          | <a href="#">RoutedUICommand</a>                      |
| <b>(description)</b> | The value that represents the Zoom command.          |

#### 4.571 NavigationMode

[x:Object](#) > NavigationMode

|                      |  |
|----------------------|--|
| (usage)              | <b>New  Back  Forward  Refresh</b>   |
| <b>(description)</b> | Specifies the type of navigation that is taking place NavigationMode is used by the NavigationMode property. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">NavigationModeSyntax</a>   |

#### 4.572 NavigationUIVisibility

[x:Object](#) > NavigationUIVisibility

|                      |  |
|----------------------|--|
| (usage)              | <b>Automatic  Visible  Hidden</b>  |
| <b>(description)</b> | Specifies whether a Frame displays its navigation chrome. NavigationUIVisibility is used by the NavigationUIVisibility property. |
| <b>(used by)</b>     | <a href="#">Frame</a>  |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">NavigationUIVisibilitySyntax</a>   |

#### 4.573 NavigationWindow

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [Window](#) > NavigationWindow, [IInputElement](#)

|                               |  |
|-------------------------------|--|
| (usage)                       | <NavigationWindow />   |
| <b>(description)</b>          | Represents a window that supports content navigation.  |
| <b>[name property]</b>        | Name   |
| <b>[xml lang property]</b>    | Language   |
| <b>(properties)</b>           |  |
| <b>SandboxExternalContent</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>          | A value that indicates whether a NavigationWindow isolates external XAML content within a partial trust security sandbox (with default Internet zone permission set).  |
| <b>ShowsNavigationUI</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>          | A value that indicates whether a NavigationWindow shows its navigation UI.   |
| <b>Source</b>                 | <a href="#">x:Uri</a>  |
| <b>(description)</b>          | The uniform resource identifier (URI) of the current content, or the URI of new content that is currently being navigated to.  |
| <b>(events)</b>               |  |
| <b>FragmentNavigation</b>     | Occurs when navigation to a content fragment begins, which occurs immediately, if the desired fragment is in the current content, or after the source XAML content has been loaded, if the desired fragment is in different content. |
| <b>LoadCompleted</b>          | Occurs when content that was navigated to has been loaded, parsed, and has begun rendering.  |
| <b>Navigated</b>              | Occurs when the content that is being navigated to has been found, and is available from the Content property, although it may not have completed loading.   |
| <b>Navigating</b>             | Occurs when a new navigation is requested.   |
| <b>NavigationFailed</b>       | Occurs when an error is raised while navigating to the requested content.  |
| <b>NavigationProgress</b>     | Occurs periodically during a download to provide navigation progress information.  |
| <b>NavigationStopped</b>      | Occurs when the StopLoading method is called, or when a new navigation is requested while a current navigation is in progress.   |

#### 4.574 NonClientFrameEdges (4.5)

[x:Object](#) > NonClientFrameEdges

|                      |  |
|----------------------|--|
| (usage)              | <b>None  Left  Top  Right  Bottom</b>  |
| <b>(description)</b> | Specifies constants that indicate which edges of the window frame are not owned by the client. |
| <b>(used by)</b>     | <a href="#">WindowChrome</a>   |

|               |   |
|---------------|---|
| (usage)       | <b>None  Left  Top  Right  Bottom</b>     |
| [is nullable] | false                                     |
| [text syntax] | <a href="#">NonClientFrameEdgesSyntax</a> |

#### 4.575 NotifyDataErrorValidationRule (4.5)

[x:Object](#) > [ValidationRule](#) > NotifyDataErrorValidationRule

|               |   |
|---------------|---|
| (usage)       | <NotifyDataErrorValidationRule />   |
| (description) | Represents a rule that checks for errors that are raised by a data source that implements INotifyDataErrorInfo. |

#### 4.576 NumberCultureSource

[x:Object](#) > NumberCultureSource

|               |  |
|---------------|--|
| (usage)       | <b>Text  User  Override</b>  |
| (description) | Specifies how the culture for numbers in a text run is determined. |
| (used by)     | <a href="#">NumberSubstitution</a>                                 |
| [is nullable] | false  |
| [text syntax] | <a href="#">NumberCultureSourceSyntax</a>                          |

#### 4.577 NumberSubstitution

[x:Object](#) > NumberSubstitution

|                        |  |
|------------------------|--|
| (usage)                | <NumberSubstitution />   |
| (description)          | Specifies how numbers in text are displayed in different cultures.   |
| (properties)           |  |
| <b>CultureOverride</b> | <a href="#">CultureInfo</a>  |
| (description)          | A value which identifies which culture to use when the value of the CultureSource property is set to Override. |
| [text syntax]          | <a href="#">CultureInfoIetfLanguageTagSyntax</a>   |
| <b>CultureSource</b>   | <a href="#">NumberCultureSource</a>  |
| (description)          | A value which identifies the source of the culture value that is used to determine number substitution.        |
| <b>Substitution</b>    | <a href="#">NumberSubstitutionMethod</a>   |
| (description)          | A value which identifies the substitution method that is used to   |

|   |  |
|---|--|
| (usage)                                   | <NumberSubstitution />   |
|   | determine number substitution.   |
| <b>(attachable properties)</b>            |  |
| <b>NumberSubstitution.CultureOverride</b> | <a href="#">CultureInfo</a>  |
| <b>(description)</b>                      | A value which identifies which culture to use when the value of the CultureSource property is set to Override. |
| <b>[target type]</b>                      | <a href="#">DependencyObject</a>   |
| <b>[text syntax]</b>                      | <a href="#">CultureInfoIetfLanguageTagSyntax</a>   |
| <b>NumberSubstitution.CultureSource</b>   | <a href="#">NumberCultureSource</a>  |
| <b>(description)</b>                      | A value which identifies the source of the culture value that is used to determine number substitution.        |
| <b>[target type]</b>                      | <a href="#">DependencyObject</a>   |
| <b>NumberSubstitution.Substitution</b>    | <a href="#">NumberSubstitutionMethod</a>   |
| <b>(description)</b>                      | A value which identifies the substitution method that is used to determine number substitution.                |
| <b>[target type]</b>                      | <a href="#">DependencyObject</a>   |

#### 4.578 NumberSubstitutionMethod

[x:Object](#) > NumberSubstitutionMethod

|                      |  |
|----------------------|--|
| (usage)              | <b>AsCulture  Context  European  NativeNational  Traditional</b>   |
| <b>(description)</b> | Defines an enumerator type that specifies the type of number substitution to perform on numbers in a text run. |
| <b>(used by)</b>     | <a href="#">NumberSubstitution</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">NumberSubstitutionMethodSyntax</a>   |

#### 4.579 ObjectAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > ObjectAnimationBase

|   |   |
|---|---|
| <a href="#">ObjectAnimationUsingKeyFrames</a> |   |
| <b>(usage)</b>                                | None.                                     |
| <b>(description)</b>                          | A base type that animates a Object value. |
| <b>[is default constructible]</b>             | false                                     |

|   |      |
|---|------|
| <a href="#">ObjectAnimationUsingKeyFrames</a> |      |
| [name property]                               | Name |

#### 4.580 ObjectAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [ObjectAnimationBase](#) > ObjectAnimationUsingKeyFrames

|                    |  |
|--------------------|--|
| (usage)            | <ObjectAnimationUsingKeyFrames> <a href="#">ObjectKeyFrame</a> *</ObjectAnimationUsingKeyFrames> |
| (description)      | Animates the value of an Object property along a set of KeyFrames over a specified Duration.     |
| [content property] | KeyFrames  |
| [name property]    | Name   |
| (properties)       |  |
| KeyFrames          | <a href="#">ObjectKeyFrameCollection</a>   |
| (description)      | The collection of ObjectKeyFrame objects that define the animation.                              |

#### 4.581 ObjectDataProvider

[x:Object](#) > [DataSourceProvider](#) > ObjectDataProvider

|                       |  |
|-----------------------|--|
| (usage)               | <ObjectDataProvider />   |
| (description)         | Wraps and creates an object that you can use as a binding source.                                      |
| (properties)          |  |
| ConstructorParameters | <a href="#">IList</a>  |
| (description)         | The list of parameters to pass to the constructor.   |
| [read only]           | true   |
| IsAsynchronous        | <a href="#">x:Boolean</a>  |
| (description)         | A value that indicates whether to perform object creation in a worker thread or in the active context. |
| MethodName            | <a href="#">x:String</a>   |
| (description)         | The name of the method to call.  |
| MethodParameters      | <a href="#">IList</a>  |
| (description)         | The list of parameters to pass to the method.  |
| [read only]           | true   |



|                       |  |
|-----------------------|--|
| (usage)               | <ObjectDataProvider />                       |
| <b>ObjectInstance</b> | <a href="#">x:Object</a>                     |
| <b>(description)</b>  | The object used as the binding source.       |
| <b>ObjectType</b>     | <a href="#">x:XamlType</a>                   |
| <b>(description)</b>  | The type of object to create an instance of. |

#### 4.582 ObjectKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ObjectKeyFrame

|  |   |
|--|---|
| <a href="#">DiscreteObjectKeyFrame</a> |   |
| <b>(usage)</b>                         | None.   |
| <b>(description)</b>                   | A base type that defines an animation segment with its own target value and interpolation technique for a <a href="#">ObjectAnimationUsingKeyFrames</a> . |
| <b>(used by)</b>                       | <a href="#">ObjectKeyFrameCollection</a>  |
| <b>[is default constructible]</b>      | false   |
| <b>(properties)</b>                    |   |
| <b>KeyTime</b>                         | <a href="#">KeyTime</a>   |
| <b>(description)</b>                   | The time at which the key frame's target Value should be reached.   |
| <b>Value</b>                           | <a href="#">x:Object</a>  |
| <b>(description)</b>                   | The key frame's target value.   |

#### 4.583 ObjectKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ObjectKeyFrameCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <ObjectKeyFrameCollection> <a href="#">ObjectKeyFrame</a> *</ObjectKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of <a href="#">ObjectKeyFrame</a> objects.                     |
| <b>(used by)</b>           | <a href="#">ObjectAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">ObjectKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | ObjectKeyFrameCollection   |
| <b>(description)</b>       | An empty <a href="#">ObjectKeyFrameCollection</a> .                                    |

## 4.584 Orientation

[x:Object](#) > Orientation

|               |  |
|---------------|--|
| (usage)       | <b>Horizontal  Vertical</b>  |
| (description) | Defines the different orientations that a control or layout can have.  |
| (used by)     | <a href="#">ProgressBar</a> <a href="#">ScrollBar</a> <a href="#">Slider</a> <a href="#">StackPanel</a> <a href="#">ToolBarTray</a> <a href="#">Track</a> <a href="#">VirtualizingStackPanel</a> <a href="#">WrapPanel</a> |
| [is nullable] | false  |
| [text syntax] | <a href="#">OrientationSyntax</a>  |

## 4.585 OrthographicCamera

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Camera](#) > [ProjectionCamera](#) > OrthographicCamera

|               |  |
|---------------|--|
| (usage)       | <OrthographicCamera />                                 |
| (description) | Represents an orthographic projection camera.          |
| (properties)  |  |
| Width         | <a href="#">x:Double</a>                               |
| (description) | The width of the camera's viewing box, in world units. |

## 4.586 OverflowMode

[x:Object](#) > OverflowMode

|               |   |
|---------------|---|
| (usage)       | <b>AsNeeded  Always  Never</b>  |
| (description) | Specifies how ToolBar items are placed in the main toolbar panel and in the overflow panel. |
| (used by)     | <a href="#">ToolBar</a>   |
| [is nullable] | false   |
| [text syntax] | <a href="#">OverflowModeSyntax</a>  |

## 4.587 Page

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Page, [IInputElement](#)

|                    |   |
|--------------------|---|
| (usage)            | <Page> <a href="#">x:Object</a> </Page> |
| (description)      | Represents a navigatable unit.          |
| [content property] | Content                                 |
| [name property]    | Name                                    |

|                          |   |
|--------------------------|---|
| (usage)                  | <Page> <a href="#">x:Object</a> </Page>   |
| [xml lang property]      | Language  |
| (properties)             |   |
| <b>Background</b>        | <a href="#">Brush</a>   |
| (description)            | The background for a Page.  |
| <b>Content</b>           | <a href="#">x:Object</a>  |
| (description)            | The content of a Page.  |
| <b>FontFamily</b>        | <a href="#">FontFamily</a>  |
| (description)            | The name of the specified font family.  |
| <b>FontSize</b>          | <a href="#">x:Double</a>  |
| (description)            | The font size.  |
| [text syntax]            | <a href="#">FontSizeSyntax</a>  |
| <b>Foreground</b>        | <a href="#">Brush</a>   |
| (description)            | The foreground for a Page.  |
| <b>KeepAlive</b>         | <a href="#">x:Boolean</a>   |
| (description)            | A value that indicates whether the Page instance is retained in navigation history. |
| <b>ShowsNavigationUI</b> | <a href="#">x:Boolean</a>   |
| (description)            | Whether the navigation UI of a NavigationWindow is visible.                         |
| <b>Template</b>          | <a href="#">ControlTemplate</a>   |
| (description)            | The control template for a Page.  |
| <b>Title</b>             | <a href="#">x:String</a>  |
| (description)            | The title of the Page.  |
| <b>WindowHeight</b>      | <a href="#">x:Double</a>  |
| (description)            | The height of the host Window or NavigationWindow of a Page.                        |
| <b>WindowTitle</b>       | <a href="#">x:String</a>  |
| (description)            | The title of the host Window or NavigationWindow of a Page.                         |
| <b>WindowWidth</b>       | <a href="#">x:Double</a>  |
| (description)            | The width of the host Window or NavigationWindow of a Page.                         |

#### 4.588 PageContent

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > PageContent, [IInputElement](#)

|                             |  |
|-----------------------------|--|
| (usage)                     | <PageContent> <a href="#">FixedPage</a> </PageContent>   |
| <b>(description)</b>        | Provides information about the FixedPage elements within a FixedDocument.                          |
| <b>(used by)</b>            | <a href="#">PageContentCollection</a>  |
| <b>[content property]</b>   | Child  |
| <b>[name property]</b>      | Name   |
| <b>[xml lang property]</b>  | Language   |
| <b>(properties)</b>         |  |
| <b>Child</b>                | <a href="#">FixedPage</a>  |
| <b>(description)</b>        | The FixedPage associated with this PageContent.  |
| <b>LinkTargets</b>          | <a href="#">LinkTargetCollection</a>   |
| <b>(description)</b>        | A collection of LinkTarget elements that identify the hyperlink-addressable locations on the page. |
| <b>[read only]</b>          | true   |
| <b>Source</b>               | <a href="#">x:Uri</a>  |
| <b>(description)</b>        | The uniform resource identifier (URI) to the FixedPage content data stream.                        |
| <b>(events)</b>             |  |
| <b>GetPageRootCompleted</b> | Occurs when the asynchronous load of a fixed-format page has completed.                            |

#### 4.589 PageContentCollection

[x:Object](#) > PageContentCollection

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Provides collection support for a collection of document pages. |
| <b>(used by)</b>                  | <a href="#">FixedDocument</a>                                   |
| <b>[is default constructible]</b> | false   |
| <b>[is list]</b>                  | true  |
| <b>[allowed types]</b>            | <a href="#">PageContent</a>                                     |

#### 4.590 PageRange

[x:Object](#) > PageRange

|                      |                             |
|----------------------|-----------------------------|
| (usage)              | <PageRange />               |
| <b>(description)</b> | Specifies a range of pages. |

|               |   |
|---------------|---|
| (usage)       | <PageRange />                                   |
| [is nullable] | false   |
| (properties)  |   |
| PageFrom      | <a href="#">x:Int32</a>                         |
| (description) | The page number of the first page in the range. |
| PageTo        | <a href="#">x:Int32</a>                         |
| (description) | The page number of the last page in the range.  |

#### 4.591 PageRangeSelection

[x:Object](#) > PageRangeSelection

|               |  |
|---------------|--|
| (usage)       | <b>AllPages  UserPages  CurrentPage  SelectedPages</b>   |
| (description) | Specifies whether all the pages or only a limited range will be processed by an operation, usually printing. |
| [is nullable] | false  |
| [text syntax] | <a href="#">PageRangeSelectionSyntax</a>   |

#### 4.592 Panel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Panel, [IInputElement](#)

|  |  |
|--|--|
| <a href="#">Canvas</a> <a href="#">DockPanel</a> <a href="#">Grid</a> <a href="#">StackPanel</a> <a href="#">TabPanel</a> <a href="#">ToolBarOverflowPanel</a> <a href="#">UniformGrid</a> <a href="#">VirtualizingPanel</a> <a href="#">WrapPanel</a> |  |
| (usage)  | None.  |
| (description)  | A base type for all panel elements and used to position and arrange child objects. |
| [is default constructible]   | false  |
| [content property]   | Children   |
| [name property]  | Name   |
| [xml lang property]  | Language   |
| (properties)   |  |
| Background   | <a href="#">Brush</a>  |
| (description)  | A Brush that is used to fill the area between the borders of a Panel.              |
| Children   | <a href="#">UIElementCollection</a>  |

|  |  |
|--|--|
| <a href="#">Canvas</a> <a href="#">DockPanel</a> <a href="#">Grid</a> <a href="#">StackPanel</a> <a href="#">TabPanel</a> <a href="#">ToolBarOverflowPanel</a> <a href="#">UniformGrid</a> <a href="#">VirtualizingPanel</a> <a href="#">WrapPanel</a> |  |
| <b>(description)</b>   | A UIElementCollection of child elements of this Panel.   |
| <b>[read only]</b>   | true   |
| <b>IsItemsHost</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates that this Panel is a container for user interface (UI) items that are generated by an ItemsControl. |
| <b>(attachable properties)</b>   |  |
| <b>Panel.ZIndex</b>  | <a href="#">x:Int32</a>  |
| <b>(description)</b>   | A value that represents the order on the z-plane in which an element appears.  |
| <b>[target type]</b>   | <a href="#">UIElement</a>  |

#### 4.593 PanningMode

[x:Object](#) > PanningMode

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <b>None  HorizontalOnly  VerticalOnly  Both  HorizontalFirst  VerticalFirst</b> |
| <b>(description)</b> | Specifies how ScrollViewer reacts to touch manipulation.                        |
| <b>(used by)</b>     | <a href="#">ScrollViewer</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">PanningModeSyntax</a>   |

#### 4.594 Paragraph

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Block](#) > Paragraph, [InputElement](#)

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <Paragraph> <a href="#">Inline</a> <a href="#">UIElement</a> <a href="#">x:String</a> *</Paragraph> |
| <b>(description)</b>       | A block-level flow content element used to group content into a paragraph.                          |
| <b>[content property]</b>  | Inlines   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Inlines</b>             | <a href="#">InlineCollection</a>  |
| <b>(description)</b>       | An InlineCollection containing the top-level Inline elements that comprise the                      |

|                        |   |
|------------------------|---|
| (usage)                | <Paragraph> <a href="#">[Inline UIElement x:String]*</a> </Paragraph>   |
|                        | contents of the Paragraph.  |
| <b>[read only]</b>     | true  |
| <b>KeepTogether</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether the text of the paragraph may be broken by a page break or column break.   |
| <b>KeepWithNext</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether a break may occur between this paragraph and the next paragraph.   |
| <b>MinOrphanLines</b>  | <a href="#">x:Int32</a>   |
| <b>(description)</b>   | A value that specifies the minimum number of lines that can be left before the break when a Paragraph is broken by a page break or column break.  |
| <b>MinWidowLines</b>   | <a href="#">x:Int32</a>   |
| <b>(description)</b>   | A value that specifies the minimum number of lines that can be placed after the break when a Paragraph is broken by a page break or column break. |
| <b>TextDecorations</b> | <a href="#">TextDecorationCollection</a>  |
| <b>(description)</b>   | A TextDecorationCollection that contains text decorations to apply to this element.   |
| <b>TextIndent</b>      | <a href="#">x:Double</a>  |
| <b>(description)</b>   | A value that indicates how far to indent the first line of a Paragraph.   |
| <b>[text syntax]</b>   | <a href="#">LengthSyntax</a>  |

#### 4.595 ParallelTimeline

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [TimelineGroup](#) > ParallelTimeline

|                            |   |
|----------------------------|---|
| <a href="#">Storyboard</a> |   |
| <b>(usage)</b>             | <ParallelTimeline> <a href="#">Timeline*</a> </ParallelTimeline>  |
| <b>(description)</b>       | Defines a segment of time that may contain child Timeline objects. These child timelines become active according to their respective BeginTime properties. Also, child timelines are able to overlap (run in parallel) with each other. |
| <b>[content property]</b>  | Children  |
| <b>[name property]</b>     | Name  |
| <b>(properties)</b>        |   |
| <b>SlipBehavior</b>        | <a href="#">SlipBehavior</a>  |

|                            |   |
|----------------------------|---|
| <a href="#">Storyboard</a> |   |
| <b>(description)</b>       | A value that specifies how this timeline will behave when one or more of its Timeline children slips. |

#### 4.596 PasswordBox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > PasswordBox, [IInputElement](#)

|  |   |
|--|---|
| (usage)                                    | <PasswordBox />   |
| <b>(description)</b>                       | Represents a control designed for entering and handling passwords.  |
| <b>[name property]</b>                     | Name  |
| <b>[xml lang property]</b>                 | Language  |
| <b>(properties)</b>                        |   |
| <b>CaretBrush</b>                          | <a href="#">Brush</a>   |
| <b>(description)</b>                       | The brush that specifies the color of the password box's caret.     |
| <b>IsInactiveSelectionHighlightEnabled</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                       |   |
| <b>MaxLength</b>                           | <a href="#">x:Int32</a>   |
| <b>(description)</b>                       | The maximum length for passwords to be handled by this PasswordBox. |
| <b>Password</b>                            | <a href="#">x:String</a>  |
| <b>(description)</b>                       | The password currently held by the PasswordBox.                     |
| <b>PasswordChar</b>                        | <a href="#">x:Char</a>  |
| <b>(description)</b>                       | The masking character for the PasswordBox.                          |
| <b>SelectionBrush</b>                      | <a href="#">Brush</a>   |
| <b>(description)</b>                       | The brush that highlights selected text.                            |
| <b>SelectionOpacity</b>                    | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The opacity of the SelectionBrush.                                  |
| <b>(events)</b>                            |   |
| <b>PasswordChanged</b>                     | Occurs when the value of the Password property changes.             |

#### 4.597 Path

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Shape](#) > Path, [IInputElement](#)



|                            |  |
|----------------------------|--|
| (usage)                    | <Path />   |
| <b>(description)</b>       | Draws a series of connected lines and curves.    |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Data</b>                | <a href="#">Geometry</a>                         |
| <b>(description)</b>       | A Geometry that specifies the shape to be drawn. |

#### 4.598 PathAnimationSource

[x:Object](#) > PathAnimationSource

|                      |  |
|----------------------|--|
| (usage)              | <b>X  Y  Angle</b>   |
| <b>(description)</b> | Specifies the output property value of the path that is used to drive the animation. |
| <b>(used by)</b>     | <a href="#">DoubleAnimationUsingPath</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">PathAnimationSourceSyntax</a>  |

#### 4.599 PathFigure

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > PathFigure

|                           |   |
|---------------------------|---|
| (usage)                   | <PathFigure> <a href="#">PathSegment</a> *</PathFigure>   |
| <b>(description)</b>      | Represents a subsection of a geometry, a single connected series of two-dimensional geometric segments. |
| <b>(used by)</b>          | <a href="#">PathFigureCollection</a>  |
| <b>[content property]</b> | Segments  |
| <b>(properties)</b>       |   |
| <b>IsClosed</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>      | A value that specifies whether this figures first and last segments are connected.                      |
| <b>IsFilled</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>      | Whether the contained area of this PathFigure is to be used for hit-testing, rendering, and clipping.   |
| <b>Segments</b>           | <a href="#">PathSegmentCollection</a>   |
| <b>(description)</b>      | The collection of segments that define the shape of this PathFigure object.                             |

|                      |   |
|----------------------|---|
| (usage)              | <PathFigure> <a href="#">PathSegment</a> *</PathFigure> |
| <b>StartPoint</b>    | <a href="#">Point</a>                                   |
| <b>(description)</b> | The Point where the PathFigure begins.                  |

#### 4.600 PathFigureCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > PathFigureCollection

|                        |   |
|------------------------|---|
| (usage)                | <PathFigureCollection> string </PathFigureCollection>   |
| <b>(description)</b>   | Represents a collection of PathFigure objects that collectively make up the geometry of a PathGeometry. |
| <b>(used by)</b>       | <a href="#">PathGeometry</a>  |
| <b>[text syntax]</b>   | <a href="#">PathFigureCollectionSyntax</a>  |
| <b>[is list]</b>       | true  |
| <b>[allowed types]</b> | <a href="#">PathFigure</a>  |

#### 4.601 PathGeometry

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Geometry](#) > PathGeometry

|                           |   |
|---------------------------|---|
| (usage)                   | <PathGeometry> string   <a href="#">PathFigure</a> *</PathGeometry>   |
| <b>(description)</b>      | Represents a complex shape that may be composed of arcs, curves, ellipses, lines, and rectangles.                         |
| <b>(used by)</b>          | <a href="#">DoubleAnimationUsingPath</a> <a href="#">MatrixAnimationUsingPath</a> <a href="#">PointAnimationUsingPath</a> |
| <b>[text syntax]</b>      | <a href="#">GeometrySyntax</a>  |
| <b>[content property]</b> | Figures   |
| <b>(properties)</b>       |   |
| <b>Figures</b>            | <a href="#">PathFigureCollection</a>  |
| <b>(description)</b>      | The collection of PathFigure objects that describe the path's contents.   |
| <b>FillRule</b>           | <a href="#">FillRule</a>  |
| <b>(description)</b>      | A value that determines how the intersecting areas contained in this PathGeometry are combined.                           |

#### 4.602 PathSegment

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > PathSegment

|  |   |
|--|---|
| <a href="#">ArcSegment</a> <a href="#">BezierSegment</a> <a href="#">LineSegment</a> <a href="#">PolyBezierSegment</a> <a href="#">PolyLineSegment</a> <a href="#">PolyQuadraticBezierSegment</a> <a href="#">QuadraticBezierSegment</a> |   |
| <b>(usage)</b>   | None.   |
| <b>(description)</b>   | Represents a segment of a PathFigure object.  |
| <b>(used by)</b>   | <a href="#">PathSegmentCollection</a>   |
| <b>[is default constructible]</b>  | false   |
| <b>(properties)</b>  |   |
| <b>IsSmoothJoin</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether the join between this PathSegment and the previous PathSegment is treated as a corner when it is stroked with a Pen. |
| <b>IsStroked</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether the segment is stroked.  |

#### 4.603 PathSegmentCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > PathSegmentCollection

|                        |  |
|------------------------|--|
| <b>(usage)</b>         | <PathSegmentCollection> <a href="#">PathSegment</a> *</PathSegmentCollection>              |
| <b>(description)</b>   | Represents a collection of PathSegment objects that can be individually accessed by index. |
| <b>(used by)</b>       | <a href="#">PathFigure</a>   |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">PathSegment</a>  |

#### 4.604 PauseStoryboard

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > [ControllableStoryboardAction](#) > PauseStoryboard

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <PauseStoryboard />                        |
| <b>(description)</b> | A trigger action that pauses a Storyboard. |

#### 4.605 Pen

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Pen

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <Pen />  |
| <b>(description)</b> | Describes how a shape is outlined.                             |
| <b>(used by)</b>     | <a href="#">GeometryDrawing</a> <a href="#">TextDecoration</a> |

|                      |  |
|----------------------|--|
| (usage)              | <Pen />  |
| <b>(properties)</b>  |  |
| <b>Brush</b>         | <a href="#">Brush</a>  |
| <b>(description)</b> | The fill the outline produced by this Pen.                               |
| <b>DashCap</b>       | <a href="#">PenLineCap</a>   |
| <b>(description)</b> | A value that specifies how the ends of each dash are drawn.              |
| <b>DashStyle</b>     | <a href="#">DashStyle</a>  |
| <b>(description)</b> | A value that describes the pattern of dashes generated by this Pen.      |
| <b>EndLineCap</b>    | <a href="#">PenLineCap</a>   |
| <b>(description)</b> | The type of shape to use at the end of a stroke.                         |
| <b>LineJoin</b>      | <a href="#">PenLineJoin</a>  |
| <b>(description)</b> | The type of joint used at the vertices of a shape's outline.             |
| <b>MiterLimit</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b> | The limit on the ratio of the miter length to half this pen's Thickness. |
| <b>StartLineCap</b>  | <a href="#">PenLineCap</a>   |
| <b>(description)</b> | The type of shape to use at the beginning of a stroke.                   |
| <b>Thickness</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b> | The thickness of the stroke produced by this Pen.                        |

#### 4.606 PenLineCap

[x:Object](#) > PenLineCap

|                      |  |
|----------------------|--|
| (usage)              | <b>Flat  Square  Round  Triangle</b>                 |
| <b>(description)</b> | Describes the shape at the end of a line or segment. |
| <b>(used by)</b>     | <a href="#">Pen Shape</a>                            |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">PenLineCapSyntax</a>                     |

#### 4.607 PenLineJoin

[x:Object](#) > PenLineJoin

|                      |   |
|----------------------|---|
| (usage)              | <b>Miter  Bevel  Round</b>                            |
| <b>(description)</b> | Describes the shape that joins two lines or segments. |

|               |                                   |
|---------------|-----------------------------------|
| (usage)       | <b>Miter  Bevel  Round</b>        |
| (used by)     | <a href="#">Pen Shape</a>         |
| [is nullable] | false                             |
| [text syntax] | <a href="#">PenLineJoinSyntax</a> |

#### 4.608 PerspectiveCamera

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Camera](#) > [ProjectionCamera](#) > PerspectiveCamera

|               |  |
|---------------|--|
| (usage)       | <PerspectiveCamera />  |
| (description) | Represents a perspective projection camera.                    |
| (properties)  |  |
| FieldOfView   | <a href="#">x:Double</a>                                       |
| (description) | A value that represents the camera's horizontal field of view. |

#### 4.609 PixelFormat

[x:Object](#) > PixelFormat

|               |  |
|---------------|--|
| (usage)       | <b>Bgr101010  Bgr24  Bgr32  Bgr555  Bgr565  Bgra32  BlackWhite  Cmyk32  Default...</b> |
| (description) | Defines a pixel format for images and pixel-based surfaces.                            |
| (used by)     | <a href="#">ColorConvertedBitmap</a> <a href="#">FormatConvertedBitmap</a>             |
| [is nullable] | false  |
| [text syntax] | <a href="#">PixelFormatSyntax</a>  |
| (properties)  |  |
| Masks         | <a href="#">IList(PixelFormatChannelMask)</a>  |
| (description) | A collection of bit masks associated with the PixelFormat.                             |
| [read only]   | true   |

#### 4.610 PixelFormatChannelMask

[x:Object](#) > PixelFormatChannelMask

|               |   |
|---------------|---|
| (usage)       | <PixelFormatChannelMask />                                  |
| (description) | Defines the bit mask and shift for a specific pixel formats |
| (used by)     | <a href="#">PixelFormat</a>                                 |

|               |  |
|---------------|--|
| (usage)       | <PixelFormatChannelMask />   |
| [is nullable] | false  |
| (properties)  |  |
| Mask          | <a href="#">IList(x:Byte)</a>  |
| (description) | The bitmask for a color channel. The value will never be greater than 0xffffffff |
| [read only]   | true   |

## 4.611 PixelFormats

[x:Object](#) > PixelFormats

|                            |  |
|----------------------------|--|
| (usage)                    | {x:Static PixelFormats.StaticPropertyName}   |
| (description)              | Represents the collection of supported pixel formats.  |
| [is default constructible] | false  |
| (static properties)        |  |
| Bgr101010                  | <a href="#">PixelFormat</a>  |
| (description)              | The Bgr101010 pixel format. Bgr101010 is a sRGB format with 32 bits per pixel (BPP). Each color channel (blue, green, and red) is allocated 10 bits per pixel (BPP).                 |
| Bgr24                      | <a href="#">PixelFormat</a>  |
| (description)              | The Bgr24 pixel format. Bgr24 is a sRGB format with 24 bits per pixel (BPP). Each color channel (blue, green, and red) is allocated 8 bits per pixel (BPP).                          |
| Bgr32                      | <a href="#">PixelFormat</a>  |
| (description)              | The Bgr32 pixel format. Bgr32 is a sRGB format with 32 bits per pixel (BPP). Each color channel (blue, green, and red) is allocated 8 bits per pixel (BPP).                          |
| Bgr555                     | <a href="#">PixelFormat</a>  |
| (description)              | The Bgr555 pixel format. Bgr555 is a sRGB format with 16 bits per pixel (BPP). Each color channel (blue, green, and red) is allocated 5 bits per pixel (BPP).                        |
| Bgr565                     | <a href="#">PixelFormat</a>  |
| (description)              | The Bgr565 pixel format. Bgr565 is a sRGB format with 16 bits per pixel (BPP). Each color channel (blue, green, and red) is allocated 5, 6, and 5 bits per pixel (BPP) respectively. |
| Bgra32                     | <a href="#">PixelFormat</a>  |
| (description)              | The Bgra32 pixel format. Bgra32 is a sRGB format with 32 bits per pixel (BPP). Each channel (blue, green, red, and alpha) is allocated 8 bits per pixel (BPP).                       |
| BlackWhite                 | <a href="#">PixelFormat</a>  |

|                      |   |
|----------------------|---|
| (usage)              | {x:Static PixelFormats.StaticPropertyName}  |
| <b>(description)</b> | The black and white pixel format which displays one bit of data per pixel as either black or white.   |
| <b>Cmyk32</b>        | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The Cmyk32 pixel format which displays 32 bits per pixel (BPP) with each color channel (cyan, magenta, yellow, and black) allocated 8 bits per pixel (BPP).             |
| <b>Default</b>       | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The pixel format that is best suited for the particular operation.  |
| <b>Gray16</b>        | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The Gray16 pixel format which displays a 16 bits-per-pixel grayscale channel, allowing 65536 shades of gray. This format has a gamma of 1.0.                            |
| <b>Gray2</b>         | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The Gray2 pixel format which displays a 2 bits-per-pixel grayscale channel, allowing 4 shades of gray.  |
| <b>Gray32Float</b>   | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The Gray32Float pixel format. Gray32Float displays a 32 bits per pixel (BPP) grayscale channel, allowing over 4 billion shades of gray. This format has a gamma of 1.0. |
| <b>Gray4</b>         | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The Gray4 pixel format which displays a 4 bits-per-pixel grayscale channel, allowing 16 shades of gray.   |
| <b>Gray8</b>         | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The Gray8 pixel format which displays an 8 bits-per-pixel grayscale channel, allowing 256 shades of gray.   |
| <b>Indexed1</b>      | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The pixel format specifying a paletted bitmap with 2 colors.  |
| <b>Indexed2</b>      | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The pixel format specifying a paletted bitmap with 4 colors.  |
| <b>Indexed4</b>      | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The pixel format specifying a paletted bitmap with 16 colors.   |
| <b>Indexed8</b>      | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The pixel format specifying a paletted bitmap with 256 colors.  |
| <b>Pbgra32</b>       | <a href="#">PixelFormat</a>   |
| <b>(description)</b> | The Pbgra32 pixel format. Pbgra32 is a sRGB format with 32 bits per pixel (BPP). Each channel (blue, green, red, and alpha) is allocated 8 bits per pixel (BPP). Each   |

|                      |  |
|----------------------|--|
| (usage)              | {x:Static PixelFormats.StaticPropertyName}   |
|                      | color channel is pre-multiplied by the alpha value.  |
| <b>Prgba128Float</b> | <a href="#">PixelFormat</a>  |
| <b>(description)</b> | The Prgba128Float pixel format. Prgba128Float is a ScRGB format with 128 bits per pixel (BPP). Each channel (red, green, blue, and alpha) is allocated 32 bits per pixel (BPP). Each color channel is pre-multiplied by the alpha value. This format has a gamma of 1.0. |
| <b>Prgba64</b>       | <a href="#">PixelFormat</a>  |
| <b>(description)</b> | The Prgba64 pixel format. Prgba64 is a sRGB format with 64 bits per pixel (BPP). Each channel (blue, green, red, and alpha) is allocated 32 bits per pixel (BPP). Each color channel is pre-multiplied by the alpha value. This format has a gamma of 1.0.               |
| <b>Rgb128Float</b>   | <a href="#">PixelFormat</a>  |
| <b>(description)</b> | The Rgb128Float pixel format. Rgb128Float is a ScRGB format with 128 bits per pixel (BPP). Each color channel is allocated 32 BPP. This format has a gamma of 1.0.   |
| <b>Rgb24</b>         | <a href="#">PixelFormat</a>  |
| <b>(description)</b> | The Rgb24 pixel format. Rgb24 is a sRGB format with 24 bits per pixel (BPP). Each color channel (red, green, and blue) is allocated 8 bits per pixel (BPP).  |
| <b>Rgb48</b>         | <a href="#">PixelFormat</a>  |
| <b>(description)</b> | The Rgb48 pixel format. Rgb48 is a sRGB format with 48 bits per pixel (BPP). Each color channel (red, green, and blue) is allocated 16 bits per pixel (BPP). This format has a gamma of 1.0.   |
| <b>Rgba128Float</b>  | <a href="#">PixelFormat</a>  |
| <b>(description)</b> | The Rgba128Float pixel format. Rgba128Float is a ScRGB format with 128 bits per pixel (BPP). Each color channel is allocated 32 bits per pixel (BPP). This format has a gamma of 1.0.  |
| <b>Rgba64</b>        | <a href="#">PixelFormat</a>  |
| <b>(description)</b> | The Rgba64 pixel format. Rgba64 is an sRGB format with 64 bits per pixel (BPP). Each channel (red, green, blue, and alpha) is allocated 16 bits per pixel (BPP). This format has a gamma of 1.0.   |

## 4.612 PixelShader

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > PixelShader

|                         |  |
|-------------------------|--|
| (usage)                 | <PixelShader />  |
| <b>(description)</b>    | Provides a managed wrapper around a High Level Shading Language (HLSL) pixel shader. |
| <b>(properties)</b>     |  |
| <b>ShaderRenderMode</b> | <a href="#">ShaderRenderMode</a>   |
| <b>(description)</b>    | A value indicating whether to use hardware or software rendering.                    |



|                      |  |
|----------------------|--|
| (usage)              | <PixelShader />  |
| <b>UriSource</b>     | <a href="#">x:Uri</a>                                  |
| <b>(description)</b> | A Pack URI reference to HLSL bytecode in the assembly. |

#### 4.613 PlacementMode

[x:Object](#) > PlacementMode

|                      |   |
|----------------------|---|
| (usage)              | <b>Absolute  Relative  Bottom  Center  Right  AbsolutePoint  RelativePoint  <a href="#">Mouse</a>  MousePoint...</b>                        |
| <b>(description)</b> | Describes the placement of where a Popup control appears on the screen.   |
| <b>(used by)</b>     | <a href="#">ContextMenu</a> <a href="#">ContextMenuService</a> <a href="#">Popup</a> <a href="#">ToolTip</a> <a href="#">ToolTipService</a> |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">PlacementModeSyntax</a>   |

#### 4.614 PngBitmapEncoder

[x:Object](#) > [BitmapEncoder](#) > PngBitmapEncoder

|                      |   |
|----------------------|---|
| (usage)              | <PngBitmapEncoder />  |
| <b>(description)</b> | Defines an encoder that is used to encode Portable Network Graphics (PNG) format images.    |
| <b>(properties)</b>  |   |
| <b>Interlace</b>     | <a href="#">PngInterlaceOption</a>  |
| <b>(description)</b> | A value that indicates whether the Portable Network Graphics (PNG) bitmap should interlace. |

#### 4.615 PngInterlaceOption

[x:Object](#) > PngInterlaceOption

|                      |   |
|----------------------|---|
| (usage)              | <b>Default  On  Off</b>   |
| <b>(description)</b> | Specifies whether a Portable Network Graphics (PNG) format image is interlaced during encoding. |
| <b>(used by)</b>     | <a href="#">PngBitmapEncoder</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">PngInterlaceOptionSyntax</a>  |

## 4.616 Point

[x:Object](#) > Point

|                      |   |
|----------------------|---|
| (usage)              | <Point> string </Point>   |
| <b>(description)</b> | Represents an x- and y-coordinate pair in two-dimensional space.  |
| <b>(used by)</b>     | <a href="#">ArcSegment</a> <a href="#">BezierSegment</a> <a href="#">CustomPopupPlacement</a> <a href="#">EllipseGeometry</a> <a href="#">GlyphRun</a> <a href="#">KeySpline</a> <a href="#">LinearGradientBrush</a> <a href="#">LineGeometry</a> <a href="#">LineSegment</a> <a href="#">ManipulationPivot</a> <a href="#">PathFigure</a> <a href="#">PointCollection</a> <a href="#">PointKeyFrame</a> <a href="#">QuadraticBezierSegment</a> <a href="#">RadialGradientBrush</a> <a href="#">Rect</a> <a href="#">TouchPoint</a> <a href="#">UIElement</a> |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">PointSyntax</a>   |
| <b>(properties)</b>  |   |
| <b>X</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b> | The X-coordinate value of this Point structure.   |
| <b>Y</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b> | The Y-coordinate value of this Point.   |

## 4.617 Point3D

[x:Object](#) > Point3D

|                      |  |
|----------------------|--|
| (usage)              | <Point3D> string </Point3D>  |
| <b>(description)</b> | Represents an x-, y-, and z-coordinate point in 3-D space.   |
| <b>(used by)</b>     | <a href="#">Point3DCollection</a> <a href="#">Point3DKeyFrame</a> <a href="#">PointLightBase</a> <a href="#">ProjectionCamera</a> <a href="#">Rect3D</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">Point3DSyntax</a>  |
| <b>(properties)</b>  |  |
| <b>X</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b> | The x-coordinate of this Point3D structure.  |
| <b>Y</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b> | The y-coordinate of this Point3D structure.  |
| <b>Z</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b> | The z-coordinate of this Point3D structure.  |

## 4.618 Point3DAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Point3DAnimationBase](#) > Point3DAnimation

|                 |  |
|-----------------|--|
| (usage)         | <Point3DAnimation />   |
| (description)   | Animates the value of a Point3D property using linear interpolation between two values.                                |
| [name property] | Name   |
| (properties)    |  |
| By              | <a href="#">x:Nullable(Point3D)</a>  |
| (description)   | The total amount by which the animation changes its starting value.  |
| EasingFunction  | <a href="#">IEasingFunction</a>  |
| (description)   | The easing function applied to this animation.   |
| From            | <a href="#">x:Nullable(Point3D)</a>  |
| (description)   | The animation's starting value.  |
| IsAdditive      | <a href="#">x:Boolean</a>  |
| (description)   | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| IsCumulative    | <a href="#">x:Boolean</a>  |
| (description)   | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| To              | <a href="#">x:Nullable(Point3D)</a>  |
| (description)   | The animation's ending value.  |

## 4.619 Point3DAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > Point3DAnimationBase

|   |  |
|---|--|
| <a href="#">Point3DAnimation</a> <a href="#">Point3DAnimationUsingKeyFrames</a> |  |
| (usage)   | None.                                      |
| (description)   | A base type that animates a Point3D value. |
| [is default constructible]  | false                                      |
| [name property]   | Name                                       |

## 4.620 Point3DAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Point3DAnimationBase](#) > Point3DAnimationUsingKeyFrames

|                    |  |
|--------------------|--|
| (usage)            | <Point3DAnimationUsingKeyFrames> <a href="#">Point3DKeyFrame</a> *</Point3DAnimationUsingKeyFrames>                    |
| (description)      | Animates the value of a Point3D property along a set of KeyFrames.   |
| [content property] | KeyFrames  |
| [name property]    | Name   |
| (properties)       |  |
| IsAdditive         | <a href="#">x:Boolean</a>  |
| (description)      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| IsCumulative       | <a href="#">x:Boolean</a>  |
| (description)      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| KeyFrames          | <a href="#">Point3DKeyFrameCollection</a>  |
| (description)      | The collection of Point3DKeyFrame objects that define the animation.   |

## 4.621 Point3DCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Point3DCollection

|                 |  |
|-----------------|--|
| (usage)         | <Point3DCollection> string </Point3DCollection>      |
| (description)   | Represents an ordered collection of Point3D objects. |
| (used by)       | <a href="#">MeshGeometry3D</a>                       |
| [text syntax]   | <a href="#">Point3DCollectionSyntax</a>              |
| [is list]       | true   |
| [allowed types] | <a href="#">Point3D</a>                              |

## 4.622 Point3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Point3DKeyFrame

[DiscretePoint3DKeyFrame](#) [EasingPoint3DKeyFrame](#) [LinearPoint3DKeyFrame](#) [SplinePoint3DKeyFrame](#)

|   |   |
|---|---|
| <a href="#">DiscretePoint3DKeyFrame</a> <a href="#">EasingPoint3DKeyFrame</a> <a href="#">LinearPoint3DKeyFrame</a> <a href="#">SplinePoint3DKeyFrame</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a Point3DAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">Point3DKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false   |
| <b>(properties)</b>   |   |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>   |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.   |
| <b>Value</b>  | <a href="#">Point3D</a>   |
| <b>(description)</b>  | The key frame's target value.   |

#### 4.623 Point3DKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Point3DKeyFrameCollection

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <Point3DKeyFrameCollection> <a href="#">Point3DKeyFrame</a> *</Point3DKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of Point3DKeyFrame objects.                                       |
| <b>(used by)</b>           | <a href="#">Point3DAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true  |
| <b>[allowed types]</b>     | <a href="#">Point3DKeyFrame</a>   |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | Point3DKeyFrameCollection   |
| <b>(description)</b>       | An empty Point3DKeyFrameCollection.   |

#### 4.624 Point4D

[x:Object](#) > Point4D

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <Point4D> string </Point4D>  |
| <b>(description)</b> | Represents an x-, y-, z-, and w-coordinate point in world space used in performing transformations with non-affine 3-D matrices. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">Point4DSyntax</a>  |

|                      |  |
|----------------------|--|
| (usage)              | <Point4D> string </Point4D>                |
| <b>(properties)</b>  |  |
| <b>W</b>             | <a href="#">x:Double</a>                   |
| <b>(description)</b> | The W component of this Point4D structure. |
| <b>X</b>             | <a href="#">x:Double</a>                   |
| <b>(description)</b> | The X component of this Point4D structure. |
| <b>Y</b>             | <a href="#">x:Double</a>                   |
| <b>(description)</b> | The Y component of this Point4D structure. |
| <b>Z</b>             | <a href="#">x:Double</a>                   |
| <b>(description)</b> | The Z component of this Point4D structure. |

## 4.625 PointAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [PointAnimationBase](#) > PointAnimation

|                        |  |
|------------------------|--|
| (usage)                | <PointAnimation />   |
| <b>(description)</b>   | Animates the value of a Point property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">x:Nullable(Point)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>   | The easing function applied to this animation.   |
| <b>From</b>            | <a href="#">x:Nullable(Point)</a>  |
| <b>(description)</b>   | The animation's starting value.  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>              | <a href="#">x:Nullable(Point)</a>  |
| <b>(description)</b>   | The animation's ending value.  |

## 4.626 PointAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > PointAnimationBase

|   |  |
|---|--|
| <a href="#">PointAnimation</a> <a href="#">PointAnimationUsingKeyFrames</a> <a href="#">PointAnimationUsingPath</a> |  |
| <b>(usage)</b>  | None.                                    |
| <b>(description)</b>  | A base type that animates a Point value. |
| <b>[is default constructible]</b>   | false                                    |
| <b>[name property]</b>  | Name                                     |

## 4.627 PointAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [PointAnimationBase](#) > PointAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| <b>(usage)</b>            | <PointAnimationUsingKeyFrames> <a href="#">PointKeyFrame</a> *</PointAnimationUsingKeyFrames>                          |
| <b>(description)</b>      | Animates the value of a Point property along a set of KeyFrames.   |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>KeyFrames</b>          | <a href="#">PointKeyFrameCollection</a>  |
| <b>(description)</b>      | The collection of PointKeyFrame objects that define the animation.   |

## 4.628 PointAnimationUsingPath

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [PointAnimationBase](#) > PointAnimationUsingPath

|                        |   |
|------------------------|---|
| <b>(usage)</b>         | <PointAnimationUsingPath />   |
| <b>(description)</b>   | Animates the value of a Point property between two or more target values using a PathGeometry to specify those values. This animation can be used to move a visual object along a path. |
| <b>[name property]</b> | Name  |

|                      |  |
|----------------------|--|
| (usage)              | <PointAnimationUsingPath />  |
| <b>property]</b>     |  |
| <b>(properties)</b>  |  |
| <b>IsAdditive</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>PathGeometry</b>  | <a href="#">PathGeometry</a>   |
| <b>(description)</b> | Specifies the geometry used to generate this animation's output values.  |

#### 4.629 PointCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > PointCollection

|                        |  |
|------------------------|--|
| (usage)                | <PointCollection> string </PointCollection>  |
| <b>(description)</b>   | Represents a collection of Point values that can be individually accessed by index.  |
| <b>(used by)</b>       | <a href="#">MeshGeometry3D</a> <a href="#">PolyBezierSegment</a> <a href="#">Polygon</a> <a href="#">Polyline</a> <a href="#">PolyLineSegment</a> <a href="#">PolyQuadraticBezierSegment</a> |
| <b>[text syntax]</b>   | <a href="#">PointCollectionSyntax</a>  |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">Point</a>  |

#### 4.630 PointKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > PointKeyFrame

|   |  |
|---|--|
| <a href="#">DiscretePointKeyFrame</a> <a href="#">EasingPointKeyFrame</a> <a href="#">LinearPointKeyFrame</a> <a href="#">SplinePointKeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | Defines an animation segment with its own target value and interpolation technique for a PointAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">PointKeyFrameCollection</a>  |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>  |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.  |



|   |                               |
|---|-------------------------------|
| <a href="#">DiscretePointKeyFrame</a> <a href="#">EasingPointKeyFrame</a> <a href="#">LinearPointKeyFrame</a> <a href="#">SplinePointKeyFrame</a> |                               |
| <b>Value</b>  | <a href="#">Point</a>         |
| <b>(description)</b>  | The key frame's target value. |

#### 4.631 PointKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > PointKeyFrameCollection

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <PointKeyFrameCollection> <a href="#">PointKeyFrame</a> *</PointKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of PointKeyFrame objects.                                   |
| <b>(used by)</b>           | <a href="#">PointAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true  |
| <b>[allowed types]</b>     | <a href="#">PointKeyFrame</a>   |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | PointKeyFrameCollection   |
| <b>(description)</b>       | An empty PointKeyFrameCollection.   |

#### 4.632 PointLight

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Model3D](#) > [Light](#) > [PointLightBase](#) > PointLight

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <PointLight />   |
| <b>(description)</b> | Represents a light source that has a specified position in space and projects its light in all directions. |

#### 4.633 PointLightBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Model3D](#) > [Light](#) > PointLightBase

|  |   |
|--|---|
| <a href="#">PointLight</a> <a href="#">SpotLight</a> |   |
| <b>(usage)</b>                                       | None.   |
| <b>(description)</b>                                 | A base type that represents a light object that has a position in space and projects its light in all directions. |
| <b>[is default constructible]</b>                    | false   |
| <b>(properties)</b>                                  |   |
| <b>ConstantAttenuation</b>                           | <a href="#">x:Double</a>  |
| <b>(description)</b>                                 | A constant value by which the intensity of the light diminishes over distance.                                    |

|  |   |
|--|---|
| <a href="#">PointLight</a> <a href="#">SpotLight</a> |   |
| <b>LinearAttenuation</b>                             | <a href="#">x:Double</a>  |
| <b>(description)</b>                                 | A value that specifies the linear diminution of the light's intensity over distance.                            |
| <b>Position</b>                                      | <a href="#">Point3D</a>   |
| <b>(description)</b>                                 | A Point3D that specifies the light's position in world space.   |
| <b>QuadraticAttenuation</b>                          | <a href="#">x:Double</a>  |
| <b>(description)</b>                                 | A value that specifies the diminution of the light's effect over distance, calculated by a quadratic operation. |
| <b>Range</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>                                 | The distance beyond which the light has no effect.  |

#### 4.634 PolyBezierSegment

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [PathSegment](#) > PolyBezierSegment

|                      |  |
|----------------------|--|
| (usage)              | <PolyBezierSegment />  |
| <b>(description)</b> | Represents one or more cubic Bezier curves.                    |
| <b>(properties)</b>  |  |
| <b>Points</b>        | <a href="#">PointCollection</a>                                |
| <b>(description)</b> | The PointCollection that define this PolyBezierSegment object. |

#### 4.635 Polygon

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Shape](#) > Polygon, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <Polygon />   |
| <b>(description)</b>       | Draws a polygon, which is a connected series of lines that form a closed shape.         |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>FillRule</b>            | <a href="#">FillRule</a>  |
| <b>(description)</b>       | A FillRule enumeration that specifies how the interior fill of the shape is determined. |
| <b>Points</b>              | <a href="#">PointCollection</a>   |

|                      |  |
|----------------------|--|
| (usage)              | <Polygon />  |
| <b>(description)</b> | A collection that contains the vertex points of the polygon. |

#### 4.636 Polyline

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Shape](#) > Polyline, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <Polyline />  |
| <b>(description)</b>       | Draws a series of connected straight lines.   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>FillRule</b>            | <a href="#">FillRule</a>  |
| <b>(description)</b>       | A FillRule enumeration that specifies how the interior fill of the shape is determined. |
| <b>Points</b>              | <a href="#">PointCollection</a>   |
| <b>(description)</b>       | A collection that contains the vertex points of the Polyline.                           |

#### 4.637 PolyLineSegment

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [PathSegment](#) > PolyLineSegment

|                      |  |
|----------------------|--|
| (usage)              | <PolyLineSegment />  |
| <b>(description)</b> | Represents a set of line segments defined by a PointCollection with each Point specifying the end point of a line segment. |
| <b>(properties)</b>  |  |
| <b>Points</b>        | <a href="#">PointCollection</a>  |
| <b>(description)</b> | The collection of Point structures that defines this PolyLineSegment object.   |

#### 4.638 PolyQuadraticBezierSegment

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [PathSegment](#) > PolyQuadraticBezierSegment

|                      |  |
|----------------------|--|
| (usage)              | <PolyQuadraticBezierSegment />                 |
| <b>(description)</b> | Represents a set of quadratic Bezier segments. |
| <b>(properties)</b>  |  |
| <b>Points</b>        | <a href="#">PointCollection</a>                |

|                      |  |
|----------------------|--|
| (usage)              | <PolyQuadraticBezierSegment />   |
| <b>(description)</b> | The PointCollection that defines this PolyQuadraticBezierSegment object. |

#### 4.639 Popup

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Popup, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <Popup> <a href="#">UIElement</a> </Popup>   |
| <b>(description)</b>       | Represents a pop-up window that has content.   |
| <b>[content property]</b>  | Child  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>AllowsTransparency</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>       | A value that indicates whether a Popup control can contain transparent content.  |
| <b>Child</b>               | <a href="#">UIElement</a>  |
| <b>(description)</b>       | The content of the Popup control.  |
| <b>HorizontalOffset</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b>       | Get or sets the horizontal distance between the target origin and the popup alignment point.   |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>   |
| <b>IsOpen</b>              | <a href="#">x:Boolean</a>  |
| <b>(description)</b>       | A value that indicates whether the Popup is visible.   |
| <b>Placement</b>           | <a href="#">PlacementMode</a>  |
| <b>(description)</b>       | The orientation of the Popup control when the control opens, and specifies the behavior of the Popup control when it overlaps screen boundaries. |
| <b>PlacementRectangle</b>  | <a href="#">Rect</a>   |
| <b>(description)</b>       | The rectangle relative to which the Popup control is positioned when it opens.   |
| <b>PlacementTarget</b>     | <a href="#">UIElement</a>  |
| <b>(description)</b>       | The element relative to which the Popup is positioned when it opens.   |
| <b>PopupAnimation</b>      | <a href="#">PopupAnimation</a>   |
| <b>(description)</b>       | An animation for the opening and closing of a Popup control.   |
| <b>StaysOpen</b>           | <a href="#">x:Boolean</a>  |
| <b>(description)</b>       | A value that indicates whether the Popup control closes when the control is no   |

|                       |  |
|-----------------------|--|
| (usage)               | <Popup> <a href="#">UIElement</a> </Popup>                                     |
|                       | longer in focus.   |
| <b>VerticalOffset</b> | <a href="#">x:Double</a>   |
| <b>(description)</b>  | The vertical distance between the target origin and the popup alignment point. |
| <b>[text syntax]</b>  | <a href="#">LengthSyntax</a>   |
| <b>(events)</b>       |  |
| <b>Closed</b>         | Occurs when the IsOpen property changes to false.                              |
| <b>Opened</b>         | Occurs when the IsOpen property changes to true.                               |

#### 4.640 PopupAnimation

[x:Object](#) > PopupAnimation

|                      |   |
|----------------------|---|
| (usage)              | <b>None  Fade  Slide  Scroll</b>                      |
| <b>(description)</b> | Describes how a Popup control animates when it opens. |
| <b>(used by)</b>     | <a href="#">Popup</a>                                 |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">PopupAnimationSyntax</a>                  |

#### 4.641 PopupPrimaryAxis

[x:Object](#) > PopupPrimaryAxis

|                      |  |
|----------------------|--|
| (usage)              | <b>None  Horizontal  Vertical</b>  |
| <b>(description)</b> | Describes the direction to move a Popup control to increase the amount of the Popup that is visible. |
| <b>(used by)</b>     | <a href="#">CustomPopupPlacement</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">PopupPrimaryAxisSyntax</a>   |

#### 4.642 PowerEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > PowerEase, [IEasingFunction](#)

|                      |   |
|----------------------|---|
| (usage)              | <PowerEase />   |
| <b>(description)</b> | Represents an easing function that creates an animation that accelerates and/or decelerates using the formula $f(t) = tp$ where $p$ is equal to the Power property. |
| <b>(properties)</b>  |   |

|                      |  |
|----------------------|--|
| (usage)              | <PowerEase />  |
| <b>Power</b>         | <a href="#">x:Double</a>   |
| <b>(description)</b> | The exponential power of the animation interpolation. For example, a value of 7 will create an animation interpolation curve that follows the formula $f(t) = t^7$ . |

#### 4.643 PowerLineStatus

[x:Object](#) > PowerLineStatus

|                      |   |
|----------------------|---|
| (usage)              | <b>Offline  Online  Unknown</b>   |
| <b>(description)</b> | Indicates whether the system power is online, or that the system power status is unknown. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">PowerLineStatusSyntax</a>   |

#### 4.644 PresentationTraceLevel

[x:Object](#) > PresentationTraceLevel

|                      |   |
|----------------------|---|
| (usage)              | <b>None  Low  Medium  High</b>                                    |
| <b>(description)</b> | Describes the level of detail to trace about a particular object. |
| <b>(used by)</b>     | <a href="#">PresentationTraceSources</a>                          |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">PresentationTraceLevelSyntax</a>                      |

#### 4.645 PresentationTraceSources

[x:Object](#) > PresentationTraceSources

|  |  |
|--|--|
| (usage)                                    | None.  |
| <b>(description)</b>                       | Provides debug tracing support that is specifically targeted for applications. |
| <b>[is default constructible]</b>          | false  |
| <b>(attachable properties)</b>             |  |
| <b>PresentationTraceSources.TraceLevel</b> | <a href="#">PresentationTraceLevel</a>   |
| <b>(description)</b>                       | A value that specifies the level of detail to trace about a particular object. |
| <b>[target type]</b>                       | <a href="#">x:Object</a>   |

## 4.646 PriorityBinding

[x:Object](#) > [x:MarkupExtension](#) > [BindingBase](#) > PriorityBinding

|                     |   |
|---------------------|---|
| (usage)             | <PriorityBinding> <a href="#">BindingBase</a> *</PriorityBinding>   |
| (description)       | Describes a collection of Binding objects that is attached to a single binding target property, which receives its value from the first binding in the collection that produces a value successfully. |
| [content property]  | Bindings  |
| [return value type] | <a href="#">x:Object</a>  |
| (properties)        |   |
| Bindings            | <a href="#">Collection(BindingBase)</a>   |
| (description)       | The collection of Binding objects that is established for this instance of PriorityBinding.   |
| [read only]         | true  |

## 4.647 ProgressBar

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [RangeBase](#) > ProgressBar, [InputElement](#)

|                     |   |
|---------------------|---|
| (usage)             | <ProgressBar />   |
| (description)       | Indicates the progress of an operation.   |
| [name property]     | Name  |
| [xml lang property] | Language  |
| (properties)        |   |
| IsIndeterminate     | <a href="#">x:Boolean</a>   |
| (description)       | Whether the ProgressBar shows actual values or generic, continuous progress feedback. |
| Orientation         | <a href="#">Orientation</a>   |
| (description)       | The orientation of a ProgressBar: horizontal or vertical.                             |

## 4.648 ProjectionCamera

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Camera](#) > [ProjectionCamera](#)

|  |       |
|--|-------|
| <a href="#">OrthographicCamera</a> <a href="#">PerspectiveCamera</a> |       |
| (usage)  | None. |

| <a href="#">OrthographicCamera</a> <a href="#">PerspectiveCamera</a> |   |
|--|---|
| <b>(description)</b>   | A base type for perspective and orthographic projection cameras.                            |
| <b>[is default constructible]</b>                                    | false   |
| <b>(properties)</b>  |   |
| <b>FarPlaneDistance</b>  | <a href="#">x:Double</a>  |
| <b>(description)</b>   | A value that specifies the distance from the camera of the camera's far clip plane.         |
| <b>LookDirection</b>   | <a href="#">Vector3D</a>  |
| <b>(description)</b>   | A Vector3D which defines the direction in which the camera is looking in world coordinates. |
| <b>NearPlaneDistance</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>   | A value that specifies the distance from the camera of the camera's near clip plane.        |
| <b>Position</b>  | <a href="#">Point3D</a>   |
| <b>(description)</b>   | The position of the camera in world coordinates.  |
| <b>UpDirection</b>   | <a href="#">Vector3D</a>  |
| <b>(description)</b>   | A Vector3D which defines the upward direction of the camera.                                |

#### 4.649 PropertyGroupDescription

[x:Object](#) > [GroupDescription](#) > [PropertyGroupDescription](#)

|                         |  |
|-------------------------|--|
| (usage)                 | <PropertyGroupDescription />   |
| <b>(description)</b>    | Describes the grouping of items using a property name as the criteria.   |
| <b>(properties)</b>     |  |
| <b>Converter</b>        | <a href="#">IValueConverter</a>  |
| <b>(description)</b>    | A converter to apply to the property value or the item to produce the final value that is used to determine which group(s) an item belongs to.             |
| <b>PropertyName</b>     | <a href="#">x:String</a>   |
| <b>(description)</b>    | The name of the property that is used to determine which group(s) an item belongs to.  |
| <b>StringComparison</b> | <a href="#">StringComparison</a>   |
| <b>(description)</b>    | A StringComparison value that specifies the comparison between the value of an item (as determined by PropertyName and Converter) and the name of a group. |



## 4.650 PropertyPath

[x:Object](#) > PropertyPath

|                                   |   |
|-----------------------------------|---|
| (usage)                           | <PropertyPath> string </PropertyPath>   |
| <b>(description)</b>              | Implements a data structure for describing a property as a path below another property, or below an owning type. Property paths are used in data binding to objects, and in storyboards and timelines for animations. |
| <b>(used by)</b>                  | <a href="#">Binding Storyboard</a>  |
| <b>[is default constructible]</b> | false   |
| <b>[text syntax]</b>              | <a href="#">PropertyPathSyntax</a>  |
| <b>(properties)</b>               |   |
| <b>Path</b>                       | <a href="#">x:String</a>  |
| <b>(description)</b>              | The string that describes the path.   |
| <b>PathParameters</b>             | <a href="#">Collection(x:Object)</a>  |
| <b>(description)</b>              | The list of parameters to use when the path refers to indexed parameters.   |
| <b>[read only]</b>                | true  |

## 4.651 QuadraticBezierSegment

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [PathSegment](#) >

QuadraticBezierSegment

|                      |  |
|----------------------|--|
| (usage)              | <QuadraticBezierSegment />   |
| <b>(description)</b> | Creates a quadratic Bezier curve between two points in a PathFigure. |
| <b>(properties)</b>  |  |
| <b>Point1</b>        | <a href="#">Point</a>  |
| <b>(description)</b> | The control Point of the curve.                                      |
| <b>Point2</b>        | <a href="#">Point</a>  |
| <b>(description)</b> | The end Point of this QuadraticBezierSegment.                        |

## 4.652 QuadraticEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > QuadraticEase, [IEasingFunction](#)

|                      |  |
|----------------------|--|
| (usage)              | <QuadraticEase />  |
| <b>(description)</b> | Represents an easing function that creates an animation that accelerates and/or decelerates using the formula $f(t) = t^2$ |

## 4.653 QuarticEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > QuarticEase, [IEasingFunction](#)

|                      |  |
|----------------------|--|
| (usage)              | <QuarticEase />  |
| <b>(description)</b> | Represents an easing function that creates an animation that accelerates and/or decelerates using the formula $f(t) = t^4$ . |

## 4.654 Quaternion

[x:Object](#) > Quaternion

|                            |   |
|----------------------------|---|
| (usage)                    | <Quaternion> string </Quaternion>                                       |
| <b>(description)</b>       | Structure that represents a rotation in three dimensions.               |
| <b>(used by)</b>           | <a href="#">QuaternionKeyFrame</a> <a href="#">QuaternionRotation3D</a> |
| <b>[is nullable]</b>       | false   |
| <b>[text syntax]</b>       | <a href="#">QuaternionSyntax</a>  |
| <b>(properties)</b>        |   |
| <b>W</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The W component of the quaternion.                                      |
| <b>X</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The X component of the quaternion.                                      |
| <b>Y</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The Y component of the quaternion.                                      |
| <b>Z</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The Z component of the quaternion.                                      |
| <b>(static properties)</b> |   |
| <b>Identity</b>            | Quaternion  |
| <b>(description)</b>       | The Identity quaternion   |

## 4.655 QuaternionAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [QuaternionAnimationBase](#) > QuaternionAnimation

|                      |   |
|----------------------|---|
| (usage)              | <QuaternionAnimation />   |
| <b>(description)</b> | Animates the value of a Quaternion property between two target values using linear interpolation over a specified Duration. |

|                        |   |
|------------------------|---|
| (usage)                | <QuaternionAnimation />   |
| <b>[name property]</b> | Name  |
| <b>(properties)</b>    |   |
| <b>By</b>              | <a href="#">x:Nullable(Quaternion)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.   |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>   | The easing function applied to this animation.  |
| <b>From</b>            | <a href="#">x:Nullable(Quaternion)</a>  |
| <b>(description)</b>   | The animation's starting value.   |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value.                    |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.   |
| <b>To</b>              | <a href="#">x:Nullable(Quaternion)</a>  |
| <b>(description)</b>   | The animation's ending value.   |
| <b>UseShortestPath</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A Boolean value that indicates whether the animation uses spherical linear interpolation to calculate the shortest arc between positions. |

#### 4.656 QuaternionAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > QuaternionAnimationBase

|   |   |
|---|---|
| <a href="#">QuaternionAnimation</a> <a href="#">QuaternionAnimationUsingKeyFrames</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | A base type that animates a Quaternion value. |
| <b>[is default constructible]</b>   | false   |
| <b>[name property]</b>  | Name  |

#### 4.657 QuaternionAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [QuaternionAnimationBase](#) > QuaternionAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| (usage)                   | <QuaternionAnimationUsingKeyFrames> <a href="#">QuaternionKeyFrame</a> *</QuaternionAnimationUsingKeyFrames>           |
| <b>(description)</b>      | Animates the value of a Quaternion property along a set of KeyFrames over a specified Duration.                        |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>KeyFrames</b>          | <a href="#">QuaternionKeyFrameCollection</a>   |
| <b>(description)</b>      | The collection of QuaternionKeyFrame objects that define the animation.  |

#### 4.658 QuaternionKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > QuaternionKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteQuaternionKeyFrame</a> <a href="#">EasingQuaternionKeyFrame</a> <a href="#">LinearQuaternionKeyFrame</a> <a href="#">SplineQuaternionKeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a QuaternionAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">QuaternionKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>  |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.  |
| <b>Value</b>  | <a href="#">Quaternion</a>   |
| <b>(description)</b>  | The key frame's target value.  |

## 4.659 QuaternionKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > QuaternionKeyFrameCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <QuaternionKeyFrameCollection> <a href="#">QuaternionKeyFrame</a> *</QuaternionKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of QuaternionKeyFrame objects.   |
| <b>(used by)</b>           | <a href="#">QuaternionAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">QuaternionKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | QuaternionKeyFrameCollection   |
| <b>(description)</b>       | An empty QuaternionKeyFrameCollection.   |

## 4.660 QuaternionRotation3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Rotation3D](#) > QuaternionRotation3D

|                      |   |
|----------------------|---|
| (usage)              | <QuaternionRotation3D />                                      |
| <b>(description)</b> | Represents a rotation transformation defined as a quaternion. |
| <b>(properties)</b>  |   |
| <b>Quaternion</b>    | <a href="#">Quaternion</a>                                    |
| <b>(description)</b> | The Quaternion that defines the destination rotation.         |

## 4.661 QuinticEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > QuinticEase, [IEasingFunction](#)

|                      |  |
|----------------------|--|
| (usage)              | <QuinticEase />  |
| <b>(description)</b> | Represents an easing function that creates an animation that accelerates and/or decelerates using the formula $f(t) = t^5$ . |

## 4.662 RadialGradientBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > [GradientBrush](#) > RadialGradientBrush

|                      |   |
|----------------------|---|
| (usage)              | <RadialGradientBrush> string   <a href="#">GradientStop</a> *</RadialGradientBrush>   |
| <b>(description)</b> | Paints an area with a radial gradient. A focal point defines the beginning of the gradient, and a circle defines the end point of the gradient. |
| <b>[text syntax]</b> | <a href="#">BrushSyntax</a>   |

|                           |   |
|---------------------------|---|
| (usage)                   | <RadialGradientBrush> string   <a href="#">GradientStop</a> *</RadialGradientBrush>         |
| <b>[content property]</b> | GradientStops   |
| <b>(properties)</b>       |   |
| <b>Center</b>             | <a href="#">Point</a>   |
| <b>(description)</b>      | The center of the outermost circle of the radial gradient.                                  |
| <b>GradientOrigin</b>     | <a href="#">Point</a>   |
| <b>(description)</b>      | The location of the two-dimensional focal point that defines the beginning of the gradient. |
| <b>RadiusX</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>      | The horizontal radius of the outermost circle of the radial gradient.                       |
| <b>RadiusY</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>      | The vertical radius of the outermost circle of a radial gradient.                           |

#### 4.663 RadioButton

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [ToggleButton](#) > RadioButton, [IInputElement](#)

|                                   |   |
|-----------------------------------|---|
| <a href="#">RibbonRadioButton</a> |   |
| <b>(usage)</b>                    | <RadioButton> <a href="#">x:Object</a> </RadioButton>   |
| <b>(description)</b>              | Represents a button that can be selected, but not cleared, by a user. The IsChecked property of a RadioButton can be set by clicking it, but it can only be cleared programmatically. |
| <b>[content property]</b>         | Content   |
| <b>[name property]</b>            | Name  |
| <b>[xml lang property]</b>        | Language  |
| <b>(properties)</b>               |   |
| <b>GroupName</b>                  | <a href="#">x:String</a>  |
| <b>(description)</b>              | The name that specifies which RadioButton controls are mutually exclusive.  |

#### 4.664 RangeBase

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > RangeBase, [IInputElement](#)

| <a href="#">ProgressBar ScrollBar Slider</a> |   |
|--|---|
| <b>(usage)</b>                               | None.   |
| <b>(description)</b>                         | Represents an element that has a value within a specific range.             |
| <b>[is default constructible]</b>            | false   |
| <b>[name property]</b>                       | Name  |
| <b>[xml lang property]</b>                   | Language  |
| <b>(properties)</b>                          |   |
| <b>LargeChange</b>                           | <a href="#">x:Double</a>  |
| <b>(description)</b>                         | A value to be added to or subtracted from the Value of a RangeBase control. |
| <b>Maximum</b>                               | <a href="#">x:Double</a>  |
| <b>(description)</b>                         | The highest possible Value of the range element.                            |
| <b>Minimum</b>                               | <a href="#">x:Double</a>  |
| <b>(description)</b>                         | The Minimum possible Value of the range element.                            |
| <b>SmallChange</b>                           | <a href="#">x:Double</a>  |
| <b>(description)</b>                         | A Value to be added to or subtracted from the Value of a RangeBase control. |
| <b>Value</b>                                 | <a href="#">x:Double</a>  |
| <b>(description)</b>                         | The current magnitude of the range control.                                 |
| <b>(events)</b>                              |   |
| <b>ValueChanged</b>                          | Occurs when the range value changes.  |

#### 4.665 Readability

[x:Object](#) > Readability

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <b>Unreadable  Readable  Inherit</b>  |
| <b>(description)</b> | Specifies the readability value of a LocalizabilityAttribute for a type or type member. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ReadabilitySyntax</a>   |

#### 4.666 ReasonSessionEnding

[x:Object](#) > ReasonSessionEnding

|                |                         |
|----------------|-------------------------|
| <b>(usage)</b> | <b>Logoff  Shutdown</b> |
|----------------|-------------------------|

|                      |  |
|----------------------|--|
| (usage)              | <b>Logoff  Shutdown</b>  |
| <b>(description)</b> | Specifies the reason for which the user's session is ending. Used by the ReasonSessionEnding property. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">ReasonSessionEndingSyntax</a>  |

#### 4.667 RecognitionConfidence

[x:Object](#) > RecognitionConfidence

|                      |  |
|----------------------|--|
| (usage)              | <b>Strong  Intermediate  Poor</b>  |
| <b>(description)</b> | Specifies the confidence level that the GestureRecognizer determines for a particular ink gesture. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">RecognitionConfidenceSyntax</a>  |

#### 4.668 Rect

[x:Object](#) > Rect

|                      |  |
|----------------------|--|
| (usage)              | <Rect> string </Rect>  |
| <b>(description)</b> | Describes the width, height, and location of a rectangle.  |
| <b>(used by)</b>     | <a href="#">ContextMenu</a> <a href="#">ContextMenuService</a> <a href="#">FixedPage</a> <a href="#">ImageDrawing</a> <a href="#">Popup</a> <a href="#">RectangleGeometry</a> <a href="#">RectKeyFrame</a> <a href="#">TileBrush</a> <a href="#">ToolTip</a> <a href="#">ToolTipService</a> <a href="#">TouchPoint</a> <a href="#">VideoDrawing</a> <a href="#">Viewport3DVisual</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">RectSyntax</a>   |
| <b>(properties)</b>  |  |
| <b>Height</b>        | <a href="#">x:Double</a>   |
| <b>(description)</b> | The height of the rectangle.   |
| <b>Location</b>      | <a href="#">Point</a>  |
| <b>(description)</b> | The position of the top-left corner of the rectangle.  |
| <b>Size</b>          | <a href="#">Size</a>   |
| <b>(description)</b> | The width and height of the rectangle.   |
| <b>Width</b>         | <a href="#">x:Double</a>   |
| <b>(description)</b> | The width of the rectangle.  |



|                            |   |
|----------------------------|---|
| (usage)                    | <Rect> string </Rect>   |
| <b>X</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The x-axis value of the left side of the rectangle.                   |
| <b>Y</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The y-axis value of the top side of the rectangle.                    |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | Rect  |
| <b>(description)</b>       | A special value that represents a rectangle with no position or area. |

#### 4.669 Rect3D

[x:Object](#) > Rect3D

|                      |   |
|----------------------|---|
| (usage)              | <Rect3D> string </Rect3D>                           |
| <b>(description)</b> | Represents a 3-D rectangle: for example, a cube.    |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">Rect3DSyntax</a>                        |
| <b>(properties)</b>  |   |
| <b>Location</b>      | <a href="#">Point3D</a>                             |
| <b>(description)</b> | A Point3D that represents the origin of the Rect3D. |
| <b>Size</b>          | <a href="#">Size3D</a>                              |
| <b>(description)</b> | The area of the Rect3D.                             |
| <b>SizeX</b>         | <a href="#">x:Double</a>                            |
| <b>(description)</b> | The size of the Rect3D in the X dimension.          |
| <b>SizeY</b>         | <a href="#">x:Double</a>                            |
| <b>(description)</b> | The size of the Rect3D in the Y dimension.          |
| <b>SizeZ</b>         | <a href="#">x:Double</a>                            |
| <b>(description)</b> | The size of the Rect3D in the Z dimension.          |
| <b>X</b>             | <a href="#">x:Double</a>                            |
| <b>(description)</b> | The value of the X coordinate of the Rect3D.        |
| <b>Y</b>             | <a href="#">x:Double</a>                            |
| <b>(description)</b> | The value of the Y coordinate of the Rect3D.        |

|                            |  |
|----------------------------|--|
| (usage)                    | <Rect3D> string </Rect3D>                    |
| <b>Z</b>                   | <a href="#">x:Double</a>                     |
| <b>(description)</b>       | The value of the Z coordinate of the Rect3D. |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | Rect3D                                       |
| <b>(description)</b>       | An empty Rect3D.                             |

#### 4.670 Rectangle

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Shape](#) > Rectangle, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <Rectangle />  |
| <b>(description)</b>       | Draws a rectangle.   |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>RadiusX</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The x-axis radius of the ellipse that is used to round the corners of the rectangle. |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>   |
| <b>RadiusY</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The y-axis radius of the ellipse that is used to round the corners of the rectangle. |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>   |

#### 4.671 RectangleGeometry

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Geometry](#) > RectangleGeometry

|                      |  |
|----------------------|--|
| (usage)              | <RectangleGeometry> string </RectangleGeometry>                        |
| <b>(description)</b> | Describes a two-dimensional rectangle.                                 |
| <b>[text syntax]</b> | <a href="#">GeometrySyntax</a>   |
| <b>(properties)</b>  |  |
| <b>RadiusX</b>       | <a href="#">x:Double</a>   |
| <b>(description)</b> | The x-radius of the ellipse use to round the corners of the rectangle. |
| <b>RadiusY</b>       | <a href="#">x:Double</a>   |

|                      |  |
|----------------------|--|
| (usage)              | <RectangleGeometry> string </RectangleGeometry>                        |
| <b>(description)</b> | The y-radius of the ellipse use to round the corners of the rectangle. |
| <b>Rect</b>          | <a href="#">Rect</a>   |
| <b>(description)</b> | The dimensions of the rectangle.                                       |

#### 4.672 RectAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [RectAnimationBase](#) > RectAnimation

|                        |  |
|------------------------|--|
| (usage)                | <RectAnimation />  |
| <b>(description)</b>   | Animates the value of a Rect property between two target values using linear interpolation.                            |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">x:Nullable(Rect)</a>   |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>   | The easing function applied to this animation.   |
| <b>From</b>            | <a href="#">x:Nullable(Rect)</a>   |
| <b>(description)</b>   | The animation's starting value.  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>              | <a href="#">x:Nullable(Rect)</a>   |
| <b>(description)</b>   | The animation's ending value.  |

#### 4.673 RectAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > RectAnimationBase

|   |       |
|---|-------|
| <a href="#">RectAnimation</a> <a href="#">RectAnimationUsingKeyFrames</a> |       |
| <b>(usage)</b>  | None. |

|   |   |
|---|---|
| <a href="#">RectAnimation</a> <a href="#">RectAnimationUsingKeyFrames</a> |   |
| <b>(description)</b>  | A base type that animates a Rect value. |
| <b>[is default constructible]</b>   | false                                   |
| <b>[name property]</b>  | Name                                    |

#### 4.674 RectAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [RectAnimationBase](#) > RectAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| <b>(usage)</b>            | <RectAnimationUsingKeyFrames> <a href="#">RectKeyFrame</a> *</RectAnimationUsingKeyFrames>                             |
| <b>(description)</b>      | Animates the value of a property that takes a Rect along a set of key frames.  |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that indicates whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that indicates whether the animation's value accumulates when it repeats.                                      |
| <b>KeyFrames</b>          | <a href="#">RectKeyFrameCollection</a>   |
| <b>(description)</b>      | The collection of RectKeyFrame objects that define the animation.  |

#### 4.675 RectKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > RectKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteRectKeyFrame</a> <a href="#">EasingRectKeyFrame</a> <a href="#">LinearRectKeyFrame</a> <a href="#">SplineRectKeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a RectAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">RectKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>  |

|   |   |
|---|---|
| <a href="#">DiscreteRectKeyFrame</a> <a href="#">EasingRectKeyFrame</a> <a href="#">LinearRectKeyFrame</a> <a href="#">SplineRectKeyFrame</a> |   |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached. |
| <b>Value</b>  | <a href="#">Rect</a>  |
| <b>(description)</b>  | The key frame's target value.                                     |

#### 4.676 RectKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > RectKeyFrameCollection

|                            |  |
|----------------------------|--|
| <b>(usage)</b>             | <RectKeyFrameCollection> <a href="#">RectKeyFrame</a> *</RectKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of RectKeyFrame objects.                                 |
| <b>(used by)</b>           | <a href="#">RectAnimationUsingKeyFrames</a>                                      |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">RectKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | RectKeyFrameCollection   |
| <b>(description)</b>       | An empty RectKeyFrameCollection.   |

#### 4.677 RelativeSource

[x:Object](#) > [x:MarkupExtension](#) > RelativeSource

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | {RelativeSource }   <RelativeSource />  |
| <b>(description)</b>       | Implements a markup extension that describes the location of the binding source relative to the position of the binding target. |
| <b>(used by)</b>           | <a href="#">Binding</a>   |
| <b>[return value type]</b> | RelativeSource  |
| <b>[constructors]</b>      |   |
| <b>(1 parameter)</b>       |   |
| <b>mode</b>                | <a href="#">RelativeSourceMode</a>  |
| <b>(description)</b>       | One of the RelativeSourceMode values.   |
| <b>(3 parameters)</b>      |   |
| <b>mode</b>                | <a href="#">RelativeSourceMode</a>  |
| <b>(description)</b>       | One of the RelativeSourceMode values. For this signature to be relevant, this should be FindAncestor.                           |

|                            |  |
|----------------------------|--|
| (usage)                    | {RelativeSource }   <RelativeSource />   |
| <b>ancestorType</b>        | <a href="#">x:XamlType</a>   |
| <b>(description)</b>       | The Type of ancestor to look for.  |
| <b>ancestorLevel</b>       | <a href="#">x:Int32</a>  |
| <b>(description)</b>       | The ordinal position of the desired ancestor among all ancestors of the given type.  |
| <b>(properties)</b>        |  |
| <b>AncestorLevel</b>       | <a href="#">x:Int32</a>  |
| <b>(description)</b>       | The level of ancestor to look for, in FindAncestor mode. Use 1 to indicate the one nearest to the binding target element.    |
| <b>AncestorType</b>        | <a href="#">x:XamlType</a>   |
| <b>(description)</b>       | The type of ancestor to look for.  |
| <b>Mode</b>                | <a href="#">RelativeSourceMode</a>   |
| <b>(description)</b>       | A RelativeSourceMode value that describes the location of the binding source relative to the position of the binding target. |
| <b>(static properties)</b> |  |
| <b>PreviousData</b>        | RelativeSource   |
| <b>(description)</b>       | A static value that is used to return a RelativeSource constructed for the PreviousData mode.                                |
| <b>Self</b>                | RelativeSource   |
| <b>(description)</b>       | A static value that is used to return a RelativeSource constructed for the Self mode.  |
| <b>TemplatedParent</b>     | RelativeSource   |
| <b>(description)</b>       | A static value that is used to return a RelativeSource constructed for the TemplatedParent mode.                             |

#### 4.678 RelativeSourceMode

[x:Object](#) > RelativeSourceMode

|                      |  |
|----------------------|--|
| (usage)              | <b>PreviousData</b>   <b>TemplatedParent</b>   <b>Self</b>   <b>FindAncestor</b>             |
| <b>(description)</b> | Describes the location of the binding source relative to the position of the binding target. |
| <b>(used by)</b>     | <a href="#">RelativeSource</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">RelativeSourceModeSyntax</a>   |

## 4.679 RemoveStoryboard

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > [ControllableStoryboardAction](#) > RemoveStoryboard

|                      |   |
|----------------------|---|
| (usage)              | <RemoveStoryboard />                        |
| <b>(description)</b> | A trigger action that removes a Storyboard. |

## 4.680 RenderCapability

[x:Object](#) > RenderCapability

|   |  |
|---|--|
| (usage)   | {x:Static RenderCapability.StaticPropertyName}   |
| <b>(description)</b>                            | Enables applications to query for the current rendering tier for their associated Dispatcher object and to register for notification of changes. |
| <b>[is default constructible]</b>               | false  |
| <b>(static properties)</b>                      |  |
| <b>IsShaderEffectSoftwareRenderingSupported</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                            | A value that indicates whether the system can render bitmap effects in software.   |
| <b>MaxHardwareTextureSize</b>                   | <a href="#">Size</a>   |
| <b>(description)</b>                            | The maximum width and height for bitmap creation of the underlying hardware device.  |
| <b>Tier</b>                                     | <a href="#">x:Int32</a>  |
| <b>(description)</b>                            | A value that indicates the rendering tier for the current thread.  |

## 4.681 RenderingBias

[x:Object](#) > RenderingBias

|                      |   |
|----------------------|---|
| (usage)              | <b>Performance  Quality</b>   |
| <b>(description)</b> | Indicates whether the system renders an effect with emphasis on speed or quality. |
| <b>(used by)</b>     | <a href="#">BlurEffect</a> <a href="#">DropShadowEffect</a>                       |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">RenderingBiasSyntax</a>   |

## 4.682 RenderOptions

[x:Object](#) > RenderOptions

|  |   |
|--|---|
| (usage)  | {x:Static<br>RenderOptions.StaticPropertyName}  |
| <b>(description)</b>                                   | Provides options for controlling the rendering behavior of objects.                                 |
| <b>[is default constructible]</b>                      | false   |
| <b>(attachable properties)</b>                         |   |
| <b>RenderOptions.BitmapScalingMode</b>                 | <a href="#">BitmapScalingMode</a>   |
| <b>(description)</b>                                   | The BitmapScalingMode for a given DependencyObject.   |
| <b>[target type]</b>                                   | <a href="#">DependencyObject</a>  |
| <b>RenderOptions.CacheInvalidationThresholdMaximum</b> | <a href="#">x:Double</a>  |
| <b>(description)</b>                                   | The cache invalidation threshold maximum value for a given DependencyObject.                        |
| <b>[target type]</b>                                   | <a href="#">DependencyObject</a>  |
| <b>RenderOptions.CacheInvalidationThresholdMinimum</b> | <a href="#">x:Double</a>  |
| <b>(description)</b>                                   | The cache invalidation threshold minimum value for a given DependencyObject.                        |
| <b>[target type]</b>                                   | <a href="#">DependencyObject</a>  |
| <b>RenderOptions.CachingHint</b>                       | <a href="#">CachingHint</a>   |
| <b>(description)</b>                                   | A value that indicates that rendered content should be cached when possible.                        |
| <b>[target type]</b>                                   | <a href="#">DependencyObject</a>  |
| <b>RenderOptions.ClearTypeHint</b>                     | <a href="#">ClearTypeHint</a>   |
| <b>(description)</b>                                   | A value that indicates to the rendering engine whether text can be rendered with ClearType.         |
| <b>[target type]</b>                                   | <a href="#">DependencyObject</a>  |
| <b>RenderOptions.EdgeMode</b>                          | <a href="#">EdgeMode</a>  |
| <b>(description)</b>                                   | The EdgeMode enumeration value for a non-text primitive that determines how its edges are rendered. |
| <b>[target type]</b>                                   | <a href="#">DependencyObject</a>  |
| <b>(static properties)</b>                             |   |
| <b>ProcessRenderMode</b>                               | RenderMode  |
| <b>(description)</b>                                   | Specifies the render mode preference for the current process.                                       |



## 4.683 RenderTargetBitmap

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > RenderTargetBitmap

|                            |   |
|----------------------------|---|
| (usage)                    | <RenderTargetBitmap> string </RenderTargetBitmap> |
| (description)              | Converts a Visual object into a bitmap.           |
| [is default constructible] | false   |
| [text syntax]              | x:Uri, from <a href="#">[MS-XAML]</a>             |

## 4.684 RepeatBehavior

[x:Object](#) > RepeatBehavior

|                     |  |
|---------------------|--|
| (usage)             | <RepeatBehavior> string </RepeatBehavior>                          |
| (description)       | Describes how a Timeline repeats its simple duration.              |
| (used by)           | <a href="#">Timeline</a>   |
| [is nullable]       | false  |
| [text syntax]       | <a href="#">RepeatBehaviorSyntax</a>                               |
| (static properties) |  |
| Forever             | RepeatBehavior   |
| (description)       | A RepeatBehavior that specifies an infinite number of repetitions. |

## 4.685 RepeatButton

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > RepeatButton, [InputElement](#)

|                     |   |
|---------------------|---|
| (usage)             | <RepeatButton> <a href="#">x:Object</a> </RepeatButton>   |
| (description)       | Represents a control that raises its Click event repeatedly from the time it is pressed until it is released. |
| (used by)           | <a href="#">Track</a>   |
| [content property]  | Content   |
| [name property]     | Name  |
| [xml lang property] | Language  |
| (properties)        |   |
| Delay               | <a href="#">x:Int32</a>   |

|                      |   |
|----------------------|---|
| (usage)              | <RepeatButton> <a href="#">x:Object</a> </RepeatButton>   |
| <b>(description)</b> | The amount of time, in milliseconds, the RepeatButton waits while it is pressed before it starts repeating. The value must be non-negative. |
| <b>Interval</b>      | <a href="#">x:Int32</a>   |
| <b>(description)</b> | The amount of time, in milliseconds, between repeats once repeating starts. The value must be non-negative.                                 |

#### 4.686 ResizeGrip

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > ResizeGrip, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <ResizeGrip />  |
| <b>(description)</b>       | Represents an implementation of a Thumb control that enables a Window to change its size. |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.687 ResizeGripDirection (4.5)

[x:Object](#) > ResizeGripDirection

|                      |  |
|----------------------|--|
| (usage)              | <b>None  TopLeft  Top  TopRight  Right  BottomRight  Bottom  BottomLeft  Left...</b>             |
| <b>(description)</b> | Specifies constants that indicate the direction of the resize grip behavior on an input element. |
| <b>(used by)</b>     | <a href="#">WindowChrome</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">ResizeGripDirectionSyntax</a>  |

#### 4.688 ResizeMode

[x:Object](#) > ResizeMode

|                      |   |
|----------------------|---|
| (usage)              | <b>NoResize  CanMinimize  CanResize  CanResizeWithGrip</b>  |
| <b>(description)</b> | Specifies whether a window can be resized and, if so, how it can be resized. Used by the ResizeMode property. |
| <b>(used by)</b>     | <a href="#">Window</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ResizeModeSyntax</a>  |

## 4.689 ResourceDictionary

[x:Object](#) > ResourceDictionary

|                            |   |
|----------------------------|---|
| (usage)                    | <ResourceDictionary> <b>ResourceDictionary</b> </ResourceDictionary>  |
| <b>(description)</b>       | Provides a hash table / dictionary implementation that contains resources used by components and other elements of an application.  |
| <b>(used by)</b>           | <a href="#">Application</a> <a href="#">FrameworkContentElement</a> <a href="#">FrameworkElement</a> <a href="#">FrameworkTemplate</a> <a href="#">ResourceDictionary</a> <a href="#">Style</a> |
| <b>[is dictionary]</b>     | true  |
| <b>[allowed types]</b>     | <a href="#">x:Object</a>  |
| <b>[allowed key types]</b> | <a href="#">x:Object</a>  |
| <b>(properties)</b>        |   |
| <b>DeferrableContent</b>   | <a href="#">DeferrableContent</a>   |
| <b>(description)</b>       | The deferrable content for this resource dictionary.  |
| <b>IsReadOnly</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | Whether this ResourceDictionary is read-only.   |
| <b>MergedDictionaries</b>  | <a href="#">Collection</a> (ResourceDictionary)   |
| <b>(description)</b>       | A collection of the ResourceDictionary dictionaries that constitute the various resource dictionaries in the merged dictionaries.   |
| <b>[read only]</b>         | true  |
| <b>Source</b>              | <a href="#">x:Uri</a>   |
| <b>(description)</b>       | The uniform resource identifier (URI) to load resources from.   |

## 4.690 ResourceDictionaryLocation

[x:Object](#) > ResourceDictionaryLocation

|                      |  |
|----------------------|--|
| (usage)              | <b>None  SourceAssembly  ExternalAssembly</b>                          |
| <b>(description)</b> | Specifies the locations where theme resource dictionaries are located. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">ResourceDictionaryLocationSyntax</a>                       |

## 4.691 ResourceKey

[x:Object](#) > [x:MarkupExtension](#) > ResourceKey

[ComponentResourceKey](#) [TemplateKey](#)

|  |  |
|--|--|
| <a href="#">ComponentResourceKey</a> <a href="#">TemplateKey</a> |  |
| <b>(usage)</b>   | None.                                  |
| <b>(description)</b>   | A base type for various resource keys. |
| <b>[is default constructible]</b>                                | false                                  |
| <b>[return value type]</b>                                       | ResourceKey                            |

#### 4.692 RestoreFocusMode

[x:Object](#) > RestoreFocusMode

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <b>Auto  None</b>                           |
| <b>(description)</b> | Specifies how restores focus to the window. |
| <b>[is nullable]</b> | false                                       |
| <b>[text syntax]</b> | <a href="#">RestoreFocusModeSyntax</a>      |

#### 4.693 ResumeStoryboard

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > [ControllableStoryboardAction](#) > ResumeStoryboard

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <ResumeStoryboard />  |
| <b>(description)</b> | Supports a trigger action that resumes a paused Storyboard. |

#### 4.694 Ribbon (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [Selector](#) > Ribbon, [IInputElement](#)

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <Ribbon> <a href="#">x:Object</a> *</Ribbon>  |
| <b>(description)</b>       | Represents the root element of a ribbon user interface that hosts a Quick Access Toolbar, Application Menu, and tabs. |
| <b>(used by)</b>           | <a href="#">RibbonControlService</a>  |
| <b>[content property]</b>  | Items   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>ApplicationMenu</b>     | <a href="#">RibbonApplicationMenu</a>   |
| <b>(description)</b>       | The RibbonApplicationMenu that is a logical child of this Ribbon control.   |
| <b>CheckedBackground</b>   | <a href="#">Brush</a>   |

|   |  |
|---|--|
| (usage)                                 | <Ribbon> <a href="#">x:Object</a> *</Ribbon>   |
| <b>(description)</b>                    | The brush that is used to draw the background of Ribbon controls when they are in the Checked state.   |
| <b>CheckedBorderBrush</b>               | <a href="#">Brush</a>  |
| <b>(description)</b>                    | The brush that is used to draw the outer border of Ribbon controls when they are in the Checked state. |
| <b>ContextualTabGroupHeaderTemplate</b> | <a href="#">DataTemplate</a>   |
| <b>(description)</b>                    | The template that is used to display Header items in the RibbonContextualTabGroup.                     |
| <b>ContextualTabGroups</b>              | <a href="#">Collection</a> ( <a href="#">RibbonContextualTabGroup</a> )                                |
| <b>(description)</b>                    | A collection that contains all of the RibbonContextualTabGroup items in the Ribbon.                    |
| <b>[read only]</b>                      | true   |
| <b>ContextualTabGroupStyle</b>          | <a href="#">Style</a>  |
| <b>(description)</b>                    | The style that is used when rendering RibbonContextualTabGroup items in the Ribbon.                    |
| <b>FocusedBackground</b>                | <a href="#">Brush</a>  |
| <b>(description)</b>                    | The brush used to draw the background of Ribbon controls in the Focused state.                         |
| <b>FocusedBorderBrush</b>               | <a href="#">Brush</a>  |
| <b>(description)</b>                    | The brush used to draw the outer border of Ribbon controls in the Focused state.                       |
| <b>HelpPaneContent</b>                  | <a href="#">x:Object</a>   |
| <b>(description)</b>                    | The contents of the help pane.   |
| <b>HelpPaneContentTemplate</b>          | <a href="#">DataTemplate</a>   |
| <b>(description)</b>                    | The template that is used to display the content of the help pane.                                     |
| <b>IsCollapsed</b>                      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | A value that indicates whether the Ribbon is collapsed.  |
| <b>IsDropDownOpen</b>                   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | A value that indicates whether the drop-down for a RibbonTab is open.                                  |
| <b>IsMinimized</b>                      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | A value that indicates whether the Ribbon is minimized.  |
| <b>MouseOverBackground</b>              | <a href="#">Brush</a>  |

|                                    |  |
|------------------------------------|--|
| (usage)                            | <Ribbon> <a href="#">x:Object</a> *</Ribbon>   |
| <b>(description)</b>               | The brush that is used to draw the background of Ribbon controls when they are in the MouseOver state.   |
| <b>MouseOverBorderBrush</b>        | <a href="#">Brush</a>  |
| <b>(description)</b>               | The brush that is used to draw the outer border of Ribbon controls when they are in the MouseOver state. |
| <b>PressedBackground</b>           | <a href="#">Brush</a>  |
| <b>(description)</b>               | The brush that is used to draw the background of Ribbon controls when they are in the Pressed state.     |
| <b>PressedBorderBrush</b>          | <a href="#">Brush</a>  |
| <b>(description)</b>               | The brush that is used to draw the outer border of Ribbon controls when they are in the Pressed state.   |
| <b>QuickAccessToolBar</b>          | <a href="#">RibbonQuickAccessToolBar</a>   |
| <b>(description)</b>               | The RibbonQuickAccessToolBar that is a logical child of this Ribbon.                                     |
| <b>ShowQuickAccessToolBarOnTop</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>               | A value that indicates whether to show the Quick Access Toolbar above the Ribbon.                        |
| <b>TabHeaderStyle</b>              | <a href="#">Style</a>  |
| <b>(description)</b>               | The style that is used when rendering tab headers.   |
| <b>TabHeaderTemplate</b>           | <a href="#">DataTemplate</a>   |
| <b>(description)</b>               | The template that is used to display tab headers.  |
| <b>Title</b>                       | <a href="#">x:Object</a>   |
| <b>(description)</b>               | The title of this Ribbon control.  |
| <b>TitleTemplate</b>               | <a href="#">DataTemplate</a>   |
| <b>(description)</b>               | The template that is used to display the Ribbon title.   |
| <b>WindowIconVisibility</b>        | <a href="#">Visibility</a>   |
| <b>(description)</b>               | The Visibility for the icon of the RibbonWindow that contains this Ribbon.                               |
| <b>(events)</b>                    |  |
| <b>Collapsed</b>                   | Occurs when the IsCollapsed property is changed to true and the Ribbon is collapsed.                     |
| <b>Expanded</b>                    | Occurs when the IsCollapsed property is changed to false and the Ribbon is expanded.                     |

## 4.695 RibbonApplicationMenu (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [MenuBase](#) > [Menu](#) > [RibbonMenuButton](#) > RibbonApplicationMenu, [IInputElement](#)

|   |  |
|---|--|
| (usage)                                     | <RibbonApplicationMenu> <a href="#">x:Object</a> *</RibbonApplicationMenu>   |
| <b>(description)</b>                        | Represents an Application Menu that is used in a Ribbon control.   |
| <b>(used by)</b>                            | <a href="#">Ribbon</a>   |
| <b>[content property]</b>                   | Items  |
| <b>[name property]</b>                      | Name   |
| <b>[xml lang property]</b>                  | Language   |
| <b>(properties)</b>                         |  |
| <b>AuxiliaryPaneContent</b>                 | <a href="#">x:Object</a>   |
| <b>(description)</b>                        | The content of the Application Menu auxiliary pane.  |
| <b>AuxiliaryPaneContentTemplate</b>         | <a href="#">DataTemplate</a>   |
| <b>(description)</b>                        | The template that is used to display the content of the Application Menu auxiliary pane.                                   |
| <b>AuxiliaryPaneContentTemplateSelector</b> | <a href="#">DataTemplateSelector</a>   |
| <b>(description)</b>                        | The custom logic for selecting a DataTemplate that is used to display the contents of the Application Menu auxiliary pane. |
| <b>FooterPaneContent</b>                    | <a href="#">x:Object</a>   |
| <b>(description)</b>                        | The content of the Application Menu footer pane.   |
| <b>FooterPaneContentTemplate</b>            | <a href="#">DataTemplate</a>   |
| <b>(description)</b>                        | The template that is used to display the content of the Application Menu footer pane.                                      |
| <b>FooterPaneContentTemplateSelector</b>    | <a href="#">DataTemplateSelector</a>   |
| <b>(description)</b>                        | The custom logic for selecting a DataTemplate that is used to display the contents of the Application Menu footer pane.    |

## 4.696 RibbonApplicationMenuItem (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > [MenuItem](#) > [RibbonMenuItem](#) > RibbonApplicationMenuItem, [IInputElement](#)

|                      |  |
|----------------------|--|
| (usage)              | <RibbonApplicationMenuItem> <a href="#">x:Object</a> *</RibbonApplicationMenuItem> |
| <b>(description)</b> | Represents a menu item inside a RibbonApplicationMenu control.                     |

|                            |  |
|----------------------------|--|
| (usage)                    | <RibbonApplicationMenuItem> <a href="#">x:Object</a> *</RibbonApplicationMenuItem> |
| <b>[content property]</b>  | Items  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |

#### 4.697 RibbonApplicationMenuItemLevel (4.5)

[x:Object](#) > RibbonApplicationMenuItemLevel

|                      |   |
|----------------------|---|
| (usage)              | <b>Top  Middle  Sub</b>   |
| <b>(description)</b> | Defines constants that specify the level that a menu item is displayed at in the ribbon Application Menu. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">RibbonApplicationMenuItemLevelSyntax</a>  |

#### 4.698 RibbonApplicationSplitMenuItem (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > [MenuItem](#) > [RibbonMenuItem](#) > [RibbonSplitMenuItem](#) > RibbonApplicationSplitMenuItem, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <RibbonApplicationSplitMenuItem> <a href="#">x:Object</a> *</RibbonApplicationSplitMenuItem>                        |
| <b>(description)</b>       | Represents a menu item inside a RibbonApplicationMenu control that can invoke a command and also display a submenu. |
| <b>[content property]</b>  | Items   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.699 RibbonButton (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [Button](#) > RibbonButton, [IInputElement](#)

|                           |   |
|---------------------------|---|
| (usage)                   | <RibbonButton> <a href="#">x:Object</a> </RibbonButton> |
| <b>(description)</b>      | Represents a button that is used in a Ribbon control.   |
| <b>[content property]</b> | Content   |
| <b>[name property]</b>    | Name  |



|   |   |
|---|---|
| (usage)                                   | <RibbonButton> <a href="#">x:Object</a> </RibbonButton>   |
| [xml lang property]                       | Language  |
| (properties)                              |   |
| <b>CanAddToQuickAccessToolBarDirectly</b> | <a href="#">x:Boolean</a>   |
| (description)                             | A value that indicates whether this control can be added directly to the Quick Access Toolbar.    |
| <b>ControlSizeDefinition</b>              | <a href="#">RibbonControlSizeDefinition</a>   |
| (description)                             | The RibbonControlSizeDefinition for this control.   |
| <b>CornerRadius</b>                       | <a href="#">CornerRadius</a>  |
| (description)                             | A value that indicates the amount that the corners of a ribbon button are rounded.                |
| <b>FocusedBackground</b>                  | <a href="#">Brush</a>   |
| (description)                             | The brush that is used to draw the background of the control when it has focus.                   |
| <b>FocusedBorderBrush</b>                 | <a href="#">Brush</a>   |
| (description)                             | The brush that is used to draw the outer border of the control when it has focus.                 |
| <b>KeyTip</b>                             | <a href="#">x:String</a>  |
| (description)                             | The keyboard shortcut for the control.  |
| <b>Label</b>                              | <a href="#">x:String</a>  |
| (description)                             | The text that is displayed next to or below the control.  |
| <b>LargeImageSource</b>                   | <a href="#">ImageSource</a>   |
| (description)                             | The image that is displayed on the control when the image size is set to Large.                   |
| <b>MouseOverBackground</b>                | <a href="#">Brush</a>   |
| (description)                             | The brush that is used to draw the background of the control when the mouse pointer is over it.   |
| <b>MouseOverBorderBrush</b>               | <a href="#">Brush</a>   |
| (description)                             | The brush that is used to draw the outer border of the control when the mouse pointer is over it. |
| <b>PressedBackground</b>                  | <a href="#">Brush</a>   |
| (description)                             | The brush that is used to draw the background of the control when it is pressed.                  |
| <b>PressedBorderBrush</b>                 | <a href="#">Brush</a>   |

|  |   |
|--|---|
| (usage)  | <RibbonButton> <a href="#">x:Object</a> </RibbonButton>   |
| <b>(description)</b>                           | The brush that is used to draw the outer border of the control when it is pressed.                      |
| <b>QuickAccessToolBarControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>                           | The RibbonControlSizeDefinition for this control when it is hosted in the Quick Access Toolbar.         |
| <b>QuickAccessToolBarId</b>                    | <a href="#">x:Object</a>  |
| <b>(description)</b>                           | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>SmallImageSource</b>                        | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed on the control when the image size is set to Small.                         |
| <b>ToolTipDescription</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b>                | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the footer of the ToolTip for this control.                         |
| <b>ToolTipImageSource</b>                      | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the ToolTip for this control.  |
| <b>ToolTipTitle</b>                            | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the ToolTip for this control.                                       |

#### 4.700 RibbonCheckBox (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [ToggleButton](#) > [CheckBox](#) > RibbonCheckBox, [IInputElement](#)

|                           |   |
|---------------------------|---|
| (usage)                   | <RibbonCheckBox> <a href="#">x:Object</a> </RibbonCheckBox> |
| <b>(description)</b>      | Represents a check box that is used in a Ribbon control.    |
| <b>[content property]</b> | Content   |

|   |   |
|---|---|
| (usage)                                   | <RibbonCheckBox> <a href="#">x:Object</a> </RibbonCheckBox>                                       |
| <b>[name property]</b>                    | Name  |
| <b>[xml lang property]</b>                | Language  |
| <b>(properties)</b>                       |   |
| <b>CanAddToQuickAccessToolBarDirectly</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                      | A value that indicates whether this control can be added directly to the Quick Access Toolbar.    |
| <b>CheckedBackground</b>                  | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when it is in the Checked state.     |
| <b>CheckedBorderBrush</b>                 | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when it is in the Checked state.   |
| <b>ControlSizeDefinition</b>              | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>                      | The RibbonControlSizeDefinition for this control.   |
| <b>FocusedBackground</b>                  | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when it has focus.                   |
| <b>FocusedBorderBrush</b>                 | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when it has focus.                 |
| <b>KeyTip</b>                             | <a href="#">x:String</a>  |
| <b>(description)</b>                      | The keyboard shortcut for the control.  |
| <b>Label</b>                              | <a href="#">x:String</a>  |
| <b>(description)</b>                      | The text that is displayed next to or below the control.  |
| <b>LargeImageSource</b>                   | <a href="#">ImageSource</a>   |
| <b>(description)</b>                      | The image that is displayed on the control when the image size is set to Large.                   |
| <b>MouseOverBackground</b>                | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when the mouse pointer is over it.   |
| <b>MouseOverBorderBrush</b>               | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when the mouse pointer is over it. |

|  |   |
|--|---|
| (usage)  | <RibbonCheckBox> <a href="#">x:Object</a> </RibbonCheckBox>   |
| <b>PressedBackground</b>                       | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the background of the control when it is pressed.                        |
| <b>PressedBorderBrush</b>                      | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the outer border of the control when it is pressed.                      |
| <b>QuickAccessToolBarControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>                           | The RibbonControlSizeDefinition for this control when it is hosted in the Quick Access Toolbar.         |
| <b>QuickAccessToolBarId</b>                    | <a href="#">x:Object</a>  |
| <b>(description)</b>                           | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>SmallImageSource</b>                        | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed on the control when the image size is set to Small.                         |
| <b>ToolTipDescription</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b>                | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the footer of the ToolTip for this control.                         |
| <b>ToolTipImageSource</b>                      | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the ToolTip for this control.  |
| <b>ToolTipTitle</b>                            | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the ToolTip for this control.                                       |

#### 4.701 RibbonComboBox (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [MenuBase](#) > [Menu](#) > [RibbonMenuButton](#) > RibbonComboBox, [InputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <RibbonComboBox> <a href="#">x:Object</a> *</RibbonComboBox>  |
| <b>(description)</b>       | Represents a combo box that is used in a Ribbon control.  |
| <b>[content property]</b>  | Items   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>IsEditable</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the content of the combo box can be edited.  |
| <b>IsReadOnly</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether selection-only mode is enabled, in which the contents of the combo box are selectable but not editable.          |
| <b>SelectionBoxWidth</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The width of the text box that displays the selected item in the combo box.   |
| <b>StaysOpenOnEdit</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a combo box that is open and displays a drop-down control will remain open when a user clicks the selection box. |
| <b>Text</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>       | The text of the currently selected item.  |

## 4.702 RibbonCommands (4.5)

[x:Object](#) > RibbonCommands

|                                       |   |
|---------------------------------------|---|
| (usage)                               | {x:Static RibbonCommands.StaticPropertyName}        |
| <b>(description)</b>                  | Provides static access to standard ribbon commands. |
| <b>[is default constructible]</b>     | false   |
| <b>(static properties)</b>            |   |
| <b>AddToQuickAccessToolBarCommand</b> | <a href="#">RoutedUICommand</a>                     |
| <b>(description)</b>                  | A reference to the AddToQuickAccessToolBar command. |
| <b>MaximizeRibbonCommand</b>          | <a href="#">RoutedUICommand</a>                     |
| <b>(description)</b>                  | A reference to the MaximizeRibbon command.          |
| <b>MinimizeRibbonCommand</b>          | <a href="#">RoutedUICommand</a>                     |

|   |   |
|---|---|
| (usage)   | {x:Static RibbonCommands.StaticPropertyName}                  |
| <b>(description)</b>                            | A reference to the MinimizeRibbon command.                    |
| <b>RemoveFromQuickAccessToolBarCommand</b>      | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>                            | A reference to the RemoveFromQuickAccessToolBar command.      |
| <b>ShowQuickAccessToolBarAboveRibbonCommand</b> | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>                            | A reference to the ShowQuickAccessToolBarAboveRibbon command. |
| <b>ShowQuickAccessToolBarBelowRibbonCommand</b> | <a href="#">RoutedUICommand</a>                               |
| <b>(description)</b>                            | A reference to the ShowQuickAccessToolBarBelowRibbon command. |

#### 4.703 RibbonContentPresenter (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [ContentPresenter](#) > RibbonContentPresenter, [IInputElement](#)

|                              |   |
|------------------------------|---|
| (usage)                      | <RibbonContentPresenter />                        |
| <b>(description)</b>         | Displays the content of a ribbon control.         |
| <b>[name property]</b>       | Name  |
| <b>[xml lang property]</b>   | Language  |
| <b>(properties)</b>          |   |
| <b>ControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>       |
| <b>(description)</b>         | The RibbonControlSizeDefinition for this control. |

#### 4.704 RibbonContextMenu (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [MenuBase](#) > [ContextMenu](#) > RibbonContextMenu, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <RibbonContextMenu> <a href="#">x:Object</a> *</RibbonContextMenu>          |
| <b>(description)</b>       | Represents a menu that is displayed in the context of a particular control. |
| <b>[content property]</b>  | Items   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.705 RibbonContextualTabGroup (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > RibbonContextualTabGroup, [IInputElement](#)

|                               |  |
|-------------------------------|--|
| (usage)                       | <RibbonContextualTabGroup> <a href="#">x:Object</a> </RibbonContextualTabGroup>                                  |
| <b>(description)</b>          | Represents a Ribbon tab group that dynamically displays controls that are only relevant in a particular context. |
| <b>(used by)</b>              | <a href="#">Ribbon</a>   |
| <b>[content property]</b>     | Header   |
| <b>[name property]</b>        | Name   |
| <b>[xml lang property]</b>    | Language   |
| <b>(properties)</b>           |  |
| <b>Header</b>                 | <a href="#">x:Object</a>   |
| <b>(description)</b>          | The content of the contextual tab group header.  |
| <b>HeaderStringFormat</b>     | <a href="#">x:String</a>   |
| <b>(description)</b>          | The format that is used to display the header content as a string.   |
| <b>HeaderTemplate</b>         | <a href="#">DataTemplate</a>   |
| <b>(description)</b>          | The DataTemplate that is used to display the contents of the header.   |
| <b>HeaderTemplateSelector</b> | <a href="#">DataTemplateSelector</a>   |
| <b>(description)</b>          | The custom logic for selecting a DataTemplate that is used to display the contents of the header.                |

#### 4.706 RibbonContextualTabGroupItemsControl (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > RibbonContextualTabGroupItemsControl, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <RibbonContextualTabGroupItemsControl> <a href="#">x:Object</a> *</RibbonContextualTabGroupItemsControl> |
| <b>(description)</b>       | Represents an items control that hosts contextual tab groups in a Ribbon.                                |
| <b>[content property]</b>  | Items  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |

#### 4.707 RibbonControl (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > RibbonControl, [IInputElement](#)

|                              |   |
|------------------------------|---|
| (usage)                      | <RibbonControl> <a href="#">x:Object</a> </RibbonControl> |
| <b>(description)</b>         | Represents a container for controls in a ribbon.          |
| <b>[content property]</b>    | Content   |
| <b>[name property]</b>       | Name  |
| <b>[xml lang property]</b>   | Language  |
| <b>(properties)</b>          |   |
| <b>ControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>               |
| <b>(description)</b>         | The RibbonControlSizeDefinition for this control.         |

#### 4.708 RibbonControlGroup (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > RibbonControlGroup, [IInputElement](#)

|                              |  |
|------------------------------|--|
| (usage)                      | <RibbonControlGroup> <a href="#">x:Object</a> *</RibbonControlGroup> |
| <b>(description)</b>         | Groups a set of ribbon controls into a visual and conceptual unit.   |
| <b>[content property]</b>    | Items  |
| <b>[name property]</b>       | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>          |  |
| <b>ControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>                          |
| <b>(description)</b>         | The RibbonControlSizeDefinition for this control.                    |

#### 4.709 RibbonControlLength (4.5)

[x:Object](#) > RibbonControlLength

|                            |   |
|----------------------------|---|
| (usage)                    | <RibbonControlLength> string </RibbonControlLength>                           |
| <b>(description)</b>       | Represents widths in a RibbonControlSizeDefinition.                           |
| <b>(used by)</b>           | <a href="#">RibbonControlSizeDefinition</a>                                   |
| <b>[is nullable]</b>       | false   |
| <b>[text syntax]</b>       | <a href="#">RibbonControlLengthSyntax</a>                                     |
| <b>(static properties)</b> |   |
| <b>Auto</b>                | RibbonControlLength   |
| <b>(description)</b>       | A RibbonControlLength structure that represents the standard automatic sizing |



|         |   |
|---------|---|
| (usage) | <RibbonControlLength> string </RibbonControlLength> |
|         | mode.   |

#### 4.710 RibbonControlLengthUnitType (4.5)

[x:Object](#) > RibbonControlLengthUnitType

|                      |  |
|----------------------|--|
| (usage)              | <b>Auto  Pixel  Item  Star</b>                                     |
| <b>(description)</b> | Defines constants that specify how elements in a Ribbon are sized. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">RibbonControlLengthUnitTypeSyntax</a>                  |

#### 4.711 RibbonControlService (4.5)

[x:Object](#) > RibbonControlService

|  |   |
|--|---|
| (usage)  | None.   |
| <b>(description)</b>   | Represents a service that provides properties and methods to control the display and behavior of Ribbon controls. |
| <b>[is default constructible]</b>                              | false   |
| <b>(attachable properties)</b>                                 |   |
| <b>RibbonControlService.CanAddToQuickAccessToolBarDirectly</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether this control can be added directly to the Quick Access Toolbar.                    |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.CheckedBackground</b>                  | <a href="#">Brush</a>   |
| <b>(description)</b>   | The brush that is used to draw the background of the control when it is in the Checked state.                     |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.CheckedBorderBrush</b>                 | <a href="#">Brush</a>   |
| <b>(description)</b>   | The brush that is used to draw the outer border of the control when it in the Checked state.                      |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.ControlSizeDefinition</b>              | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>   | The RibbonControlSizeDefinition   |

|  |  |
|--|--|
| (usage)  | None.  |
|  | for this control.  |
| <b>[target type]</b>                                     | <a href="#">DependencyObject</a>   |
| <b>RibbonControlService.CornerRadius</b>                 | <a href="#">CornerRadius</a>   |
| <b>(description)</b>                                     | A value that indicates the amount that the corners of a ribbon button are rounded. |
| <b>[target type]</b>                                     | <a href="#">DependencyObject</a>   |
| <b>RibbonControlService.DefaultControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>  |
| <b>(description)</b>                                     | The default RibbonControlSizeDefinition for this control.                          |
| <b>[target type]</b>                                     | <a href="#">DependencyObject</a>   |
| <b>RibbonControlService.FocusedBackground</b>            | <a href="#">Brush</a>  |
| <b>(description)</b>                                     | The brush that is used to draw the background of the control when it has focus.    |
| <b>[target type]</b>                                     | <a href="#">DependencyObject</a>   |
| <b>RibbonControlService.FocusedBorderBrush</b>           | <a href="#">Brush</a>  |
| <b>(description)</b>                                     | The brush that is used to draw the outer border of the control when it has focus.  |
| <b>[target type]</b>                                     | <a href="#">DependencyObject</a>   |
| <b>RibbonControlService.IsInControlGroup</b>             | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                     | A value that indicates whether the control is hosted in a RibbonControlGroup.      |
| <b>[target type]</b>                                     | <a href="#">DependencyObject</a>   |
| <b>RibbonControlService.IsInQuickAccessToolBar</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                     | A value that indicates whether the control is hosted in the Quick Access Toolbar.  |
| <b>[target type]</b>                                     | <a href="#">DependencyObject</a>   |
| <b>RibbonControlService.Label</b>                        | <a href="#">x:String</a>   |
| <b>(description)</b>                                     | The text that is displayed next to or below the control.                           |
| <b>[target type]</b>                                     | <a href="#">DependencyObject</a>   |

|   |   |
|---|---|
| (usage)   | None.   |
| <b>RibbonControlService.LargeImageSource</b>                        | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | The image that is displayed on the control when the image size is set to Large.                         |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.MouseOverBackground</b>                     | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the background of the control when the mouse pointer is over it.         |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.MouseOverBorderBrush</b>                    | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the outer border of the control when the mouse pointer is over it.       |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.PressedBackground</b>                       | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the background of the control when it is pressed.                        |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.PressedBorderBrush</b>                      | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the outer border of the control when it is pressed.                      |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.QuickAccessToolBarControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>  | The RibbonControlSizeDefinition for this control when it is hosted in the Quick Access Toolbar.         |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.QuickAccessToolBarId</b>                    | <a href="#">x:Object</a>  |
| <b>(description)</b>  | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |

|  |   |
|--|---|
| (usage)  | None.   |
| <b>RibbonControlService.Ribbon</b>                   | <a href="#">Ribbon</a>  |
| <b>(description)</b>                                 | A reference to the Ribbon that this control belongs to.                               |
| <b>[target type]</b>                                 | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.ShowKeyboardCues</b>         | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                                 | A value that indicates whether to show the keyboard focus visual for this control.    |
| <b>[target type]</b>                                 | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.SmallImageSource</b>         | <a href="#">ImageSource</a>   |
| <b>(description)</b>                                 | The image that is displayed on the control when the image size is set to Small.       |
| <b>[target type]</b>                                 | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.ToolTipDescription</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>                                 | The descriptive text that is displayed in the ToolTip for this control.               |
| <b>[target type]</b>                                 | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.ToolTipFooterDescription</b> | <a href="#">x:String</a>  |
| <b>(description)</b>                                 | The descriptive text that is displayed in the footer of the ToolTip for this control. |
| <b>[target type]</b>                                 | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.ToolTipFooterImageSource</b> | <a href="#">ImageSource</a>   |
| <b>(description)</b>                                 | The image that is displayed in the footer of the ToolTip for this control.            |
| <b>[target type]</b>                                 | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.ToolTipFooterTitle</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>                                 | The title text that is displayed in the footer of the ToolTip for this control.       |
| <b>[target type]</b>                                 | <a href="#">DependencyObject</a>  |
| <b>RibbonControlService.ToolTipImageSource</b>       | <a href="#">ImageSource</a>   |
| <b>(description)</b>                                 | The image that is displayed in  |

|  |   |
|--|---|
| (usage)                                  | None.   |
|  | the ToolTip for this control.                                     |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>                                  |
| <b>RibbonControlService.ToolTipTitle</b> | <a href="#">x:String</a>  |
| <b>(description)</b>                     | The title text that is displayed in the ToolTip for this control. |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>                                  |
| <b>(attachable events)</b>               |   |
| <b>RibbonControlService.DismissPopup</b> | Occurs when a ribbon popup is closed.                             |

#### 4.712 RibbonControlSizeDefinition (4.5)

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > RibbonControlSizeDefinition

|                       |  |
|-----------------------|--|
| (usage)               | <RibbonControlSizeDefinition />  |
| <b>(description)</b>  | Specifies information about the size and visibility of the images and label associated with a Ribbon control.  |
| <b>(used by)</b>      | <a href="#">RibbonButton</a> <a href="#">RibbonCheckBox</a> <a href="#">RibbonContentPresenter</a> <a href="#">RibbonControl</a> <a href="#">RibbonControlGroup</a> <a href="#">RibbonControlService</a> <a href="#">RibbonControlSizeDefinitionCollection</a> <a href="#">RibbonMenuButton</a> <a href="#">RibbonRadioButton</a> <a href="#">RibbonTextBox</a> <a href="#">RibbonToggleButton</a> |
| <b>(properties)</b>   |  |
| <b>ImageSize</b>      | <a href="#">RibbonImageSize</a>  |
| <b>(description)</b>  | A value that indicates how to show the image on a control.   |
| <b>IsCollapsed</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether a control is collapsed.   |
| <b>IsLabelVisible</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether the control's label is visible.   |
| <b>MaxWidth</b>       | <a href="#">RibbonControlLength</a>  |
| <b>(description)</b>  | The maximum width constraint of a container control in a Ribbon.   |
| <b>MinWidth</b>       | <a href="#">RibbonControlLength</a>  |
| <b>(description)</b>  | The minimum width constraint of a container control in a Ribbon.   |
| <b>Width</b>          | <a href="#">RibbonControlLength</a>  |
| <b>(description)</b>  | The width of a container control in a Ribbon.  |

#### 4.713 RibbonControlSizeDefinitionCollection (4.5)

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [FreezableCollection\(RibbonControlSizeDefinition\)](#) > RibbonControlSizeDefinitionCollection

|                 |   |
|-----------------|---|
| (usage)         | <RibbonControlSizeDefinitionCollection> <a href="#">RibbonControlSizeDefinition</a> *</RibbonControlSizeDefinitionCollection> |
| (description)   | Represents a collection of RibbonControlSizeDefinition objects.   |
| (used by)       | <a href="#">RibbonGroupSizeDefinition</a>   |
| [is list]       | true  |
| [allowed types] | <a href="#">RibbonControlSizeDefinition</a>   |

#### 4.714 RibbonDismissPopupMode (4.5)

[x:Object](#) > RibbonDismissPopupMode

|               |  |
|---------------|--|
| (usage)       | <b>Always   MousePhysicallyNotOver</b>   |
| (description) | Defines constants that specify whether the DismissPopup attached event closes all drop-downs in a chain of drop-downs or only drop-downs that the mouse pointer is not over. |
| [is nullable] | false  |
| [text syntax] | <a href="#">RibbonDismissPopupModeSyntax</a>   |

#### 4.715 RibbonFilterMenuButton (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [MenuBase](#) > [Menu](#) > [RibbonMenuButton](#) > RibbonFilterMenuButton, [IInputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <RibbonFilterMenuButton> <a href="#">x:Object</a> *</RibbonFilterMenuButton> |
| (description)       | Represents a button that opens a filter menu drop-down in a RibbonGallery.   |
| [content property]  | Items  |
| [name property]     | Name   |
| [xml lang property] | Language   |

#### 4.716 RibbonGallery (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > RibbonGallery, [IInputElement](#)

|               |   |
|---------------|---|
| (usage)       | <RibbonGallery> <a href="#">x:Object</a> *</RibbonGallery>  |
| (description) | Represents a menu that displays a set of related items or commands in a visually rich format that can be organized into |

|   |  |
|---|--|
| (usage)                                   | <RibbonGallery> <a href="#">x:Object</a> *</RibbonGallery>   |
|   | multiple categorized subsets.  |
| <b>[content property]</b>                 | Items  |
| <b>[name property]</b>                    | Name   |
| <b>[xml lang property]</b>                | Language   |
| <b>(properties)</b>                       |  |
| <b>AllFilterItemContainerStyle</b>        | <a href="#">Style</a>  |
| <b>(description)</b>                      | The style that is applied to items in the filter when the "All" filter is selected.                      |
| <b>AllFilterItemTemplate</b>              | <a href="#">DataTemplate</a>   |
| <b>(description)</b>                      | The DataTemplate that is used to display items in the filter when the "All" filter is selected.          |
| <b>CanAddToQuickAccessToolBarDirectly</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                      | A value that indicates whether this control can be added directly to the Quick Access Toolbar.           |
| <b>CanUserFilter</b>                      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                      | A value that indicates whether a user can apply a filter to gallery items.                               |
| <b>CategoryStyle</b>                      | <a href="#">Style</a>  |
| <b>(description)</b>                      | The style that is applied to the RibbonGalleryCategory element generated for each item.                  |
| <b>CategoryTemplate</b>                   | <a href="#">DataTemplate</a>   |
| <b>(description)</b>                      | The DataTemplate that is used to display each item in a RibbonGalleryCategory.                           |
| <b>ColumnsStretchToFill</b>               | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                      | A value that indicates that the gallery distributes all its available width equally between its columns. |
| <b>Command</b>                            | <a href="#">ICommand</a>   |
| <b>(description)</b>                      | The command that is associated with this ribbon gallery.   |
| <b>CommandParameter</b>                   | <a href="#">x:Object</a>   |
| <b>(description)</b>                      | A user-defined data value to pass to the command.  |
| <b>CommandTarget</b>                      | <a href="#">IInputElement</a>  |
| <b>(description)</b>                      | The element on which to invoke the specified command.  |
| <b>FilterItemContainerStyle</b>           | <a href="#">Style</a>  |

|   |   |
|---|---|
| (usage)                                 | <RibbonGallery> <a href="#">x:Object</a> *</RibbonGallery>  |
| <b>(description)</b>                    | The style that is applied to the filter items container generated from a RibbonGalleryCategory header.                              |
| <b>FilterItemContainerStyleSelector</b> | <a href="#">StyleSelector</a>   |
| <b>(description)</b>                    | The custom logic for selecting a Style that is applied to items in the filter when a custom filter is selected.                     |
| <b>FilterItemTemplate</b>               | <a href="#">DataTemplate</a>  |
| <b>(description)</b>                    | The DataTemplate that is used to display items in the filter when a custom filter is selected.                                      |
| <b>FilterItemTemplateSelector</b>       | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>                    | The custom logic for selecting a DataTemplate that is used to display items in the filter when a custom filter is selected.         |
| <b>FilterMenuButtonStyle</b>            | <a href="#">Style</a>   |
| <b>(description)</b>                    | The style that is applied to the filter menu button.  |
| <b>FilterPaneContent</b>                | <a href="#">x:Object</a>  |
| <b>(description)</b>                    | The contents of the filter pane.  |
| <b>FilterPaneContentTemplate</b>        | <a href="#">DataTemplate</a>  |
| <b>(description)</b>                    | The DataTemplate that is used to display the contents of the filter pane.   |
| <b>GalleryItemStyle</b>                 | <a href="#">Style</a>   |
| <b>(description)</b>                    | The style that is applied to items in the RibbonGallery.  |
| <b>GalleryItemTemplate</b>              | <a href="#">DataTemplate</a>  |
| <b>(description)</b>                    | The DataTemplate that is used to display each item in a RibbonGallery.  |
| <b>IsSharedColumnSizeScope</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                    | A value that specifies whether this gallery defines the scope used for uniform layout of items.                                     |
| <b>IsSynchronizedWithCurrentItem</b>    | <a href="#">x:Nullable(x:Boolean)</a>   |
| <b>(description)</b>                    | A value that indicates whether the gallery should keep the SelectedItem synchronized with the current item in the Items collection. |
| <b>MaxColumnCount</b>                   | <a href="#">x:Int32</a>   |
| <b>(description)</b>                    | A value that specifies the maximum number of columns used to layout items in a gallery ItemsPanel.                                  |
| <b>MinColumnCount</b>                   | <a href="#">x:Int32</a>   |



|                                 |   |
|---------------------------------|---|
| (usage)                         | <RibbonGallery> <a href="#">x:Object</a> *</RibbonGallery>  |
| <b>(description)</b>            | A value that specifies the minimum number of columns used to layout items in a gallery ItemsPanel.      |
| <b>PreviewCommandParameter</b>  | <a href="#">x:Object</a>  |
| <b>(description)</b>            | A user-defined data value to pass to the command when it is previewed.                                  |
| <b>QuickAccessToolBarId</b>     | <a href="#">x:Object</a>  |
| <b>(description)</b>            | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>SelectedItem</b>             | <a href="#">x:Object</a>  |
| <b>(description)</b>            | The currently selected item in the ribbon gallery.  |
| <b>SelectedValue</b>            | <a href="#">x:Object</a>  |
| <b>(description)</b>            | The value of the property on the SelectedItem that is specified by the SelectedValuePath.               |
| <b>SelectedValuePath</b>        | <a href="#">x:String</a>  |
| <b>(description)</b>            | The path that is used to get the SelectedValue of the SelectedItem in a RibbonGallery.                  |
| <b>SmallImageSource</b>         | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed on the control when the image size is set to Small.                         |
| <b>ToolTipDescription</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>            | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b> | <a href="#">x:String</a>  |
| <b>(description)</b>            | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b> | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>            | The title text that is displayed in the footer of the ToolTip for this control.                         |
| <b>ToolTipImageSource</b>       | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed in the ToolTip for this control.  |
| <b>ToolTipTitle</b>             | <a href="#">x:String</a>  |

|                            |   |
|----------------------------|---|
| (usage)                    | <RibbonGallery> <a href="#">x:Object</a> *</RibbonGallery>                    |
| <b>(description)</b>       | The title text that is displayed in the ToolTip for this control.             |
| <b>(static properties)</b> |   |
| <b>AllFilterItem</b>       | <a href="#">x:Object</a>  |
| <b>(description)</b>       | The filter that returns all items in a ribbon gallery.                        |
| <b>FilterCommand</b>       | <a href="#">RoutedCommand</a>   |
| <b>(description)</b>       | The command to invoke when the current gallery filter is changed by the user. |
| <b>(events)</b>            |   |
| <b>SelectionChanged</b>    | Occurs when the SelectedItem property changes.                                |

#### 4.717 RibbonGalleryCategory (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > RibbonGalleryCategory, [IInputElement](#)

|                                |   |
|--------------------------------|---|
| (usage)                        | <RibbonGalleryCategory> <a href="#">x:Object</a> *</RibbonGalleryCategory>  |
| <b>(description)</b>           | Represents a group of related items in a RibbonGallery.   |
| <b>[content property]</b>      | Items   |
| <b>[name property]</b>         | Name  |
| <b>[xml lang property]</b>     | Language  |
| <b>(properties)</b>            |   |
| <b>ColumnsStretchToFill</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates that the gallery category distributes all its available width equally between its columns. |
| <b>HeaderVisibility</b>        | <a href="#">Visibility</a>  |
| <b>(description)</b>           | The Visibility for the ribbon gallery header.   |
| <b>IsSharedColumnSizeScope</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that specifies whether this gallery category defines the scope used for uniform layout of items.          |
| <b>MaxColumnCount</b>          | <a href="#">x:Int32</a>   |
| <b>(description)</b>           | A value that specifies the maximum number of columns used to lay out items in a gallery ItemsPanel.               |
| <b>MinColumnCount</b>          | <a href="#">x:Int32</a>   |
| <b>(description)</b>           | A value that specifies the minimum number of columns used to lay out items in a gallery ItemsPanel.               |

## 4.718 RibbonGalleryItem (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > RibbonGalleryItem, [IInputElement](#)

|                             |   |
|-----------------------------|---|
| (usage)                     | <RibbonGalleryItem> <a href="#">x:Object</a> </RibbonGalleryItem>                                 |
| <b>(description)</b>        | Represents an individual item of a RibbonGallery that is used in a Ribbon control.                |
| <b>[content property]</b>   | Content   |
| <b>[name property]</b>      | Name  |
| <b>[xml lang property]</b>  | Language  |
| <b>(properties)</b>         |   |
| <b>CheckedBackground</b>    | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the background of the control when it is in the Checked state.     |
| <b>CheckedBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the outer border of the control when it is in the Checked state.   |
| <b>IsSelected</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | A value that indicates whether this item is selected.   |
| <b>KeyTip</b>               | <a href="#">x:String</a>  |
| <b>(description)</b>        | The keyboard shortcut for the control.  |
| <b>MouseOverBackground</b>  | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the background of the control when the mouse pointer is over it.   |
| <b>MouseOverBorderBrush</b> | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the outer border of the control when the mouse pointer is over it. |
| <b>PressedBackground</b>    | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the background of the control when it is pressed.                  |
| <b>PressedBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the outer border of the control when it is pressed.                |
| <b>ToolTipDescription</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>        | The descriptive text that is displayed in the ToolTip for this control.                           |

|                                 |   |
|---------------------------------|---|
| (usage)                         | <RibbonGalleryItem> <a href="#">x:Object</a> </RibbonGalleryItem>                     |
| <b>ToolTipFooterDescription</b> | <a href="#">x:String</a>  |
| <b>(description)</b>            | The descriptive text that is displayed in the footer of the ToolTip for this control. |
| <b>ToolTipFooterImageSource</b> | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed in the footer of the ToolTip for this control.            |
| <b>ToolTipFooterTitle</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>            | The title text that is displayed in the footer of the ToolTip for this control.       |
| <b>ToolTipImageSource</b>       | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed in the ToolTip for this control.                          |
| <b>ToolTipTitle</b>             | <a href="#">x:String</a>  |
| <b>(description)</b>            | The title text that is displayed in the ToolTip for this control.                     |
| <b>(events)</b>                 |   |
| <b>Selected</b>                 | Occurs when the IsSelected property of the item changes to true.                      |
| <b>Unselected</b>               | Occurs when the IsSelected property of the item changes to false.                     |

#### 4.719 RibbonGroup (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > RibbonGroup, [InputElement](#)

|   |  |
|---|--|
| (usage)                                   | <RibbonGroup> <a href="#">x:Object</a> *</RibbonGroup>   |
| <b>(description)</b>                      | Represents a logical group of controls as they appear on a RibbonTab.                          |
| <b>[content property]</b>                 | Items  |
| <b>[name property]</b>                    | Name   |
| <b>[xml lang property]</b>                | Language   |
| <b>(properties)</b>                       |  |
| <b>CanAddToQuickAccessToolBarDirectly</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                      | A value that indicates whether this control can be added directly to the Quick Access Toolbar. |
| <b>GroupSizeDefinitions</b>               | <a href="#">RibbonGroupSizeDefinitionBaseCollection</a>  |
| <b>(description)</b>                      | The RibbonGroupSizeDefinition collection for a ribbon group.                                   |
| <b>IsDropDownOpen</b>                     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                      | A value that indicates whether the drop-down for the group is                                  |

|                                 |   |
|---------------------------------|---|
| (usage)                         | <RibbonGroup> <a href="#">x:Object</a> *</RibbonGroup>  |
|                                 | open.   |
| <b>KeyTip</b>                   | <a href="#">x:String</a>  |
| <b>(description)</b>            | The keyboard shortcut for the control.  |
| <b>LargeImageSource</b>         | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed on the control when the image size is set to Large.                         |
| <b>MouseOverBackground</b>      | <a href="#">Brush</a>   |
| <b>(description)</b>            | The brush that is used to draw the background of the control when the mouse pointer is over it.         |
| <b>MouseOverBorderBrush</b>     | <a href="#">Brush</a>   |
| <b>(description)</b>            | The brush that is used to draw the outer border of the control when the mouse pointer is over it.       |
| <b>QuickAccessToolBarId</b>     | <a href="#">x:Object</a>  |
| <b>(description)</b>            | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>SmallImageSource</b>         | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed on the control when the image size is set to Small.                         |
| <b>ToolTipDescription</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>            | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b> | <a href="#">x:String</a>  |
| <b>(description)</b>            | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b> | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>            | The title text that is displayed in the footer of the ToolTip for this control.                         |
| <b>ToolTipImageSource</b>       | <a href="#">ImageSource</a>   |
| <b>(description)</b>            | The image that is displayed in the ToolTip for this control.  |
| <b>ToolTipTitle</b>             | <a href="#">x:String</a>  |
| <b>(description)</b>            | The title text that is displayed in the ToolTip for this control.                                       |

## 4.720 RibbonGroupSizeDefinition (4.5)

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [RibbonGroupSizeDefinitionBase](#) > RibbonGroupSizeDefinition

|                        |   |
|------------------------|---|
| (usage)                | <RibbonGroupSizeDefinition> <a href="#">RibbonControlSizeDefinition</a> *</RibbonGroupSizeDefinition> |
| (description)          | Specifies information about the size of controls in a RibbonGroup and the visual state of the group.  |
| [content property]     | ControlSizeDefinitions  |
| (properties)           |   |
| ControlSizeDefinitions | <a href="#">RibbonControlSizeDefinitionCollection</a>   |
| (description)          | A collection of RibbonControlSizeDefinition items that specify the size of controls in the group.     |

## 4.721 RibbonGroupSizeDefinitionBase (4.5)

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > RibbonGroupSizeDefinitionBase

|   |  |
|---|--|
| <a href="#">RibbonGroupSizeDefinition</a> <a href="#">RibbonGroupTemplateSizeDefinition</a> |  |
| (usage)   | None.  |
| (description)   | Provides a base type for ribbon group definition types.        |
| (used by)   | <a href="#">RibbonGroupSizeDefinitionBaseCollection</a>        |
| [is default constructible]  | false  |
| (properties)  |  |
| IsCollapsed   | <a href="#">x:Boolean</a>                                      |
| (description)   | A value that indicates whether the control group is collapsed. |

## 4.722 RibbonGroupSizeDefinitionBaseCollection (4.5)

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [FreezableCollection](#)([RibbonGroupSizeDefinitionBase](#)) > RibbonGroupSizeDefinitionBaseCollection

|               |   |
|---------------|---|
| (usage)       | <RibbonGroupSizeDefinitionBaseCollection> <a href="#">RibbonGroupSizeDefinitionBase</a> *</RibbonGroupSizeDefinitionBaseCollection> |
| (description) | Provides a friendly name for XAML usage of a RibbonGroupSizeDefinition collection.  |
| (used by)     | <a href="#">RibbonGroup</a>   |
| [is list]     | true  |
| [allowed]     | <a href="#">RibbonGroupSizeDefinitionBase</a>   |

|               |   |
|---------------|---|
| (usage)       | <RibbonGroupSizeDefinitionBaseCollection> <a href="#">RibbonGroupSizeDefinitionBase</a> *</RibbonGroupSizeDefinitionBaseCollection> |
| <b>types]</b> |   |

#### 4.723 RibbonGroupTemplateSizeDefinition (4.5)

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [RibbonGroupSizeDefinitionBase](#) > RibbonGroupTemplateSizeDefinition

|                           |   |
|---------------------------|---|
| (usage)                   | <RibbonGroupTemplateSizeDefinition> <a href="#">DataTemplate</a> </RibbonGroupTemplateSizeDefinition> |
| <b>(description)</b>      | Provides a default content template for a RibbonGroup.  |
| <b>[content property]</b> | ContentTemplate   |
| <b>(properties)</b>       |   |
| <b>ContentTemplate</b>    | <a href="#">DataTemplate</a>  |
| <b>(description)</b>      | The DataTemplate that is used to display a RibbonGroup.   |

#### 4.724 RibbonImageSize (4.5)

[x:Object](#) > RibbonImageSize

|                      |   |
|----------------------|---|
| (usage)              | <b>Collapsed  Small  Large</b>  |
| <b>(description)</b> | Defines constants that specify how images are shown on Ribbon controls. |
| <b>(used by)</b>     | <a href="#">RibbonControlSizeDefinition</a>                             |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">RibbonImageSizeSyntax</a>                                   |

#### 4.725 RibbonMenuButton (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [MenuBase](#) > [Menu](#) > RibbonMenuButton, [IInputElement](#)

|   |  |
|---|--|
| <a href="#">RibbonApplicationMenu</a> <a href="#">RibbonComboBox</a> <a href="#">RibbonFilterMenuButton</a> <a href="#">RibbonSplitButton</a> |  |
| <b>(usage)</b>  | <RibbonMenuButton> <a href="#">x:Object</a> *</RibbonMenuButton>               |
| <b>(description)</b>  | Represents a button on the ribbon that displays a drop-down menu when clicked. |
| <b>(used by)</b>  | <a href="#">RibbonQuickAccessToolBar</a>                                       |
| <b>[content property]</b>   | Items  |
| <b>[name property]</b>  | Name   |

| <a href="#">RibbonApplicationMenu</a> <a href="#">RibbonComboBox</a> <a href="#">RibbonFilterMenuButton</a> <a href="#">RibbonSplitButton</a> |   |
|---|---|
| [xml lang property]   | Language  |
| (properties)  |   |
| <b>CanAddToQuickAccessToolBarDirectly</b>   | <a href="#">x:Boolean</a>   |
| (description)   | A value that indicates whether this control can be added directly to the Quick Access Toolbar.  |
| <b>CanUserResizeHorizontally</b>  | <a href="#">x:Boolean</a>   |
| (description)   | A value that indicates whether the user can resize the drop-down horizontally.                  |
| <b>CanUserResizeVertically</b>  | <a href="#">x:Boolean</a>   |
| (description)   | A value that indicates whether the user can resize the drop-down vertically.                    |
| <b>ControlSizeDefinition</b>  | <a href="#">RibbonControlSizeDefinition</a>   |
| (description)   | The RibbonControlSizeDefinition for this control.   |
| <b>DropDownHeight</b>   | <a href="#">x:Double</a>  |
| (description)   | The height of the drop-down.  |
| <b>FocusedBackground</b>  | <a href="#">Brush</a>   |
| (description)   | The brush that is used to draw the background of the control when it has focus.                 |
| <b>FocusedBorderBrush</b>   | <a href="#">Brush</a>   |
| (description)   | The brush that is used to draw the outer border of the control when it has focus.               |
| <b>IsDropDownOpen</b>   | <a href="#">x:Boolean</a>   |
| (description)   | A value that indicates whether the drop-down is open.   |
| <b>KeyTip</b>   | <a href="#">x:String</a>  |
| (description)   | The keyboard shortcut for the control.  |
| <b>Label</b>  | <a href="#">x:String</a>  |
| (description)   | The text that is displayed next to or below the control.  |
| <b>LargeImageSource</b>   | <a href="#">ImageSource</a>   |
| (description)   | The image that is displayed on the control when the image size is set to Large.                 |
| <b>MouseOverBackground</b>  | <a href="#">Brush</a>   |
| (description)   | The brush that is used to draw the background of the control when the mouse pointer is over it. |



| <a href="#">RibbonApplicationMenu</a> <a href="#">RibbonComboBox</a> <a href="#">RibbonFilterMenuButton</a> <a href="#">RibbonSplitButton</a> |   |
|---|---|
| <b>MouseOverBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the outer border of the control when the mouse pointer is over it.       |
| <b>PressedBackground</b>  | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the background of the control when it is pressed.                        |
| <b>PressedBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the outer border of the control when it is pressed.                      |
| <b>QuickAccessToolBarControlSizeDefinition</b>  | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>  | The RibbonControlSizeDefinition for this control when it is hosted in the Quick Access Toolbar.         |
| <b>QuickAccessToolBarId</b>   | <a href="#">x:Object</a>  |
| <b>(description)</b>  | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>SmallImageSource</b>   | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | The image that is displayed on the control when the image size is set to Small.                         |
| <b>ToolTipDescription</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b>   | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The title text that is displayed in the footer of the ToolTip for this control.                         |
| <b>ToolTipImageSource</b>   | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | The image that is displayed in the ToolTip for this control.  |
| <b>ToolTipTitle</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The title text that is displayed in the ToolTip for this control.                                       |

|   |                                      |
|---|--------------------------------------|
| <a href="#">RibbonApplicationMenu</a> <a href="#">RibbonComboBox</a> <a href="#">RibbonFilterMenuButton</a> <a href="#">RibbonSplitButton</a> |                                      |
| <b>(events)</b>   |                                      |
| <b>DropDownClosed</b>   | Occurs when the drop-down is closed. |
| <b>DropDownOpened</b>   | Occurs when the drop-down is opened. |

#### 4.726 RibbonMenuItem (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > [MenuItem](#) > RibbonMenuItem, [InputElement](#)

|   |   |
|---|---|
| <a href="#">RibbonApplicationMenuItem</a> <a href="#">RibbonSplitMenuItem</a> |   |
| <b>(usage)</b>  | <RibbonMenuItem> <a href="#">x:Object</a> *</RibbonMenuItem>                                    |
| <b>(description)</b>  | Represents a menu item inside a Ribbon menu control.  |
| <b>[content property]</b>   | Items   |
| <b>[name property]</b>  | Name  |
| <b>[xml lang property]</b>  | Language  |
| <b>(properties)</b>   |   |
| <b>CanAddToQuickAccessToolBarDirectly</b>                                     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether this control can be added directly to the Quick Access Toolbar.  |
| <b>CanUserResizeHorizontally</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether the user can resize the drop-down horizontally.                  |
| <b>CanUserResizeVertically</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether the user can resize the drop-down vertically.                    |
| <b>CheckedBackground</b>  | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the background of the control when it is in the Checked state.   |
| <b>CheckedBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the outer border of the control when it is in the Checked state. |
| <b>DropDownHeight</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The height of the drop-down.  |
| <b>ImageSource</b>  | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | The image that is displayed on the control.   |

| <a href="#">RibbonApplicationMenuItem</a> <a href="#">RibbonSplitMenuItem</a> |   |
|---|---|
| <b>KeyTip</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The keyboard shortcut for the control.  |
| <b>MouseOverBackground</b>  | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the background of the control when the mouse pointer is over it.         |
| <b>MouseOverBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the outer border of the control when the mouse pointer is over it.       |
| <b>PressedBackground</b>  | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the background of the control when it is pressed.                        |
| <b>PressedBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>  | The brush that is used to draw the outer border of the control when it is pressed.                      |
| <b>QuickAccessToolBarId</b>   | <a href="#">x:Object</a>  |
| <b>(description)</b>  | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>QuickAccessToolBarImageSource</b>  | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | The image that is displayed on the control when it is hosted in the Quick Access Toolbar.               |
| <b>ToolTipDescription</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b>   | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The title text that is displayed in the footer of the ToolTip for this control.                         |
| <b>ToolTipImageSource</b>   | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | The image that is displayed in the ToolTip for this control.  |

|   |   |
|---|---|
| <a href="#">RibbonApplicationMenuItem</a> <a href="#">RibbonSplitMenuItem</a> |   |
| <b>ToolTipTitle</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The title text that is displayed in the ToolTip for this control. |

#### 4.727 RibbonQuickAccessToolBar (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > RibbonQuickAccessToolBar, [IInputElement](#)

|                                       |  |
|---------------------------------------|--|
| <b>(usage)</b>                        | <RibbonQuickAccessToolBar> <a href="#">x:Object</a> *</RibbonQuickAccessToolBar>                             |
| <b>(description)</b>                  | Represents a ribbon toolbar that is always visible in the window frame to provide access to common commands. |
| <b>(used by)</b>                      | <a href="#">Ribbon</a>   |
| <b>[content property]</b>             | Items  |
| <b>[name property]</b>                | Name   |
| <b>[xml lang property]</b>            | Language   |
| <b>(properties)</b>                   |  |
| <b>CustomizeMenuButton</b>            | <a href="#">RibbonMenuButton</a>   |
| <b>(description)</b>                  | A RibbonMenuButton that is used to show the Quick Access Toolbar customization menu.                         |
| <b>IsOverflowOpen</b>                 | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                  | A value that indicates whether the Quick Access Toolbar overflow menu is open.                               |
| <b>(attachable events)</b>            |  |
| <b>RibbonQuickAccessToolBar.Clone</b> | Occurs when an element in the Quick Access Toolbar is cloned.  |

#### 4.728 RibbonRadioButton (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [ToggleButton](#) > [RadioButton](#) > RibbonRadioButton, [IInputElement](#)

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <RibbonRadioButton> <a href="#">x:Object</a> </RibbonRadioButton> |
| <b>(description)</b>       | Represents a radio button that is used in a Ribbon control.       |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |

|   |   |
|---|---|
| (usage)                                   | <RibbonRadioButton> <a href="#">x:Object</a> </RibbonRadioButton>                                 |
| <b>CanAddToQuickAccessToolBarDirectly</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                      | A value that indicates whether this control can be added directly to the Quick Access Toolbar.    |
| <b>CheckedBackground</b>                  | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when it is in the Checked state.     |
| <b>CheckedBorderBrush</b>                 | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when it is in the Checked state.   |
| <b>ControlSizeDefinition</b>              | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>                      | The RibbonControlSizeDefinition for this control.   |
| <b>CornerRadius</b>                       | <a href="#">CornerRadius</a>  |
| <b>(description)</b>                      | A value that indicates the amount that the corners of a ribbon button are rounded.                |
| <b>FocusedBackground</b>                  | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when it has focus.                   |
| <b>FocusedBorderBrush</b>                 | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when it has focus.                 |
| <b>KeyTip</b>                             | <a href="#">x:String</a>  |
| <b>(description)</b>                      | The keyboard shortcut for the control.  |
| <b>Label</b>                              | <a href="#">x:String</a>  |
| <b>(description)</b>                      | The text that is displayed next to or below the control.  |
| <b>LargeImageSource</b>                   | <a href="#">ImageSource</a>   |
| <b>(description)</b>                      | The image that is displayed on the control when the image size is set to Large.                   |
| <b>MouseOverBackground</b>                | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when the mouse pointer is over it.   |
| <b>MouseOverBorderBrush</b>               | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when the mouse pointer is over it. |
| <b>PressedBackground</b>                  | <a href="#">Brush</a>   |

|  |   |
|--|---|
| (usage)  | <RibbonRadioButton> <a href="#">x:Object</a> </RibbonRadioButton>                                       |
| <b>(description)</b>                           | The brush that is used to draw the background of the control when it is pressed.                        |
| <b>PressedBorderBrush</b>                      | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the outer border of the control when it is pressed.                      |
| <b>QuickAccessToolBarControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>                           | The RibbonControlSizeDefinition for this control when it is hosted in the Quick Access Toolbar.         |
| <b>QuickAccessToolBarId</b>                    | <a href="#">x:Object</a>  |
| <b>(description)</b>                           | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>SmallImageSource</b>                        | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed on the control when the image size is set to Small.                         |
| <b>ToolTipDescription</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b>                | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the footer of the ToolTip for this control.                         |
| <b>ToolTipImageSource</b>                      | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the ToolTip for this control.  |
| <b>ToolTipTitle</b>                            | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the ToolTip for this control.                                       |

#### 4.729 RibbonSeparator (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [Separator](#) > RibbonSeparator, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <RibbonSeparator />   |
| <b>(description)</b>       | Represents a control that provides a divider and optional label between elements in a Ribbon menu or RibbonGallery. |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Label</b>               | <a href="#">x:String</a>  |
| <b>(description)</b>       | The text that is displayed with the visual separator line.  |

#### 4.730 RibbonSplitButton (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [MenuBase](#) > [Menu](#) > [RibbonMenuButton](#) > RibbonSplitButton, [IInputElement](#)

|                                   |   |
|-----------------------------------|---|
| (usage)                           | <RibbonSplitButton> <a href="#">x:Object</a> *</RibbonSplitButton>  |
| <b>(description)</b>              | Represents a composite control that has a primary button that responds to a Click event and a secondary button that displays a drop-down list of mutually exclusive values. |
| <b>[content property]</b>         | Items   |
| <b>[name property]</b>            | Name  |
| <b>[xml lang property]</b>        | Language  |
| <b>(properties)</b>               |   |
| <b>CheckedBackground</b>          | <a href="#">Brush</a>   |
| <b>(description)</b>              | The brush that is used to draw the background of the control when it is in the Checked state.   |
| <b>CheckedBorderBrush</b>         | <a href="#">Brush</a>   |
| <b>(description)</b>              | The brush that is used to draw the outer border of the control when it is in the Checked state.   |
| <b>Command</b>                    | <a href="#">ICommand</a>  |
| <b>(description)</b>              | The command that is associated with this control.   |
| <b>CommandParameter</b>           | <a href="#">x:Object</a>  |
| <b>(description)</b>              | A user-defined data value to pass to the command.   |
| <b>CommandTarget</b>              | <a href="#">IInputElement</a>   |
| <b>(description)</b>              | The element on which to raise the specified command.  |
| <b>DropDownToolTipDescription</b> | <a href="#">x:String</a>  |

|   |   |
|---|---|
| (usage)                                 | <RibbonSplitButton> <a href="#">x:Object</a> *</RibbonSplitButton>  |
| <b>(description)</b>                    | The descriptive text that is displayed in the ToolTip for the drop-down area of this control.               |
| <b>DropDownToolTipFooterDescription</b> | <a href="#">x:String</a>  |
| <b>(description)</b>                    | The descriptive text that is displayed in the footer of the ToolTip for the drop-down area of this control. |
| <b>DropDownToolTipFooterImageSource</b> | <a href="#">ImageSource</a>   |
| <b>(description)</b>                    | The image that is displayed in the footer of the ToolTip for the drop-down area of this control.            |
| <b>DropDownToolTipFooterTitle</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>                    | The title text that is displayed in the footer of the ToolTip for the drop-down area of this control.       |
| <b>DropDownToolTipImageSource</b>       | <a href="#">ImageSource</a>   |
| <b>(description)</b>                    | The image that is displayed in the ToolTip for the drop-down area of this control.                          |
| <b>DropDownToolTipTitle</b>             | <a href="#">x:String</a>  |
| <b>(description)</b>                    | The title text that is displayed in the ToolTip for the drop-down area of this control.                     |
| <b>HeaderKeyTip</b>                     | <a href="#">x:String</a>  |
| <b>(description)</b>                    | The keyboard shortcut for the header area of this control.  |
| <b>HeaderQuickAccessToolBarId</b>       | <a href="#">x:Object</a>  |
| <b>(description)</b>                    | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar.     |
| <b>IsCheckable</b>                      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                    | A value that indicates whether a user can check and uncheck the button.                                     |
| <b>IsChecked</b>                        | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                    | A value that indicates whether the button is checked.   |
| <b>LabelPosition</b>                    | <a href="#">RibbonSplitButtonLabelPosition</a>  |
| <b>(description)</b>                    | A value that indicates the relative position of the label for this control.                                 |
| <b>(events)</b>                         |   |
| <b>Click</b>                            | Occurs when the button is clicked.  |

#### 4.731 RibbonSplitButtonLabelPosition (4.5)

[x:Object](#) > RibbonSplitButtonLabelPosition



|                      |   |
|----------------------|---|
| (usage)              | <b>Header   DropDown</b>  |
| <b>(description)</b> | Provides values that indicate the position of the label of a RibbonSplitButton. |
| <b>(used by)</b>     | <a href="#">RibbonSplitButton</a>   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">RibbonSplitButtonLabelPositionSyntax</a>                            |

#### 4.732 RibbonSplitMenuItem (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > [MenuItem](#) > [RibbonMenuItem](#) > RibbonSplitMenuItem, [IInputElement](#)

| <a href="#">RibbonApplicationSplitMenuItem</a> |   |
|--|---|
| <b>(usage)</b>                                 | <RibbonSplitMenuItem> <a href="#">x:Object</a> *</RibbonSplitMenuItem>                                      |
| <b>(description)</b>                           | Represents a menu item inside a Ribbon menu that can invoke a command and also display a submenu.           |
| <b>[content property]</b>                      | Items   |
| <b>[name property]</b>                         | Name  |
| <b>[xml lang property]</b>                     | Language  |
| <b>(properties)</b>                            |   |
| <b>DropDownToolTipDescription</b>              | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the ToolTip for the drop-down area of this control.               |
| <b>DropDownToolTipFooterDescription</b>        | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the footer of the ToolTip for the drop-down area of this control. |
| <b>DropDownToolTipFooterImageSource</b>        | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the footer of the ToolTip for the drop-down area of this control.            |
| <b>DropDownToolTipFooterTitle</b>              | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the footer of the ToolTip for the drop-down area of this control.       |
| <b>DropDownToolTipImageSource</b>              | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the ToolTip for the drop-down area of this control.                          |
| <b>DropDownToolTipTitle</b>                    | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the ToolTip for the drop-   |

|  |   |
|--|---|
| <a href="#">RibbonApplicationSplitMenuItem</a> |   |
|  | down area of this control.  |
| <b>HeaderKeyTip</b>                            | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The keyboard shortcut for the header area of this control.  |
| <b>HeaderQuickAccessToolBarId</b>              | <a href="#">x:Object</a>  |
| <b>(description)</b>                           | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |

#### 4.733 RibbonTab (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > RibbonTab, [IInputElement](#)

|                                 |  |
|---------------------------------|--|
| <b>(usage)</b>                  | <RibbonTab> <a href="#">x:Object</a> *</RibbonTab>   |
| <b>(description)</b>            | Represents a tab in a Ribbon.  |
| <b>[content property]</b>       | Items  |
| <b>[name property]</b>          | Name   |
| <b>[xml lang property]</b>      | Language   |
| <b>(properties)</b>             |  |
| <b>ContextualTabGroupHeader</b> | <a href="#">x:Object</a>   |
| <b>(description)</b>            | The header content of the RibbonContextualTabGroup that this tab is in.  |
| <b>GroupSizeReductionOrder</b>  | <a href="#">StringCollection</a>   |
| <b>(description)</b>            | A collection of RibbonGroup names that specify the order in which group size definitions are applied as the ribbon is reduced in size. |
| <b>[text syntax]</b>            | <a href="#">StringCollectionSyntax</a>   |
| <b>HeaderStyle</b>              | <a href="#">Style</a>  |
| <b>(description)</b>            | The style that is applied to the header of the ribbon tab.   |
| <b>IsSelected</b>               | <a href="#">x:Boolean</a>  |
| <b>(description)</b>            | A value that indicates whether the ribbon tab is selected.   |
| <b>KeyTip</b>                   | <a href="#">x:String</a>   |
| <b>(description)</b>            | The keyboard shortcut for the control.   |

#### 4.734 RibbonTabHeader (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > RibbonTabHeader, [IInputElement](#)

|                             |   |
|-----------------------------|---|
| (usage)                     | <RibbonTabHeader> <a href="#">x:Object</a> </RibbonTabHeader>                                   |
| <b>(description)</b>        | Represents the header of a RibbonTab control.   |
| <b>[content property]</b>   | Content   |
| <b>[name property]</b>      | Name  |
| <b>[xml lang property]</b>  | Language  |
| <b>(properties)</b>         |   |
| <b>CheckedBackground</b>    | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the background of the control when it is in the Checked state.   |
| <b>CheckedBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the outer border of the control when it is in the Checked state. |
| <b>FocusedBackground</b>    | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the background of the control when it has focus.                 |
| <b>FocusedBorderBrush</b>   | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the outer border of the control when it has focus.               |
| <b>MouseOverBackground</b>  | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the background of the control when the mouse is over it.         |
| <b>MouseOverBorderBrush</b> | <a href="#">Brush</a>   |
| <b>(description)</b>        | The brush that is used to draw the outer border of the control when the mouse is over it.       |

#### 4.735 RibbonTabHeaderItemsControl (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > RibbonTabHeaderItemsControl, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <RibbonTabHeaderItemsControl> <a href="#">x:Object</a> *</RibbonTabHeaderItemsControl> |
| <b>(description)</b>       | Represents an items control that hosts RibbonTabHeader items.                          |
| <b>[content property]</b>  | Items  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |

## 4.736 RibbonTextBox (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [TextBoxBase](#) > [TextBox](#) > RibbonTextBox, [IInputElement](#)

|   |  |
|---|--|
| (usage)                                   | <RibbonTextBox> <a href="#">x:String</a> </RibbonTextBox>                                      |
| <b>(description)</b>                      | Represents a text box that is used in a Ribbon control.  |
| <b>[content property]</b>                 | Text   |
| <b>[name property]</b>                    | Name   |
| <b>[xml lang property]</b>                | Language   |
| <b>(properties)</b>                       |  |
| <b>CanAddToQuickAccessToolBarDirectly</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                      | A value that indicates whether this control can be added directly to the Quick Access Toolbar. |
| <b>Command</b>                            | <a href="#">ICommand</a>   |
| <b>(description)</b>                      | The command that is associated with this control.  |
| <b>CommandParameter</b>                   | <a href="#">x:Object</a>   |
| <b>(description)</b>                      | A user defined data value to pass to the command.  |
| <b>CommandTarget</b>                      | <a href="#">IInputElement</a>  |
| <b>(description)</b>                      | The element on which to raise the specified command.   |
| <b>ControlSizeDefinition</b>              | <a href="#">RibbonControlSizeDefinition</a>  |
| <b>(description)</b>                      | The RibbonControlSizeDefinition for this control.  |
| <b>FocusedBackground</b>                  | <a href="#">Brush</a>  |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when it has focus.                |
| <b>FocusedBorderBrush</b>                 | <a href="#">Brush</a>  |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when it has focus.              |
| <b>KeyTip</b>                             | <a href="#">x:String</a>   |
| <b>(description)</b>                      | The keyboard shortcut for the control.   |
| <b>Label</b>                              | <a href="#">x:String</a>   |
| <b>(description)</b>                      | The text that is displayed next to or below the control.                                       |
| <b>LargeImageSource</b>                   | <a href="#">ImageSource</a>  |
| <b>(description)</b>                      | The image that is displayed on the control when the image size is set to Large.                |

|  |   |
|--|---|
| (usage)  | <RibbonTextBox> <a href="#">x:String</a> </RibbonTextBox>   |
| <b>MouseOverBackground</b>                     | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the background of the control when the mouse pointer is over it.         |
| <b>MouseOverBorderBrush</b>                    | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the outer border of the control when the mouse pointer is over it.       |
| <b>QuickAccessToolBarControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>                           | The RibbonControlSizeDefinition for this control when it is hosted in the Quick Access Toolbar.         |
| <b>QuickAccessToolBarId</b>                    | <a href="#">x:Object</a>  |
| <b>(description)</b>                           | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>SmallImageSource</b>                        | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed on the control when the image size is set to Small.                         |
| <b>TextBoxWidth</b>                            | <a href="#">x:Double</a>  |
| <b>(description)</b>                           | The width of the control.   |
| <b>ToolTipDescription</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b>                | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the footer of the ToolTip for this control.                         |
| <b>ToolTipImageSource</b>                      | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the ToolTip for this control.  |
| <b>ToolTipTitle</b>                            | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the ToolTip for this control.                                       |

## 4.737 RibbonToggleButton (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > [ToggleButton](#) > RibbonToggleButton, [IInputElement](#)

|   |   |
|---|---|
| (usage)                                   | <RibbonToggleButton> <a href="#">x:Object</a> </RibbonToggleButton>                             |
| <b>(description)</b>                      | Represents a toggle button that is used in a Ribbon control.                                    |
| <b>[content property]</b>                 | Content   |
| <b>[name property]</b>                    | Name  |
| <b>[xml lang property]</b>                | Language  |
| <b>(properties)</b>                       |   |
| <b>CanAddToQuickAccessToolBarDirectly</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                      | A value that indicates whether this control can be added directly to the Quick Access Toolbar.  |
| <b>CheckedBackground</b>                  | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when it is in the Checked state.   |
| <b>CheckedBorderBrush</b>                 | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when it is in the Checked state. |
| <b>ControlSizeDefinition</b>              | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>                      | The RibbonControlSizeDefinition for this control.   |
| <b>CornerRadius</b>                       | <a href="#">CornerRadius</a>  |
| <b>(description)</b>                      | A value that indicates the amount that the corners of a ribbon button are rounded.              |
| <b>FocusedBackground</b>                  | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the background of the control when it has focus.                 |
| <b>FocusedBorderBrush</b>                 | <a href="#">Brush</a>   |
| <b>(description)</b>                      | The brush that is used to draw the outer border of the control when it has focus.               |
| <b>KeyTip</b>                             | <a href="#">x:String</a>  |
| <b>(description)</b>                      | The keyboard shortcut for the control.  |
| <b>Label</b>                              | <a href="#">x:String</a>  |
| <b>(description)</b>                      | The text that is displayed next to or below the control.  |

|  |   |
|--|---|
| (usage)  | <RibbonToggleButton> <a href="#">x:Object</a> </RibbonToggleButton>                                     |
| <b>LargeImageSource</b>                        | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed on the control when the image size is set to Large.                         |
| <b>MouseOverBackground</b>                     | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the background of the control when the mouse pointer is over it.         |
| <b>MouseOverBorderBrush</b>                    | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the outer border of the control when the mouse pointer is over it.       |
| <b>PressedBackground</b>                       | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the background of the control when it is pressed.                        |
| <b>PressedBorderBrush</b>                      | <a href="#">Brush</a>   |
| <b>(description)</b>                           | The brush that is used to draw the outer border of the control when it is pressed.                      |
| <b>QuickAccessToolBarControlSizeDefinition</b> | <a href="#">RibbonControlSizeDefinition</a>   |
| <b>(description)</b>                           | The RibbonControlSizeDefinition for this control when it is hosted in the Quick Access Toolbar.         |
| <b>QuickAccessToolBarId</b>                    | <a href="#">x:Object</a>  |
| <b>(description)</b>                           | A unique identifier that links a ribbon control to a corresponding control in the Quick Access Toolbar. |
| <b>SmallImageSource</b>                        | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed on the control when the image size is set to Small.                         |
| <b>ToolTipDescription</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the ToolTip for this control.                                 |
| <b>ToolTipFooterDescription</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The descriptive text that is displayed in the footer of the ToolTip for this control.                   |
| <b>ToolTipFooterImageSource</b>                | <a href="#">ImageSource</a>   |
| <b>(description)</b>                           | The image that is displayed in the footer of the ToolTip for this control.                              |
| <b>ToolTipFooterTitle</b>                      | <a href="#">x:String</a>  |
| <b>(description)</b>                           | The title text that is displayed in the footer of the ToolTip   |

|                           |   |
|---------------------------|---|
| (usage)                   | <RibbonToggleButton> <a href="#">x:Object</a> </RibbonToggleButton> |
|                           | for this control.   |
| <b>ToolTipImageSource</b> | <a href="#">ImageSource</a>   |
| <b>(description)</b>      | The image that is displayed in the ToolTip for this control.        |
| <b>ToolTipTitle</b>       | <a href="#">x:String</a>  |
| <b>(description)</b>      | The title text that is displayed in the ToolTip for this control.   |

#### 4.738 RibbonToolTip (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ToolTip](#) > RibbonToolTip, [InputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <RibbonToolTip> <a href="#">x:Object</a> </RibbonToolTip>  |
| <b>(description)</b>       | Represents a control that creates a pop-up window to display information about an element in the Ribbon.           |
| <b>[content property]</b>  | Content  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Description</b>         | <a href="#">x:String</a>   |
| <b>(description)</b>       | The descriptive text that is displayed for the control that is associated with this ToolTip.                       |
| <b>FooterDescription</b>   | <a href="#">x:String</a>   |
| <b>(description)</b>       | The descriptive text that is displayed in the ToolTip footer for the control that is associated with this ToolTip. |
| <b>FooterImageSource</b>   | <a href="#">ImageSource</a>  |
| <b>(description)</b>       | The image that is displayed in the ToolTip footer for the control that is associated with this ToolTip.            |
| <b>FooterTitle</b>         | <a href="#">x:String</a>   |
| <b>(description)</b>       | The title text that is displayed in the ToolTip footer for the control that is associated with this ToolTip.       |
| <b>ImageSource</b>         | <a href="#">ImageSource</a>  |
| <b>(description)</b>       | The image that is displayed for the control that is associated with this ToolTip.                                  |
| <b>Title</b>               | <a href="#">x:String</a>   |
| <b>(description)</b>       | The title text that is displayed for the control that is associated with this ToolTip.                             |



## 4.739 RibbonTwoLineText (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > RibbonTwoLineText, [IInputElement](#)

|                             |  |
|-----------------------------|--|
| (usage)                     | <RibbonTwoLineText />  |
| <b>(description)</b>        | Represents a specialized label that can display its contents on one or two lines, with an optional shape displayed inline with the text. |
| <b>[name property]</b>      | Name   |
| <b>[xml lang property]</b>  | Language   |
| <b>(properties)</b>         |  |
| <b>BaselineOffset</b>       | <a href="#">x:Double</a>   |
| <b>(description)</b>        | The amount by which each line of text is offset from the baseline.   |
| <b>LineHeight</b>           | <a href="#">x:Double</a>   |
| <b>(description)</b>        | The height of each line of content.  |
| <b>[text syntax]</b>        | <a href="#">LengthSyntax</a>   |
| <b>LineStackingStrategy</b> | <a href="#">LineStackingStrategy</a>   |
| <b>(description)</b>        | The mechanism by which the line box is determined for each line of content.  |
| <b>Padding</b>              | <a href="#">Thickness</a>  |
| <b>(description)</b>        | The thickness of the space between the boundaries of the content area and the displayed content.   |
| <b>PathFill</b>             | <a href="#">Brush</a>  |
| <b>(description)</b>        | The brush that is used to draw the inside of the shape that is displayed with the label.   |
| <b>PathStroke</b>           | <a href="#">Brush</a>  |
| <b>(description)</b>        | The brush that is used to draw the outline of the shape that is displayed with the label.  |
| <b>Text</b>                 | <a href="#">x:String</a>   |
| <b>(description)</b>        | The text content in this element.  |
| <b>TextAlignment</b>        | <a href="#">TextAlignment</a>  |
| <b>(description)</b>        | A value that indicates the horizontal alignment of text content in this element.   |
| <b>TextDecorations</b>      | <a href="#">TextDecorationCollection</a>   |
| <b>(description)</b>        | A TextDecorationCollection that contains the effects to apply to the text content in this element.                                       |

|                                      |  |
|--------------------------------------|--|
| (usage)                              | <RibbonTwoLineText />  |
| <b>TextEffects</b>                   | <a href="#">TextEffectCollection</a>   |
| <b>(description)</b>                 | The effects to apply to the text content in this element.  |
| <b>TextTrimming</b>                  | <a href="#">TextTrimming</a>   |
| <b>(description)</b>                 | The text trimming behavior to use when content overflows the content area.                                     |
| <b>(attachable properties)</b>       |  |
| <b>RibbonTwoLineText.HasTwoLines</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                 | A value that indicates whether this control layout can extend to two lines or if it is restricted to one line. |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>   |
| <b>RibbonTwoLineText.PathData</b>    | <a href="#">Geometry</a>   |
| <b>(description)</b>                 | The geometry data that defines the shape that is displayed with the label.                                     |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>   |

#### 4.740 RibbonWindow (4.5)

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [Window](#) > RibbonWindow, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <RibbonWindow> <a href="#">x:Object</a> </RibbonWindow>  |
| <b>(description)</b>       | Represents a window that can draw a Ribbon Quick Access Toolbar and contextual tab groups in its border. |
| <b>[content property]</b>  | Content  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |

#### 4.741 RichTextBox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [TextBoxBase](#) > RichTextBox, [IInputElement](#)

|                           |   |
|---------------------------|---|
| (usage)                   | <RichTextBox> <a href="#">FlowDocument</a> </RichTextBox>                 |
| <b>(description)</b>      | Represents a rich editing control which operates on FlowDocument objects. |
| <b>[content property]</b> | Document  |
| <b>[name property]</b>    | Name  |

|                     |  |
|---------------------|--|
| (usage)             | <RichTextBox> <a href="#">FlowDocument</a> </RichTextBox>  |
| [xml lang property] | Language   |
| (properties)        |  |
| Document            | <a href="#">FlowDocument</a>   |
| (description)       | The FlowDocument that represents the contents of the RichTextBox.  |
| IsDocumentEnabled   | <a href="#">x:Boolean</a>  |
| (description)       | A value that indicates whether the user can interact with UIElement and ContentElement objects within the RichTextBox. |

#### 4.742 RotateTransform

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform](#) > [Transform](#) > RotateTransform

|               |   |
|---------------|---|
| (usage)       | <RotateTransform> string </RotateTransform>   |
| (description) | Rotates an object clockwise about a specified point in a 2-D x-y coordinate system. |
| [text syntax] | <a href="#">TransformSyntax</a>   |
| (properties)  |   |
| Angle         | <a href="#">x:Double</a>  |
| (description) | The angle, in degrees, of clockwise rotation.                                       |
| CenterX       | <a href="#">x:Double</a>  |
| (description) | The x-coordinate of the rotation center point.                                      |
| CenterY       | <a href="#">x:Double</a>  |
| (description) | The y-coordinate of the rotation center point.                                      |

#### 4.743 RotateTransform3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform3D](#) > [Transform3D](#) > [AffineTransform3D](#) > RotateTransform3D

|               |  |
|---------------|--|
| (usage)       | <RotateTransform3D />                                  |
| (description) | Specifies a rotation transformation.                   |
| (properties)  |  |
| CenterX       | <a href="#">x:Double</a>                               |
| (description) | The X coordinate of the Point3D about which to rotate. |
| CenterY       | <a href="#">x:Double</a>                               |

|                      |  |
|----------------------|--|
| (usage)              | <RotateTransform3D />                                  |
| <b>(description)</b> | The Y coordinate of the Point3D about which to rotate. |
| <b>CenterZ</b>       | <a href="#">x:Double</a>                               |
| <b>(description)</b> | The Z coordinate of the Point3D about which to rotate. |
| <b>Rotation</b>      | <a href="#">Rotation3D</a>                             |
| <b>(description)</b> | A Rotation3D that specifies the rotation.              |

#### 4.744 Rotation

[x:Object](#) > Rotation

|                      |  |
|----------------------|--|
| (usage)              | <b>Rotate0  Rotate90  Rotate180  Rotate270</b>   |
| <b>(description)</b> | Specifies the rotation to apply to a bitmap image.   |
| <b>(used by)</b>     | <a href="#">BitmapImage</a> <a href="#">JpegBitmapEncoder</a> <a href="#">WmpBitmapEncoder</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">RotationSyntax</a>   |

#### 4.745 Rotation3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Rotation3D

|  |  |
|--|--|
| <a href="#">AxisAngleRotation3D</a> <a href="#">QuaternionRotation3D</a> |  |
| <b>(usage)</b>   | {x:Static Rotation3D.StaticPropertyName}   |
| <b>(description)</b>   | Specifies the 3-D rotation to be used in a transformation.   |
| <b>(used by)</b>   | <a href="#">RotateTransform3D</a> <a href="#">Rotation3DAnimation</a> <a href="#">Rotation3DKeyFrame</a> |
| <b>[is default constructible]</b>  | false  |
| <b>(static properties)</b>   |  |
| <b>Identity</b>  | Rotation3D   |
| <b>(description)</b>   | Singleton identity Rotation3D.   |

#### 4.746 Rotation3DAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Rotation3DAnimationBase](#) > Rotation3DAnimation

|                      |   |
|----------------------|---|
| (usage)              | <Rotation3DAnimation />   |
| <b>(description)</b> | Animates the value of a Rotation3D property using linear interpolation between two values determined by the combination of From, To, or By properties that are set for the animation. |

|                        |  |
|------------------------|--|
| (usage)                | <Rotation3DAnimation />  |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">Rotation3D</a>   |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>   | The easing function applied to this animation.   |
| <b>From</b>            | <a href="#">Rotation3D</a>   |
| <b>(description)</b>   | The animation's starting value.  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>              | <a href="#">Rotation3D</a>   |
| <b>(description)</b>   | The animation's ending value.  |

#### 4.747 Rotation3DAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > Rotation3DAnimationBase

|   |   |
|---|---|
| <a href="#">Rotation3DAnimation</a> <a href="#">Rotation3DAnimationUsingKeyFrames</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | A base type that animates a Rotation3D value. |
| <b>[is default constructible]</b>   | false   |
| <b>[name property]</b>  | Name  |

#### 4.748 Rotation3DAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Rotation3DAnimationBase](#) > Rotation3DAnimationUsingKeyFrames

|                      |  |
|----------------------|--|
| (usage)              | <Rotation3DAnimationUsingKeyFrames> <a href="#">Rotation3DKeyFrame</a> *</Rotation3DAnimationUsingKeyFrames> |
| <b>(description)</b> | Animates the value of a Rotation3D property along a set of KeyFrames.  |

|                    |  |
|--------------------|--|
| (usage)            | <Rotation3DAnimationUsingKeyFrames> <a href="#">Rotation3DKeyFrame</a> *</Rotation3DAnimationUsingKeyFrames>           |
| [content property] | KeyFrames  |
| [name property]    | Name   |
| (properties)       |  |
| IsAdditive         | <a href="#">x:Boolean</a>  |
| (description)      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| IsCumulative       | <a href="#">x:Boolean</a>  |
| (description)      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| KeyFrames          | <a href="#">Rotation3DKeyFrameCollection</a>   |
| (description)      | The collection of Rotation3DKeyFrame objects that define the animation.  |

#### 4.749 Rotation3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Rotation3DKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteRotation3DKeyFrame</a> <a href="#">EasingRotation3DKeyFrame</a> <a href="#">LinearRotation3DKeyFrame</a> <a href="#">SplineRotation3DKeyFrame</a> |  |
| (usage)   | None.  |
| (description)   | A base type that defines an animation segment with its own target value and interpolation technique for a Rotation3DAnimationUsingKeyFrames. |
| (used by)   | <a href="#">Rotation3DKeyFrameCollection</a>   |
| [is default constructible]  | false  |
| (properties)  |  |
| KeyTime   | <a href="#">KeyTime</a>  |
| (description)   | The time at which the key frame's target Value should be reached.  |
| Value   | <a href="#">Rotation3D</a>   |
| (description)   | The key frame's target value.  |

#### 4.750 Rotation3DKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Rotation3DKeyFrameCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <Rotation3DKeyFrameCollection> <a href="#">Rotation3DKeyFrame</a> *</Rotation3DKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of Rotation3DKeyFrame objects.   |
| <b>(used by)</b>           | <a href="#">Rotation3DAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">Rotation3DKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | Rotation3DKeyFrameCollection   |
| <b>(description)</b>       | An empty Rotation3DKeyFrameCollection.   |

#### 4.751 RoutedCommand

[x:Object](#) > RoutedCommand

|                                 |   |
|---------------------------------|---|
| <a href="#">RoutedUICommand</a> |   |
| <b>(usage)</b>                  | <RoutedCommand> string </RoutedCommand>   |
| <b>(description)</b>            | Defines a command that implements ICommand and is routed through the element tree.  |
| <b>[text syntax]</b>            | <a href="#">CommandSyntax</a>   |
| <b>(properties)</b>             |   |
| <b>InputGestures</b>            | <a href="#">InputGestureCollection</a>  |
| <b>(description)</b>            | The collection of InputGesture objects that are associated with this command.   |
| <b>[read only]</b>              | true  |
| <b>(events)</b>                 |   |
| <b>CanExecuteChanged</b>        | Occurs when changes to the command source are detected by the command manager. These changes often affect whether the command should execute on the current command target. |

#### 4.752 RoutedEvent

[x:Object](#) > RoutedEvent

|                                   |  |
|-----------------------------------|--|
| (usage)                           | <RoutedEvent> string </RoutedEvent>  |
| <b>(description)</b>              | Represents and identifies a routed event and declares its characteristics. |
| <b>(used by)</b>                  | <a href="#">EventSetter</a> <a href="#">EventTrigger</a>                   |
| <b>[is default constructible]</b> | false  |

|               |                                     |
|---------------|-------------------------------------|
| (usage)       | <RoutedEvent> string </RoutedEvent> |
| [text syntax] | <a href="#">RoutedEventSyntax</a>   |

#### 4.753 RoutedEventHandlerInfo

[x:Object](#) > RoutedEventHandlerInfo

|               |  |
|---------------|--|
| (usage)       | <RoutedEventHandlerInfo />   |
| (description) | Provides special handling information to inform event listeners whether specific handlers should be invoked. |
| [is nullable] | false  |

#### 4.754 RoutedUICommand

[x:Object](#) > [RoutedCommand](#) > RoutedUICommand

|               |   |
|---------------|---|
| (usage)       | <RoutedUICommand> string </RoutedUICommand>   |
| (description) | Defines an ICommand that is routed through the element tree and contains a text property. |
| [text syntax] | <a href="#">CommandSyntax</a>   |
| (properties)  |   |
| Text          | <a href="#">x:String</a>  |
| (description) | The text that describes this command.   |

#### 4.755 RoutingStrategy

[x:Object](#) > RoutingStrategy

|               |   |
|---------------|---|
| (usage)       | <b>Tunnel  Bubble  Direct</b>                     |
| (description) | Indicates the routing strategy of a routed event. |
| [is nullable] | false   |
| [text syntax] | <a href="#">RoutingStrategySyntax</a>             |

#### 4.756 RowDefinition

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [DefinitionBase](#) > RowDefinition, [IInputElement](#)

|               |  |
|---------------|--|
| (usage)       | <RowDefinition />  |
| (description) | Defines row-specific properties that apply to Grid elements. |
| (used by)     | <a href="#">RowDefinitionCollection</a>                      |



|                            |   |
|----------------------------|---|
| (usage)                    | <RowDefinition />   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Height</b>              | <a href="#">GridLength</a>  |
| <b>(description)</b>       | The calculated height of a RowDefinition element, or sets the GridLength value of a row that is defined by the RowDefinition. |
| <b>MaxHeight</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that represents the maximum height of a RowDefinition.  |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>MinHeight</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that represents the minimum allowable height of a RowDefinition.  |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |

#### 4.757 RowDefinitionCollection

[x:Object](#) > RowDefinitionCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Provides access to an ordered, strongly typed collection of RowDefinition objects. |
| <b>(used by)</b>                  | <a href="#">Grid</a>   |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">RowDefinition</a>  |

#### 4.758 Run

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > Run, [InputElement](#)

|                           |  |
|---------------------------|--|
| (usage)                   | <Run> <a href="#">x:String</a> </Run>  |
| <b>(description)</b>      | An inline-level flow content element intended to contain a run of formatted or unformatted text. |
| <b>[content property]</b> | Text   |

|                     |   |
|---------------------|---|
| (usage)             | <Run> <a href="#">x:String</a> </Run>           |
| [name property]     | Name  |
| [xml lang property] | Language  |
| (properties)        |   |
| Text                | <a href="#">x:String</a>                        |
| (description)       | The unformatted text contents of this text Run. |

#### 4.759 SamplingMode

[x:Object](#) > SamplingMode

|               |  |
|---------------|--|
| (usage)       | <b>NearestNeighbor  Bilinear  Auto</b>   |
| (description) | Indicates the way Brush-valued properties are sampled in a custom shader effect. |
| [is nullable] | false  |
| [text syntax] | <a href="#">SamplingModeSyntax</a>   |

#### 4.760 ScaleTransform

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform](#) > [Transform](#) > ScaleTransform

|               |  |
|---------------|--|
| (usage)       | <ScaleTransform> string </ScaleTransform>                    |
| (description) | Scales an object in the 2-D x-y coordinate system.           |
| [text syntax] | <a href="#">TransformSyntax</a>                              |
| (properties)  |  |
| CenterX       | <a href="#">x:Double</a>                                     |
| (description) | The x-coordinate of the center point of this ScaleTransform. |
| CenterY       | <a href="#">x:Double</a>                                     |
| (description) | The y-coordinate of the center point of this ScaleTransform. |
| ScaleX        | <a href="#">x:Double</a>                                     |
| (description) | The x-axis scale factor.                                     |
| ScaleY        | <a href="#">x:Double</a>                                     |
| (description) | The y-axis scale factor.                                     |

## 4.761 ScaleTransform3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform3D](#) > [Transform3D](#) > [AffineTransform3D](#) > ScaleTransform3D

|                      |   |
|----------------------|---|
| (usage)              | <ScaleTransform3D />  |
| <b>(description)</b> | Scales an object in the three-dimensional x-y-z plane, starting from a defined center point. Scale factors are defined in x-, y-, and z- directions from this center point. |
| <b>(properties)</b>  |   |
| <b>CenterX</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b> | The x-coordinate of the transform's center point.   |
| <b>CenterY</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b> | The z-coordinate of the transform's center point.   |
| <b>CenterZ</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b> | The z-coordinate of the transform's center point.   |
| <b>ScaleX</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b> | The scale factor in the x-direction.  |
| <b>ScaleY</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b> | The scale factor in the y-direction.  |
| <b>ScaleZ</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b> | The scale factor in the z-direction.  |

## 4.762 ScrollBar

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [RangeBase](#) > ScrollBar, [InputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <ScrollBar />   |
| <b>(description)</b>       | Represents a control that provides a scroll bar that has a sliding Thumb whose position corresponds to a value. |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Orientation</b>         | <a href="#">Orientation</a>   |
| <b>(description)</b>       | Whether the ScrollBar is displayed horizontally or vertically.  |
| <b>ViewportSize</b>        | <a href="#">x:Double</a>  |

|                      |  |
|----------------------|--|
| (usage)              | <ScrollBar />  |
| <b>(description)</b> | The amount of the scrollable content that is currently visible.  |
| <b>(events)</b>      |  |
| <b>Scroll</b>        | Occurs one or more times as content scrolls in a ScrollBar when the user moves the Thumb by using the mouse. |

#### 4.763 ScrollBarVisibility

[x:Object](#) > ScrollBarVisibility

|                      |  |
|----------------------|--|
| (usage)              | <b>Disabled   Auto   Hidden   Visible</b>  |
| <b>(description)</b> | Specifies the visibility of a ScrollBar for scrollable content.  |
| <b>(used by)</b>     | <a href="#">DataGrid</a> <a href="#">FlowDocumentScrollViewer</a> <a href="#">ScrollViewer</a> <a href="#">TextBoxBase</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">ScrollBarVisibilitySyntax</a>  |

#### 4.764 ScrollContentPresenter

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [ContentPresenter](#) > ScrollContentPresenter, [IInputElement](#)

|                              |  |
|------------------------------|--|
| (usage)                      | <ScrollContentPresenter />   |
| <b>(description)</b>         | Displays the content of a ScrollViewer control.  |
| <b>[name property]</b>       | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>          |  |
| <b>CanContentScroll</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | Indicates whether the content, if it supports IScrollInfo, should be allowed to control scrolling. |
| <b>CanHorizontallyScroll</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether scrolling on the horizontal axis is possible.                       |
| <b>CanVerticallyScroll</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether scrolling on the vertical axis is possible.                         |
| <b>ScrollOwner</b>           | <a href="#">ScrollViewer</a>   |
| <b>(description)</b>         | A ScrollViewer element that controls scrolling behavior.   |

## 4.765 ScrollEventType

[x:Object](#) > ScrollEventType

|               |   |
|---------------|---|
| (usage)       | <b>EndScroll  First  LargeDecrement  LargeIncrement  Last  SmallDecrement  SmallIncrement  ThumbPosition  ThumbTrack...</b> |
| (description) | Describes the behavior that caused a Scroll event for a ScrollBar control.  |
| [is nullable] | false   |
| [text syntax] | <a href="#">ScrollEventTypeSyntax</a>   |

## 4.766 ScrollUnit (4.5)

[x:Object](#) > ScrollUnit

|               |  |
|---------------|--|
| (usage)       | <b>Pixel  Item</b>   |
| (description) | Specifies the type of unit that is used by the ScrollUnit attached property. |
| (used by)     | <a href="#">VirtualizingPanel</a>  |
| [is nullable] | false  |
| [text syntax] | <a href="#">ScrollUnitSyntax</a>   |

## 4.767 ScrollViewer

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > ScrollViewer, [IInputElement](#)

|                                      |   |
|--------------------------------------|---|
| (usage)                              | <ScrollViewer> <a href="#">x:Object</a> </ScrollViewer>   |
| (description)                        | Represents a scrollable area that can contain other visible elements.   |
| (used by)                            | <a href="#">IScrollInfo</a> <a href="#">ScrollContentPresenter</a> <a href="#">StackPanel</a><br><a href="#">VirtualizingStackPanel</a> |
| [content property]                   | Content   |
| [name property]                      | Name  |
| [xml lang property]                  | Language  |
| (properties)                         |   |
| <b>CanContentScroll</b>              | <a href="#">x:Boolean</a>   |
| (description)                        | A value that indicates whether elements that support the IScrollInfo interface are allowed to scroll.                                   |
| <b>HorizontalScrollBarVisibility</b> | <a href="#">ScrollBarVisibility</a>   |
| (description)                        | A value that indicates whether a horizontal ScrollBar   |

|   |   |
|---|---|
| (usage)   | <ScrollViewer> <a href="#">x:Object</a> </ScrollViewer>   |
|   | should be displayed.  |
| <b>IsDeferredScrollingEnabled</b>                 | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                              | A value that indicates whether the content is stationary when the user drags the Thumb of a ScrollBar.                  |
| <b>PanningDeceleration</b>                        | <a href="#">x:Double</a>  |
| <b>(description)</b>                              | The rate ScrollViewer slows in device-independent units (1/96th inch per unit) per squared millisecond when in inertia. |
| <b>PanningMode</b>                                | <a href="#">PanningMode</a>   |
| <b>(description)</b>                              | The way ScrollViewer reacts to touch manipulation.  |
| <b>PanningRatio</b>                               | <a href="#">x:Double</a>  |
| <b>(description)</b>                              | The ratio of scrolling offset to translate manipulation offset.   |
| <b>VerticalScrollBarVisibility</b>                | <a href="#">ScrollBarVisibility</a>   |
| <b>(description)</b>                              | A value that indicates whether a vertical ScrollBar should be displayed.  |
| <b>(attachable properties)</b>                    |   |
| <b>ScrollViewer.CanContentScroll</b>              | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                              | A value that indicates whether elements that support the IScrollInfo interface are allowed to scroll.                   |
| <b>[target type]</b>                              | <a href="#">DependencyObject</a>  |
| <b>ScrollViewer.HorizontalScrollBarVisibility</b> | <a href="#">ScrollBarVisibility</a>   |
| <b>(description)</b>                              | A value that indicates whether a horizontal ScrollBar should be displayed.  |
| <b>[target type]</b>                              | <a href="#">DependencyObject</a>  |
| <b>ScrollViewer.IsDeferredScrollingEnabled</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                              | A value that indicates whether the content is stationary when the user drags the Thumb of a ScrollBar.                  |
| <b>[target type]</b>                              | <a href="#">DependencyObject</a>  |
| <b>ScrollViewer.PanningDeceleration</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>                              | The rate ScrollViewer slows in device-independent units (1/96th inch per unit) per squared millisecond when in inertia. |
| <b>[target type]</b>                              | <a href="#">DependencyObject</a>  |
| <b>ScrollViewer.PanningMode</b>                   | <a href="#">PanningMode</a>   |

|   |  |
|---|--|
| (usage)                                       | <ScrollView> <a href="#">x:Object</a> </ScrollView>                                |
| <b>(description)</b>                          | The way ScrollView reacts to touch manipulation.                                   |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>   |
| <b>ScrollView.PanningRatio</b>                | <a href="#">x:Double</a>   |
| <b>(description)</b>                          | The ratio of scrolling offset to translate manipulation offset.                    |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>   |
| <b>ScrollView.VerticalScrollBarVisibility</b> | <a href="#">ScrollBarVisibility</a>  |
| <b>(description)</b>                          | A value that indicates whether a vertical ScrollBar should be displayed.           |
| <b>[target type]</b>                          | <a href="#">DependencyObject</a>   |
| <b>(events)</b>                               |  |
| <b>ScrollChanged</b>                          | Occurs when changes are detected to the scroll position, extent, or viewport size. |

#### 4.768 Section

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Block](#) > Section, [IInputElement](#)

|   |  |
|---|--|
| (usage)                                 | <Section> <a href="#">Block</a> *</Section>  |
| <b>(description)</b>                    | A block-level flow content element used for grouping other Block elements.   |
| <b>[content property]</b>               | Blocks   |
| <b>[name property]</b>                  | Name   |
| <b>[xml lang property]</b>              | Language   |
| <b>(properties)</b>                     |  |
| <b>Blocks</b>                           | <a href="#">BlockCollection</a>  |
| <b>(description)</b>                    | A BlockCollection containing the top-level Block elements that comprise the contents of the Section.   |
| <b>[read only]</b>                      | true   |
| <b>HasTrailingParagraphBreakOnPaste</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                    | A value that indicates whether or not a trailing paragraph break should be inserted after the last paragraph when placing the contents of a root Section element on the clipboard. |

## 4.769 SeekStoryboard

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > [ControllableStoryboardAction](#) > SeekStoryboard

|               |   |
|---------------|---|
| (usage)       | <SeekStoryboard />  |
| (description) | A trigger action that provides functionality for seeking (skipping) to a specified time within the active period of a Storyboard. |
| (properties)  |   |
| Offset        | <a href="#">x:TimeSpan</a>  |
| (description) | The amount by which the storyboard should move forward or backward from the seek origin Origin.                                   |
| Origin        | <a href="#">TimeSeekOrigin</a>  |
| (description) | The position from which this seek operation's Offset is applied.  |

## 4.770 SelectedDatesCollection

[x:Object](#) > [ObservableCollection\(x:DateTime\)](#) > SelectedDatesCollection

|                            |   |
|----------------------------|---|
| (usage)                    | None.   |
| (description)              | Represents a set of selected dates in a Calendar. |
| (used by)                  | <a href="#">Calendar</a>                          |
| [is default constructible] | false   |
| [is list]                  | true  |
| [allowed types]            | <a href="#">x:DateTime</a>                        |

## 4.771 SelectionMode

[x:Object](#) > SelectionMode

|               |   |
|---------------|---|
| (usage)       | <b>Single  Multiple  Extended</b>             |
| (description) | Defines the selection behavior for a ListBox. |
| (used by)     | <a href="#">ListBox</a>                       |
| [is nullable] | false   |
| [text syntax] | <a href="#">SelectionModeSyntax</a>           |

## 4.772 SelectiveScrollingGrid

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > [Grid](#) > SelectiveScrollingGrid, [InputElement](#)



|   |   |
|---|---|
| (usage)   | <SelectiveScrollingGrid> <a href="#">UIElement</a> *</SelectiveScrollingGrid> |
| <b>(description)</b>  | A panel that can hold specified cells in place when the view is scrolled.     |
| <b>[content property]</b>                                   | Children  |
| <b>[name property]</b>                                      | Name  |
| <b>[xml lang property]</b>                                  | Language  |
| <b>(attachable properties)</b>                              |   |
| <b>SelectiveScrollingGrid.SelectiveScrollingOrientation</b> | <a href="#">SelectiveScrollingOrientation</a>                                 |
| <b>(description)</b>  | The direction that cells can scroll.  |
| <b>[target type]</b>  | <a href="#">DependencyObject</a>  |

#### 4.773 SelectiveScrollingOrientation

[x:Object](#) > SelectiveScrollingOrientation

|                      |  |
|----------------------|--|
| (usage)              | <b>None  Horizontal  Vertical  Both</b>                                |
| <b>(description)</b> | Specifies the direction that SelectiveScrollingGrid panels can scroll. |
| <b>(used by)</b>     | <a href="#">SelectiveScrollingGrid</a>                                 |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">SelectiveScrollingOrientationSyntax</a>                    |

#### 4.774 Selector

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > Selector, [IInputElement](#)

|  |  |
|--|--|
| <a href="#">ComboBox</a> <a href="#">ListBox</a> <a href="#">MultiSelector</a> <a href="#">Ribbon</a> <a href="#">TabControl</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | Represents a control that allows a user to select items from among its child elements. |
| <b>[is default constructible]</b>  | false  |
| <b>[content property]</b>  | Items  |
| <b>[name property]</b>   | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>  |  |

| <a href="#">ComboBox</a> <a href="#">ListBox</a> <a href="#">MultiSelector</a> <a href="#">Ribbon</a> <a href="#">TabControl</a> |  |
|--|--|
| <b>IsSynchronizedWithCurrentItem</b>   | <a href="#">x:Nullable(x:Boolean)</a>  |
| <b>(description)</b>   | A value that indicates whether a Selector should keep the SelectedItem synchronized with the current item in the Items property. |
| <b>SelectedIndex</b>   | <a href="#">x:Int32</a>  |
| <b>(description)</b>   | The index of the first item in the current selection or returns negative one (-1) if the selection is empty.                     |
| <b>SelectedItem</b>  | <a href="#">x:Object</a>   |
| <b>(description)</b>   | The first item in the current selection or returns null if the selection is empty  |
| <b>SelectedValue</b>   | <a href="#">x:Object</a>   |
| <b>(description)</b>   | The value of the SelectedItem, obtained by using SelectedValuePath.  |
| <b>SelectedValuePath</b>   | <a href="#">x:String</a>   |
| <b>(description)</b>   | The path that is used to get the SelectedValue from the SelectedItem.  |
| <b>(attachable properties)</b>   |  |
| <b>Selector.IsSelected</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether an item is selected.  |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>   |
| <b>(events)</b>  |  |
| <b>SelectionChanged</b>  | Occurs when the selection of a Selector changes.   |
| <b>(attachable events)</b>   |  |
| <b>Selector.Selected</b>   | Occurs when an item is selected.   |
| <b>Selector.Unselected</b>   | Occurs when an item is unselected.   |

#### 4.775 Separator

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > Separator, [IInputElement](#)

| <a href="#">RibbonSeparator</a> |   |
|---------------------------------|---|
| <b>(usage)</b>                  | <Separator />   |
| <b>(description)</b>            | Control that is used to separate items in items controls. |
| <b>[name property]</b>          | Name  |

|                                 |          |
|---------------------------------|----------|
| <a href="#">RibbonSeparator</a> |          |
| [xml lang property]             | Language |

#### 4.776 SetStoryboardSpeedRatio

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > [ControllableStoryboardAction](#) > SetStoryboardSpeedRatio

|                      |   |
|----------------------|---|
| (usage)              | <SetStoryboardSpeedRatio />   |
| <b>(description)</b> | A trigger action that changes the speed of a Storyboard.                |
| <b>(properties)</b>  |   |
| <b>SpeedRatio</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b> | A new Storyboard animation speed as a ratio of the old animation speed. |

#### 4.777 Setter

[x:Object](#) > [SetterBase](#) > Setter

|                      |  |
|----------------------|--|
| (usage)              | <Setter />   |
| <b>(description)</b> | Represents a setter that applies a property value.                   |
| <b>(properties)</b>  |  |
| <b>Property</b>      | <a href="#">DependencyProperty</a>                                   |
| <b>(description)</b> | The property to which the Value will be applied.                     |
| <b>TargetName</b>    | <a href="#">x:String</a>   |
| <b>(description)</b> | The name of the object this Setter is intended for.                  |
| <b>Value</b>         | <a href="#">x:Object</a>   |
| <b>(description)</b> | The value to apply to the property that is specified by this Setter. |
| <b>[text syntax]</b> | This property's text syntax is the text syntax of the Property.      |

#### 4.778 SetterBase

[x:Object](#) > SetterBase

|  |   |
|--|---|
| <a href="#">EventSetter</a> <a href="#">Setter</a> |   |
| <b>(usage)</b>                                     | None.                                       |
| <b>(description)</b>                               | Represents the base type for value setters. |
| <b>(used by)</b>                                   | <a href="#">SetterBaseCollection</a>        |
| <b>[is default constructible]</b>                  | false                                       |

## 4.779 SetterBaseCollection

[x:Object](#) > [Collection\(SetterBase\)](#) > SetterBaseCollection

|                 |   |
|-----------------|---|
| (usage)         | <SetterBaseCollection> <a href="#">SetterBase</a> *</SetterBaseCollection>  |
| (description)   | Represents a collection of SetterBase objects.  |
| (used by)       | <a href="#">DataTrigger</a> <a href="#">MultiDataTrigger</a> <a href="#">MultiTrigger</a> <a href="#">Style</a> <a href="#">Trigger</a> |
| [is list]       | true  |
| [allowed types] | <a href="#">SetterBase</a>  |

## 4.780 ShaderRenderMode

[x:Object](#) > ShaderRenderMode

|               |  |
|---------------|--|
| (usage)       | <b>Auto</b>   <b>SoftwareOnly</b>   <b>HardwareOnly</b>        |
| (description) | Indicates the policy for rendering a ShaderEffect in software. |
| (used by)     | <a href="#">PixelShader</a>                                    |
| [is nullable] | false  |
| [text syntax] | <a href="#">ShaderRenderModeSyntax</a>                         |

## 4.781 Shape

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Shape, [InputElement](#)

|  |   |
|--|---|
| <a href="#">Ellipse</a> <a href="#">Line</a> <a href="#">Path</a> <a href="#">Polygon</a> <a href="#">Polyline</a> <a href="#">Rectangle</a> |   |
| (usage)  | None.   |
| (description)  | A base type for vector shapes.  |
| [is default constructible]   | false   |
| [name property]  | Name  |
| [xml lang property]  | Language  |
| (properties)   |   |
| Fill   | <a href="#">Brush</a>   |
| (description)  | The Brush that specifies how the shape's interior is painted.                       |
| Stretch  | <a href="#">Stretch</a>   |
| (description)  | A Stretch enumeration value that describes how the shape fills its allocated space. |
| Stroke   | <a href="#">Brush</a>   |

| <a href="#">Ellipse</a> <a href="#">Line Path</a> <a href="#">Polygon</a> <a href="#">Polyline</a> <a href="#">Rectangle</a> |  |
|--|--|
| <b>(description)</b>   | The Brush that specifies how the Shape outline is painted.   |
| <b>StrokeDashArray</b>   | <a href="#">DoubleCollection</a>   |
| <b>(description)</b>   | A collection of Double values that indicate the pattern of dashes and gaps that is used to outline shapes. |
| <b>StrokeDashCap</b>   | <a href="#">PenLineCap</a>   |
| <b>(description)</b>   | A PenLineCap enumeration value that specifies how the ends of a dash are drawn.                            |
| <b>StrokeDashOffset</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b>   | A Double that specifies the distance within the dash pattern where a dash begins.                          |
| <b>StrokeEndLineCap</b>  | <a href="#">PenLineCap</a>   |
| <b>(description)</b>   | A PenLineCap enumeration value that describes the Shape at the end of a line.                              |
| <b>StrokeLineJoin</b>  | <a href="#">PenLineJoin</a>  |
| <b>(description)</b>   | A PenLineJoin enumeration value that specifies the type of join that is used at the vertices of a Shape.   |
| <b>StrokeMiterLimit</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b>   | A limit on the ratio of the miter length to half the StrokeThickness of a Shape element.                   |
| <b>StrokeStartLineCap</b>  | <a href="#">PenLineCap</a>   |
| <b>(description)</b>   | A PenLineCap enumeration value that describes the Shape at the start of a Stroke.                          |
| <b>StrokeThickness</b>   | <a href="#">x:Double</a>   |
| <b>(description)</b>   | The width of the Shape outline.  |
| <b>[text syntax]</b>   | <a href="#">LengthSyntax</a>   |

## 4.782 ShutdownMode

[x:Object](#) > ShutdownMode

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <b>OnLastWindowClose  OnMainWindowClose  OnExplicitShutdown</b>                |
| <b>(description)</b> | Specifies how an application will shutdown. Used by the ShutdownMode property. |
| <b>(used by)</b>     | <a href="#">Application</a>  |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">ShutdownModeSyntax</a>   |

## 4.783 SineEase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [EasingFunctionBase](#) > SineEase, [IEasingFunction](#)

|                      |   |
|----------------------|---|
| (usage)              | <SineEase />  |
| <b>(description)</b> | Represents an easing function that creates an animation that accelerates and/or decelerates using a sine formula (see remarks below). |

## 4.784 SingleAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [SingleAnimationBase](#) > SingleAnimation

|                        |   |
|------------------------|---|
| (usage)                | <SingleAnimation />   |
| <b>(description)</b>   | Animates the value of a Single property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name  |
| <b>(properties)</b>    |   |
| <b>By</b>              | <a href="#">x:Nullable(x:Single)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.   |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>   | The easing function applied to this animation.  |
| <b>From</b>            | <a href="#">x:Nullable(x:Single)</a>  |
| <b>(description)</b>   | The animation's starting value.   |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value.  |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.                                       |
| <b>To</b>              | <a href="#">x:Nullable(x:Single)</a>  |
| <b>(description)</b>   | The animation's ending value.   |

## 4.785 SingleAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > SingleAnimationBase

|   |       |
|---|-------|
| <a href="#">SingleAnimation</a> <a href="#">SingleAnimationUsingKeyFrames</a> |       |
| <b>(usage)</b>  | None. |

|   |   |
|---|---|
| <a href="#">SingleAnimation</a> <a href="#">SingleAnimationUsingKeyFrames</a> |   |
| <b>(description)</b>  | A base type that animates a Single value. |
| <b>[is default constructible]</b>   | false                                     |
| <b>[name property]</b>  | Name                                      |

#### 4.786 SingleAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [SingleAnimationBase](#) > SingleAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| <b>(usage)</b>            | <SingleAnimationUsingKeyFrames> <a href="#">SingleKeyFrame</a> *</SingleAnimationUsingKeyFrames>                       |
| <b>(description)</b>      | Animates the value of a Single property along a set of KeyFrames.  |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>KeyFrames</b>          | <a href="#">SingleKeyFrameCollection</a>   |
| <b>(description)</b>      | The collection of SingleKeyFrame objects that define the animation.  |

#### 4.787 SingleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > SingleKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteSingleKeyFrame</a> <a href="#">EasingSingleKeyFrame</a> <a href="#">LinearSingleKeyFrame</a> <a href="#">SplineSingleKeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a SingleAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">SingleKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>  |

|   |   |
|---|---|
| <a href="#">DiscreteSingleKeyFrame</a> <a href="#">EasingSingleKeyFrame</a> <a href="#">LinearSingleKeyFrame</a> <a href="#">SplineSingleKeyFrame</a> |   |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached. |
| <b>Value</b>  | <a href="#">x:Single</a>  |
| <b>(description)</b>  | The key frame's target value.                                     |

#### 4.788 SingleKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > SingleKeyFrameCollection

|                            |  |
|----------------------------|--|
| <b>(usage)</b>             | <SingleKeyFrameCollection> <a href="#">SingleKeyFrame</a> *</SingleKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of SingleKeyFrame objects.                                     |
| <b>(used by)</b>           | <a href="#">SingleAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">SingleKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | SingleKeyFrameCollection   |
| <b>(description)</b>       | An empty SingleKeyFrameCollection.   |

#### 4.789 Size

[x:Object](#) > Size

|                            |  |
|----------------------------|--|
| <b>(usage)</b>             | <Size> string </Size>  |
| <b>(description)</b>       | Implements a structure that is used to describe the Size of an object.                                 |
| <b>(used by)</b>           | <a href="#">ArcSegment</a> <a href="#">Rect</a> <a href="#">SizeKeyFrame</a> <a href="#">UIElement</a> |
| <b>[is nullable]</b>       | false  |
| <b>[text syntax]</b>       | <a href="#">SizeSyntax</a>   |
| <b>(properties)</b>        |  |
| <b>Height</b>              | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The Height of this instance of Size.   |
| <b>Width</b>               | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The Width of this instance of Size.  |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | Size   |
| <b>(description)</b>       | A value that represents a static empty Size.   |



## 4.790 Size3D

[x:Object](#) > Size3D

|                            |   |
|----------------------------|---|
| (usage)                    | <Size3D> string </Size3D>   |
| <b>(description)</b>       | Data structure that describes the size of a three-dimensional object. |
| <b>(used by)</b>           | <a href="#">Rect3D</a>  |
| <b>[is nullable]</b>       | false   |
| <b>[text syntax]</b>       | <a href="#">Size3DSyntax</a>  |
| <b>(properties)</b>        |   |
| <b>X</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The X value of this Size3D structure.                                 |
| <b>Y</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The Y value of this Size3D structure.                                 |
| <b>Z</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The Z value of this Size3D structure.                                 |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | Size3D  |
| <b>(description)</b>       | A value that represents an empty Size3D structure.                    |

## 4.791 SizeAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [SizeAnimationBase](#) > SizeAnimation

|                        |   |
|------------------------|---|
| (usage)                | <SizeAnimation />   |
| <b>(description)</b>   | Animates the value of a Size property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name  |
| <b>(properties)</b>    |   |
| <b>By</b>              | <a href="#">x:Nullable(Size)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.   |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>   |
| <b>(description)</b>   | The easing function applied to this animation.  |
| <b>From</b>            | <a href="#">x:Nullable(Size)</a>  |

|                      |  |
|----------------------|--|
| (usage)              | <SizeAnimation />  |
| <b>(description)</b> | The animation's starting value.  |
| <b>IsAdditive</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b> | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>            | <a href="#">x:Nullable(Size)</a>   |
| <b>(description)</b> | The animation's ending value.  |

#### 4.792 SizeAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > SizeAnimationBase

|   |   |
|---|---|
| <a href="#">SizeAnimation</a> <a href="#">SizeAnimationUsingKeyFrames</a> |   |
| <b>(usage)</b>  | None.                                   |
| <b>(description)</b>  | A base type that animates a Size value. |
| <b>[is default constructible]</b>   | false                                   |
| <b>[name property]</b>  | Name                                    |

#### 4.793 SizeAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [SizeAnimationBase](#) > SizeAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| (usage)                   | <SizeAnimationUsingKeyFrames> <a href="#">SizeKeyFrame</a> *</SizeAnimationUsingKeyFrames>                             |
| <b>(description)</b>      | Animates the value of a Size property along a set of KeyFrames.  |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's value accumulates when it repeats.                                      |

|                      |  |
|----------------------|--|
| (usage)              | <SizeAnimationUsingKeyFrames> <a href="#">SizeKeyFrame</a> *</SizeAnimationUsingKeyFrames> |
| <b>KeyFrames</b>     | <a href="#">SizeKeyFrameCollection</a>   |
| <b>(description)</b> | The collection of SizeKeyFrame objects that define the animation.                          |

#### 4.794 SizeKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > SizeKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteSizeKeyFrame</a> <a href="#">EasingSizeKeyFrame</a> <a href="#">LinearSizeKeyFrame</a> <a href="#">SplineSizeKeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a SizeAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">SizeKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>  |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.  |
| <b>Value</b>  | <a href="#">Size</a>   |
| <b>(description)</b>  | The key frame's target value.  |

#### 4.795 SizeKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > SizeKeyFrameCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <SizeKeyFrameCollection> <a href="#">SizeKeyFrame</a> *</SizeKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of SizeKeyFrame objects.                                 |
| <b>(used by)</b>           | <a href="#">SizeAnimationUsingKeyFrames</a>                                      |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">SizeKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | SizeKeyFrameCollection   |
| <b>(description)</b>       | An empty SizeKeyFrameCollection.   |

#### 4.796 SizeToContent

[x:Object](#) > SizeToContent

|                      |   |
|----------------------|---|
| (usage)              | <b>Manual  Width  Height  WidthAndHeight</b>  |
| <b>(description)</b> | Specifies how a window will automatically size itself to fit the size of its content. Used by the SizeToContent property. |
| <b>(used by)</b>     | <a href="#">Window</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">SizeToContentSyntax</a>   |

#### 4.797 SkewTransform

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform](#) > [Transform](#) > SkewTransform

|                      |   |
|----------------------|---|
| (usage)              | <SkewTransform> string </SkewTransform>   |
| <b>(description)</b> | Represents a 2-D skew.  |
| <b>[text syntax]</b> | <a href="#">TransformSyntax</a>   |
| <b>(properties)</b>  |   |
| <b>AngleX</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b> | The x-axis skew angle, which is measured in degrees counterclockwise from the y-axis. |
| <b>AngleY</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b> | The y-axis skew angle, which is measured in degrees counterclockwise from the x-axis. |
| <b>CenterX</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b> | The x-coordinate of the transform center.   |
| <b>CenterY</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b> | The y-coordinate of the transform center.   |

#### 4.798 SkipStoryboardToFill

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > [ControllableStoryboardAction](#) > SkipStoryboardToFill

|                      |  |
|----------------------|--|
| (usage)              | <SkipStoryboardToFill />   |
| <b>(description)</b> | A trigger action that advances a Storyboard to the end of its fill period. |

#### 4.799 Slider

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [RangeBase](#) > Slider, [IInputElement](#)

|         |            |
|---------|------------|
| (usage) | <Slider /> |
|---------|------------|

|                                |   |
|--------------------------------|---|
| (usage)                        | <Slider />  |
| <b>(description)</b>           | Represents a control that lets the user select from a range of values by moving a Thumb control along a Track.  |
| <b>[name property]</b>         | Name  |
| <b>[xml lang property]</b>     | Language  |
| <b>(properties)</b>            |   |
| <b>AutoToolTipPlacement</b>    | <a href="#">AutoToolTipPlacement</a>  |
| <b>(description)</b>           | Whether a tooltip that contains the current value of the Slider displays when the Thumb is pressed. If a tooltip is displayed, this property also specifies the placement of the tooltip. |
| <b>AutoToolTipPrecision</b>    | <a href="#">x:Int32</a>   |
| <b>(description)</b>           | The number of digits that are displayed to the right side of the decimal point for the Value of the Slider in a tooltip.  |
| <b>Delay</b>                   | <a href="#">x:Int32</a>   |
| <b>(description)</b>           | The amount of time in milliseconds that a RepeatButton waits, while it is pressed, before a command to move the Thumb executes, such as a DecreaseLarge command.                          |
| <b>Interval</b>                | <a href="#">x:Int32</a>   |
| <b>(description)</b>           | The amount of time in milliseconds between increase or decrease commands when a user clicks the RepeatButton of a Slider.   |
| <b>IsDirectionReversed</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | The direction of increasing value.  |
| <b>IsMoveToPointEnabled</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether the Thumb of a Slider moves immediately to the location of the mouse click that occurs while the mouse pointer pauses on the Slider track.                 |
| <b>IsSelectionRangeEnabled</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether the Slider displays a selection range along the Slider.  |
| <b>IsSnapToTickEnabled</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether the Slider automatically moves the Thumb to the closest tick mark.   |
| <b>Orientation</b>             | <a href="#">Orientation</a>   |
| <b>(description)</b>           | The orientation of a Slider.  |
| <b>SelectionEnd</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>           | The largest value of a specified selection for a Slider.  |

|                            |  |
|----------------------------|--|
| (usage)                    | <Slider />   |
| <b>SelectionStart</b>      | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The smallest value of a specified selection for a Slider.  |
| <b>TickFrequency</b>       | <a href="#">x:Double</a>   |
| <b>(description)</b>       | The interval between tick marks.   |
| <b>TickPlacement</b>       | <a href="#">TickPlacement</a>  |
| <b>(description)</b>       | The position of tick marks with respect to the Track of the Slider.                              |
| <b>Ticks</b>               | <a href="#">DoubleCollection</a>   |
| <b>(description)</b>       | The positions of the tick marks to display for a Slider.   |
| <b>(static properties)</b> |  |
| <b>DecreaseLarge</b>       | <a href="#">RoutedCommand</a>  |
| <b>(description)</b>       | A command that decreases the value of the Slider by the same amount as the LargeChange property. |
| <b>DecreaseSmall</b>       | <a href="#">RoutedCommand</a>  |
| <b>(description)</b>       | A command that decreases the value of the Slider by the same amount as the SmallChange property. |
| <b>IncreaseLarge</b>       | <a href="#">RoutedCommand</a>  |
| <b>(description)</b>       | A command that increases the value of the slider by the same amount as the LargeChange property. |
| <b>IncreaseSmall</b>       | <a href="#">RoutedCommand</a>  |
| <b>(description)</b>       | A command that increases the value of the slider by the same amount as the SmallChange property. |
| <b>MaximizeValue</b>       | <a href="#">RoutedCommand</a>  |
| <b>(description)</b>       | A command that sets the Slider Value to the Maximum value.                                       |
| <b>MinimizeValue</b>       | <a href="#">RoutedCommand</a>  |
| <b>(description)</b>       | A command that sets the Slider Value to the Minimum value.                                       |

## 4.800 SlipBehavior

[x:Object](#) > SlipBehavior

|                      |   |
|----------------------|---|
| (usage)              | <b>Grow  Slip</b>   |
| <b>(description)</b> | Indicates how a ParallelTimeline will behave when one or more of its Timeline children slips. |
| <b>(used by)</b>     | <a href="#">ParallelTimeline</a>  |

|               |                                    |
|---------------|------------------------------------|
| (usage)       | <b>Grow  Slip</b>                  |
| [is nullable] | false                              |
| [text syntax] | <a href="#">SlipBehaviorSyntax</a> |

#### 4.801 SolidColorBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > SolidColorBrush

|               |   |
|---------------|---|
| (usage)       | <SolidColorBrush> string </SolidColorBrush> |
| (description) | Paints an area with a solid color.          |
| [text syntax] | <a href="#">BrushSyntax</a>                 |
| (properties)  |   |
| Color         | <a href="#">Color</a>                       |
| (description) | The color of this SolidColorBrush.          |

#### 4.802 SoundPlayerAction

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > SoundPlayerAction

|               |  |
|---------------|--|
| (usage)       | <SoundPlayerAction />  |
| (description) | Represents a lightweight audio playback TriggerAction used to play .wav files. |
| (properties)  |  |
| Source        | <a href="#">x:Uri</a>  |
| (description) | The audio source location.   |

#### 4.803 Span

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > Span, [InputElement](#)

|  |   |
|--|---|
| <b><a href="#">Bold</a> <a href="#">Hyperlink</a> <a href="#">Italic</a> <a href="#">Underline</a></b> |   |
| (usage)  | <Span>[ <a href="#">Inline UIElement x:String</a> ]*</Span> |
| (description)  | Groups other Inline flow content elements.                  |
| [content property]   | Inlines   |
| [name property]  | Name  |
| [xml lang property]  | Language  |
| (properties)   |   |

|  |  |
|--|--|
| <b><a href="#">Bold</a> <a href="#">Hyperlink</a> <a href="#">Italic</a> <a href="#">Underline</a></b> |  |
| <b>Inlines</b>   | <a href="#">InlineCollection</a>   |
| <b>(description)</b>   | An InlineCollection containing the top-level Inline elements that comprise the contents of the Span. |
| <b>[read only]</b>   | true   |

#### 4.804 SpecularMaterial

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Material](#) > SpecularMaterial

|                      |  |
|----------------------|--|
| (usage)              | <SpecularMaterial />   |
| <b>(description)</b> | Allows a 2-D brush, like a SolidColorBrush or TileBrush, to be applied to a specularly-lit 3-D model.              |
| <b>(properties)</b>  |  |
| <b>Brush</b>         | <a href="#">Brush</a>  |
| <b>(description)</b> | The 2-D brush to apply to a specularly-lit 3-D model.  |
| <b>Color</b>         | <a href="#">Color</a>  |
| <b>(description)</b> | A value that filters the color properties of the material applied to the model.                                    |
| <b>SpecularPower</b> | <a href="#">x:Double</a>   |
| <b>(description)</b> | A value that specifies the degree to which a material applied to a 3-D model reflects the lighting model as shine. |

#### 4.805 SpeechMode

[x:Object](#) > SpeechMode

|                      |  |
|----------------------|--|
| (usage)              | <b>Dictation  Command  Indeterminate</b>               |
| <b>(description)</b> | Specifies the mode of interpretation for speech input. |
| <b>(used by)</b>     | <a href="#">InputMethod</a>                            |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">SpeechModeSyntax</a>                       |

#### 4.806 SpellCheck

[x:Object](#) > SpellCheck

|                      |  |
|----------------------|--|
| (usage)              | None.  |
| <b>(description)</b> | Provides real-time spell-checking functionality to text-editing controls, such as TextBox and RichTextBox. |



|                                      |   |
|--------------------------------------|---|
| (usage)                              | None.   |
| [is default constructible]           | false   |
| (properties)                         |   |
| <b>CustomDictionaries</b>            | <a href="#">IList</a>   |
| (description)                        | The collection of lexicon file locations that are used for custom spell checking.   |
| [read only]                          | true  |
| <b>IsEnabled</b>                     | <a href="#">x:Boolean</a>   |
| (description)                        | A value that determines whether the spelling checker is enabled on this text-editing control, such as TextBox or RichTextBox. |
| <b>SpellingReform</b>                | <a href="#">SpellingReform</a>  |
| (description)                        | The spelling reform rules that are used by the spelling checker.  |
| (attachable properties)              |   |
| <b>SpellCheck.CustomDictionaries</b> | <a href="#">IList</a>   |
| (description)                        | The collection of lexicon file locations that are used for custom spell checking.   |
| [target type]                        | <a href="#">TextBoxBase</a>   |
| [read only]                          | true  |
| <b>SpellCheck.IsEnabled</b>          | <a href="#">x:Boolean</a>   |
| (description)                        | A value that determines whether the spelling checker is enabled on this text-editing control, such as TextBox or RichTextBox. |
| [target type]                        | <a href="#">TextBoxBase</a>   |
| <b>SpellCheck.SpellingReform</b>     | <a href="#">SpellingReform</a>  |
| (description)                        | The spelling reform rules that are used by the spelling checker.  |
| [target type]                        | <a href="#">TextBoxBase</a>   |

#### 4.807 SpellingReform

[x:Object](#) > SpellingReform

|               |   |
|---------------|---|
| (usage)       | <b>PreAndPostreform  Prereform  Postreform</b>  |
| (description) | Specifies the spelling reform rules used by the spellchecker of the text editing control (i.e. TextBox or RichTextBox). |
| (used by)     | <a href="#">SpellCheck</a>  |
| [is nullable] | false   |

|               |  |
|---------------|--|
| (usage)       | <b>PreAndPostreform</b>   <b>Prereform</b>   <b>Postreform</b> |
| [text syntax] | <a href="#">SpellingReformSyntax</a>                           |

#### 4.808 SplineByteKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ByteKeyFrame](#) > SplineByteKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <SplineByteKeyFrame />   |
| <b>(description)</b> | Animates from the Byte value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |  |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>  |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                            |

#### 4.809 SplineColorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ColorKeyFrame](#) > SplineColorKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <SplineColorKeyFrame />   |
| <b>(description)</b> | Animates from the Color value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |   |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>   |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                             |

#### 4.810 SplineDecimalKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [DecimalKeyFrame](#) > SplineDecimalKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <SplineDecimalKeyFrame />   |
| <b>(description)</b> | Animates from the Decimal value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |   |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>   |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                               |

#### 4.811 SplineDoubleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [DoubleKeyFrame](#) > SplineDoubleKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <SplineDoubleKeyFrame />   |
| <b>(description)</b> | Animates from the Double value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |  |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>  |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                              |

#### 4.812 SplineInt16KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int16KeyFrame](#) > SplineInt16KeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <SplineInt16KeyFrame />   |
| <b>(description)</b> | Animates from the Int16 value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |   |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>   |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                             |

#### 4.813 SplineInt32KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int32KeyFrame](#) > SplineInt32KeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <SplineInt32KeyFrame />   |
| <b>(description)</b> | Animates from the Int32 value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |   |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>   |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                             |

#### 4.814 SplineInt64KeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Int64KeyFrame](#) > SplineInt64KeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <SplineInt64KeyFrame />   |
| <b>(description)</b> | Animates from the Int64 value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |   |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>   |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                             |

#### 4.815 SplinePoint3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Point3DKeyFrame](#) > SplinePoint3DKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <SplinePoint3DKeyFrame />   |
| <b>(description)</b> | Animates from the Point3D value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |   |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>   |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                               |

#### 4.816 SplinePointKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [PointKeyFrame](#) > SplinePointKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <SplinePointKeyFrame />   |
| <b>(description)</b> | Animates from the Point value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |   |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>   |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                             |

#### 4.817 SplineQuaternionKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [QuaternionKeyFrame](#) > SplineQuaternionKeyFrame

|                        |   |
|------------------------|---|
| (usage)                | <SplineQuaternionKeyFrame />  |
| <b>(description)</b>   | Animates from the Quaternion value of the previous key frame to its own Value using splined interpolation.                        |
| <b>(properties)</b>    |   |
| <b>KeySpline</b>       | <a href="#">KeySpline</a>   |
| <b>(description)</b>   | The two control points that define animation progress for this key frame.   |
| <b>UseShortestPath</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>   | A value that indicates whether the animation uses spherical linear interpolation to calculate the shortest arc between positions. |

#### 4.818 SplineRectKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [RectKeyFrame](#) > SplineRectKeyFrame

|         |                        |
|---------|------------------------|
| (usage) | <SplineRectKeyFrame /> |
|---------|------------------------|

|                      |  |
|----------------------|--|
| (usage)              | <SplineRectKeyFrame />   |
| <b>(description)</b> | Animates from the Rect value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |  |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>  |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                            |

#### 4.819 SplineRotation3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Rotation3DKeyFrame](#) > SplineRotation3DKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <SplineRotation3DKeyFrame />   |
| <b>(description)</b> | Animates from the Rotation3D value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |  |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>  |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                                  |

#### 4.820 SplineSingleKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [SingleKeyFrame](#) > SplineSingleKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <SplineSingleKeyFrame />   |
| <b>(description)</b> | Animates from the Single value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |  |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>  |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                              |

#### 4.821 SplineSizeKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [SizeKeyFrame](#) > SplineSizeKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <SplineSizeKeyFrame />   |
| <b>(description)</b> | Animates from the Size value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |  |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>  |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                            |

## 4.822 SplineThicknessKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [ThicknessKeyFrame](#) > SplineThicknessKeyFrame

|                      |   |
|----------------------|---|
| (usage)              | <SplineThicknessKeyFrame />   |
| <b>(description)</b> | Animates from the Thickness value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |   |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>   |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                                 |

## 4.823 SplineVector3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Vector3DKeyFrame](#) > SplineVector3DKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <SplineVector3DKeyFrame />   |
| <b>(description)</b> | Animates from the Vector3D value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |  |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>  |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                                |

## 4.824 SplineVectorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [VectorKeyFrame](#) > SplineVectorKeyFrame

|                      |  |
|----------------------|--|
| (usage)              | <SplineVectorKeyFrame />   |
| <b>(description)</b> | Animates from the Vector value of the previous key frame to its own Value using splined interpolation. |
| <b>(properties)</b>  |  |
| <b>KeySpline</b>     | <a href="#">KeySpline</a>  |
| <b>(description)</b> | The two control points that define animation progress for this key frame.                              |

## 4.825 SpotLight

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Model3D](#) > [Light](#) > [PointLightBase](#) > SpotLight

|                      |  |
|----------------------|--|
| (usage)              | <SpotLight />  |
| <b>(description)</b> | Light object that projects its effect in a cone-shaped area along a specified direction. |
| <b>(properties)</b>  |  |

|                       |  |
|-----------------------|--|
| (usage)               | <SpotLight />  |
| <b>Direction</b>      | <a href="#">Vector3D</a>   |
| <b>(description)</b>  | A Vector3D that specifies the direction in which the SpotLight projects its light.   |
| <b>InnerConeAngle</b> | <a href="#">x:Double</a>   |
| <b>(description)</b>  | An angle that specifies the proportion of a SpotLight's cone-shaped projection in which the light fully illuminates objects in the scene.        |
| <b>OuterConeAngle</b> | <a href="#">x:Double</a>   |
| <b>(description)</b>  | An angle that specifies the proportion of a SpotLight's cone-shaped projection outside which the light does not illuminate objects in the scene. |

#### 4.826 StackPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > StackPanel, [IInputElement](#)

|                              |   |
|------------------------------|---|
| <a href="#">ToolBarPanel</a> |   |
| <b>(usage)</b>               | <StackPanel> <a href="#">UIElement</a> *</StackPanel>                                       |
| <b>(description)</b>         | Arranges child elements into a single line that can be oriented horizontally or vertically. |
| <b>[content property]</b>    | Children  |
| <b>[name property]</b>       | Name  |
| <b>[xml lang property]</b>   | Language  |
| <b>(properties)</b>          |   |
| <b>CanHorizontallyScroll</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>         | A value that indicates whether a StackPanel can scroll in the horizontal dimension.         |
| <b>CanVerticallyScroll</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>         | A value that indicates whether content can scroll in the vertical dimension.                |
| <b>Orientation</b>           | <a href="#">Orientation</a>   |
| <b>(description)</b>         | A value that indicates the dimension by which child elements are stacked.                   |
| <b>ScrollOwner</b>           | <a href="#">ScrollView</a>  |
| <b>(description)</b>         | A value that identifies the container that controls scrolling behavior in this StackPanel.  |

#### 4.827 StaticResourceExtension

[x:Object](#) > [x:MarkupExtension](#) > StaticResourceExtension

|                            |   |
|----------------------------|---|
| (usage)                    | {StaticResource }   <StaticResource />  |
| <b>(description)</b>       | Implements a markup extension that supports static (XAML load time) resource references made from XAML.                                   |
| <b>[return value type]</b> | <a href="#">x:Object</a>  |
| <b>[constructors]</b>      |   |
| <b>(1 parameter)</b>       |   |
| <b>resourceKey</b>         | <a href="#">x:Object</a>  |
| <b>(description)</b>       | The key of the resource that this markup extension references.  |
| <b>(properties)</b>        |   |
| <b>ResourceKey</b>         | <a href="#">x:Object</a>  |
| <b>(description)</b>       | The key value passed by this static resource reference. They key is used to return the object matching that key in resource dictionaries. |

## 4.828 StatusBar

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > StatusBar, [InputElement](#)

|  |  |
|--|--|
| (usage)                                | <StatusBar> <a href="#">x:Object</a> *</StatusBar>   |
| <b>(description)</b>                   | Represents a control that displays items and information in a horizontal bar in an application window.   |
| <b>[content property]</b>              | Items  |
| <b>[name property]</b>                 | Name   |
| <b>[xml lang property]</b>             | Language   |
| <b>(properties)</b>                    |  |
| <b>UsesItemContainerTemplate (4.5)</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value that indicates whether the menu selects different item containers, depending on the type of the item in the underlying collection or some other heuristic. |
| <b>(static properties)</b>             |  |
| <b>SeparatorStyleKey</b>               | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The key that represents the style to use for Separator objects in the StatusBar.   |



## 4.829 StatusBarItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > StatusBarItem, [IInputElement](#)

|                     |   |
|---------------------|---|
| (usage)             | <StatusBarItem> <a href="#">x:Object</a> </StatusBarItem> |
| (description)       | Represents an item of a StatusBar control.                |
| [content property]  | Content   |
| [name property]     | Name  |
| [xml lang property] | Language  |

## 4.830 StickyNoteType

[x:Object](#) > StickyNoteType

|               |  |
|---------------|--|
| (usage)       | <b>Text  Ink</b>   |
| (description) | Specifies whether a StickyNoteControl accepts text or ink. |
| [is nullable] | false  |
| [text syntax] | <a href="#">StickyNoteTypeSyntax</a>                       |

## 4.831 StopStoryboard

[x:Object](#) > [DependencyObject](#) > [TriggerAction](#) > [ControllableStoryboardAction](#) > StopStoryboard

|               |   |
|---------------|---|
| (usage)       | <StopStoryboard />                        |
| (description) | A trigger action that stops a Storyboard. |

## 4.832 Storyboard

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [TimelineGroup](#) > [ParallelTimeline](#) > Storyboard

|                         |  |
|-------------------------|--|
| (usage)                 | <Storyboard> <a href="#">Timeline</a> *</Storyboard>   |
| (description)           | A container timeline that provides object and property targeting information for its child animations. |
| (used by)               | <a href="#">BeginStoryboard</a> <a href="#">VisualState</a> <a href="#">VisualTransition</a>           |
| [content property]      | Children   |
| [name property]         | Name   |
| (attachable properties) |  |
| Storyboard.Target       | <a href="#">DependencyObject</a>   |

|                           |   |
|---------------------------|---|
| (usage)                   | <Storyboard> <a href="#">Timeline</a> *</Storyboard>                      |
| (description)             | The object that should be animated.                                       |
| [target type]             | <a href="#">DependencyObject</a>  |
| Storyboard.TargetName     | <a href="#">x:String</a>  |
| (description)             | The name of the object to animate. The object must be a DependencyObject. |
| [target type]             | <a href="#">DependencyObject</a>  |
| Storyboard.TargetProperty | <a href="#">PropertyPath</a>  |
| (description)             | The property that should be animated.                                     |
| [target type]             | <a href="#">DependencyObject</a>  |

#### 4.833 StreamGeometry

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Geometry](#) > StreamGeometry

|               |  |
|---------------|--|
| (usage)       | <StreamGeometry> string </StreamGeometry>  |
| (description) | Defines a geometric shape, described using a StreamGeometryContext. This geometry is light-weight alternative to PathGeometry: it does not support data binding, animation, or modification. |
| [text syntax] | <a href="#">GeometrySyntax</a>   |
| (properties)  |  |
| FillRule      | <a href="#">FillRule</a>   |
| (description) | A value that determines how the intersecting areas contained in this StreamGeometry are combined.  |

#### 4.834 Stretch

[x:Object](#) > Stretch

|               |   |
|---------------|---|
| (usage)       | <b>None</b>   <b>Fill</b>   <b>Uniform</b>   <b>UniformToFill</b>   |
| (description) | Describes how content is resized to fill its allocated space.   |
| (used by)     | <a href="#">DocumentPageView</a> <a href="#">Image</a> <a href="#">MediaElement</a> <a href="#">Shape</a> <a href="#">TileBrush</a> <a href="#">Viewbox</a> |
| [is nullable] | false   |
| [text syntax] | <a href="#">StretchSyntax</a>   |

#### 4.835 StretchDirection

[x:Object](#) > StretchDirection

|                      |   |
|----------------------|---|
| (usage)              | <b>UpOnly  DownOnly  Both</b>   |
| <b>(description)</b> | Describes how scaling applies to content and restricts scaling to named axis types.                         |
| <b>(used by)</b>     | <a href="#">DocumentPageView</a> <a href="#">Image</a> <a href="#">MediaElement</a> <a href="#">Viewbox</a> |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">StretchDirectionSyntax</a>  |

#### 4.836 StringAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > StringAnimationBase

|   |   |
|---|---|
| <a href="#">StringAnimationUsingKeyFrames</a> |   |
| <b>(usage)</b>                                | None.                                     |
| <b>(description)</b>                          | A base type that animates a String value. |
| <b>[is default constructible]</b>             | false                                     |
| <b>[name property]</b>                        | Name                                      |

#### 4.837 StringAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [StringAnimationBase](#) > StringAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| (usage)                   | <StringAnimationUsingKeyFrames> <a href="#">StringKeyFrame</a> *</StringAnimationUsingKeyFrames> |
| <b>(description)</b>      | Animates the value of a String property along a set of KeyFrames over a specified Duration.      |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>KeyFrames</b>          | <a href="#">StringKeyFrameCollection</a>   |
| <b>(description)</b>      | The collection of StringKeyFrame objects that define the animation.                              |

#### 4.838 StringKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > StringKeyFrame

|  |  |
|--|--|
| <a href="#">DiscreteStringKeyFrame</a> |  |
| <b>(usage)</b>                         | None.  |
| <b>(description)</b>                   | Defines an animation segment with its own target value and interpolation |

|   |   |
|---|---|
| <b><a href="#">DiscreteStringKeyFrame</a></b> |   |
|   | technique for a <a href="#">StringAnimationUsingKeyFrames</a> .   |
| <b>(used by)</b>                              | <a href="#">StringKeyFrameCollection</a>                          |
| <b>[is default constructible]</b>             | false   |
| <b>(properties)</b>                           |   |
| <b>KeyTime</b>                                | <a href="#">KeyTime</a>   |
| <b>(description)</b>                          | The time at which the key frame's target Value should be reached. |
| <b>Value</b>                                  | <a href="#">x:String</a>  |
| <b>(description)</b>                          | The key frame's target value.                                     |

#### 4.839 StringKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [StringKeyFrameCollection](#)

|                            |  |
|----------------------------|--|
| (usage)                    | < <a href="#">StringKeyFrameCollection</a> > <a href="#">StringKeyFrame</a> *</ <a href="#">StringKeyFrameCollection</a> > |
| <b>(description)</b>       | Represents a collection of <a href="#">StringKeyFrame</a> objects.   |
| <b>(used by)</b>           | <a href="#">StringAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">StringKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | <a href="#">StringKeyFrameCollection</a>   |
| <b>(description)</b>       | An empty <a href="#">StringKeyFrameCollection</a> .  |

#### 4.840 Stroke

[x:Object](#) > [Stroke](#)

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Represents a single ink stroke.  |
| <b>(used by)</b>                  | <a href="#">StrokeCollection</a>   |
| <b>[is default constructible]</b> | false  |
| <b>(properties)</b>               |  |
| <b>DrawingAttributes</b>          | <a href="#">DrawingAttributes</a>  |
| <b>(description)</b>              | The <a href="#">DrawingAttributes</a> for the <a href="#">Stroke</a> object. |
| <b>StylusPoints</b>               | <a href="#">StylusPointCollection</a>  |

|                                  |  |
|----------------------------------|--|
| (usage)                          | None.  |
| <b>(description)</b>             | Returns the stylus points of the Stroke.                                       |
| <b>(events)</b>                  |  |
| <b>DrawingAttributesChanged</b>  | Occurs when the DrawingAttributes associated with the Stroke object change.    |
| <b>DrawingAttributesReplaced</b> | Occurs when the drawing attributes of a Stroke object are replaced.            |
| <b>Invalidated</b>               | Occurs when the appearance of the Stroke changes.                              |
| <b>PropertyDataChanged</b>       | Occurs when the custom properties on a Stroke object changes.                  |
| <b>StylusPointsChanged</b>       | Occurs when the StylusPoints property changes.                                 |
| <b>StylusPointsReplaced</b>      | Occurs when the StylusPoints property is assigned a new StylusPointCollection. |

#### 4.841 StrokeCollection

[x:Object](#) > [Collection\(Stroke\)](#) > StrokeCollection

|                            |  |
|----------------------------|--|
| (usage)                    | <StrokeCollection> string </StrokeCollection>                              |
| <b>(description)</b>       | Represents a collection of Stroke objects.                                 |
| <b>(used by)</b>           | <a href="#">InkCanvas</a> <a href="#">InkPresenter</a>                     |
| <b>[text syntax]</b>       | <a href="#">StrokeCollectionSyntax</a>                                     |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">Stroke</a>   |
| <b>(events)</b>            |  |
| <b>PropertyDataChanged</b> | Occurs when custom property is added or removed from the StrokeCollection. |
| <b>StrokesChanged</b>      | Occurs when a Stroke in the collection changes.                            |

#### 4.842 Style

[x:Object](#) > Style

|                      |   |
|----------------------|---|
| (usage)              | <Style> <a href="#">SetterBase</a> * </Style>   |
| <b>(description)</b> | Enables the sharing of properties, resources, and event handlers between instances of a type.   |
| <b>(used by)</b>     | <a href="#">Calendar</a> <a href="#">DataGrid</a> <a href="#">DataGridBoundColumn</a> <a href="#">DataGridColumn</a> <a href="#">DataGridComboBoxColumn</a> <a href="#">DataGridRow</a> <a href="#">DatePicker</a> <a href="#">FrameworkContentElement</a> <a href="#">FrameworkElement</a> <a href="#">GridSplitter</a> <a href="#">GridView</a> <a href="#">GridViewColumn</a> <a href="#">GridViewHeaderRowPresenter</a> <a href="#">GroupStyle</a> <a href="#">HierarchicalDataTemplate</a> <a href="#">ItemsControl</a> <a href="#">KeyTipService</a> <a href="#">Ribbon</a> <a href="#">RibbonGallery</a> <a href="#">RibbonTab</a> Style |

|                                  |   |
|----------------------------------|---|
| (usage)                          | <Style> <a href="#">SetterBase</a> *</Style>  |
| <b>[content property]</b>        | Setters   |
| <b>[dictionary key property]</b> | TargetType  |
| <b>[is name scope]</b>           | true  |
| <b>(properties)</b>              |   |
| <b>BasedOn</b>                   | Style   |
| <b>(description)</b>             | A defined style that is the basis of the current style.                                       |
| <b>Resources</b>                 | <a href="#">ResourceDictionary</a>  |
| <b>(description)</b>             | The collection of resources that can be used within the scope of this style.                  |
| <b>Setters</b>                   | <a href="#">SetterBaseCollection</a>  |
| <b>(description)</b>             | A collection of Setter and EventSetter objects.   |
| <b>[read only]</b>               | true  |
| <b>TargetType</b>                | <a href="#">x:XamlType</a>  |
| <b>(description)</b>             | The type for which this style is intended.  |
| <b>Triggers</b>                  | <a href="#">TriggerCollection</a>   |
| <b>(description)</b>             | A collection of TriggerBase objects that apply property values based on specified conditions. |
| <b>[read only]</b>               | true  |

#### 4.843 StyleSelector

[x:Object](#) > StyleSelector

|                      |   |
|----------------------|---|
| (usage)              | <StyleSelector />   |
| <b>(description)</b> | Provides a way to apply styles based on custom logic.   |
| <b>(used by)</b>     | <a href="#">DataGrid</a> <a href="#">GroupStyle</a> <a href="#">HierarchicalDataTemplate</a> <a href="#">ItemsControl</a> <a href="#">RibbonGallery</a> |

#### 4.844 StyleSimulations

[x:Object](#) > StyleSimulations

|                      |   |
|----------------------|---|
| (usage)              | <b>None</b>   <b>BoldSimulation</b>   <b>ItalicSimulation</b>   <b>BoldItalicSimulation</b> |
| <b>(description)</b> | Defines an enumerator type that describes the simulation style of a font.                   |
| <b>(used by)</b>     | <a href="#">Glyphs</a> <a href="#">GlyphTypeface</a>  |

|               |   |
|---------------|---|
| (usage)       | <b>None</b>   <b>BoldSimulation</b>   <b>ItalicSimulation</b>   <b>BoldItalicSimulation</b> |
| [is nullable] | false   |
| [text syntax] | <a href="#">StyleSimulationsSyntax</a>  |

## 4.845 Stylus

[x:Object](#) > Stylus

|                                      |   |
|--------------------------------------|---|
| (usage)                              | {x:Static Stylus.StaticPropertyName}                          |
| <b>(description)</b>                 | Provides access to general information about a tablet pen.    |
| <b>[is default constructible]</b>    | false   |
| <b>(attachable properties)</b>       |   |
| <b>Stylus.IsFlicksEnabled</b>        | <a href="#">x:Boolean</a>                                     |
| <b>(description)</b>                 | A value indicating whether flicks are enabled.                |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>                              |
| <b>Stylus.IsPressAndHoldEnabled</b>  | <a href="#">x:Boolean</a>                                     |
| <b>(description)</b>                 | A values indicating whether press and hold is enabled.        |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>                              |
| <b>Stylus.IsTapFeedbackEnabled</b>   | <a href="#">x:Boolean</a>                                     |
| <b>(description)</b>                 | Whether a value indicating whether tap feedback is enabled.   |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>                              |
| <b>Stylus.IsTouchFeedbackEnabled</b> | <a href="#">x:Boolean</a>                                     |
| <b>(description)</b>                 | Whether a value indicating whether touch feedback is enabled. |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>                              |
| <b>(static properties)</b>           |   |
| <b>Captured</b>                      | <a href="#">IInputElement</a>                                 |
| <b>(description)</b>                 | The element to which the stylus is bound.                     |
| <b>CurrentStylusDevice</b>           | StylusDevice  |
| <b>(description)</b>                 | The stylus that represents the stylus currently in use.       |
| <b>DirectlyOver</b>                  | <a href="#">IInputElement</a>                                 |
| <b>(description)</b>                 | The element that is directly beneath the stylus.              |
| <b>(attachable events)</b>           |   |
| <b>Stylus.GotStylusCapture</b>       | Occurs when an element captures the stylus events.            |

|  |   |
|--|---|
| (usage)                                  | {x:Static Stylus.StaticPropertyName}  |
| <b>Stylus.LostStylusCapture</b>          | Occurs when an element releases stylus events.  |
| <b>Stylus.PreviewStylusButtonDown</b>    | Occurs when the user presses one of the buttons on the stylus.                        |
| <b>Stylus.PreviewStylusButtonUp</b>      | Occurs when the user releases one of the buttons on the stylus.                       |
| <b>Stylus.PreviewStylusDown</b>          | Occurs when user touches the tip of the stylus to the tablet.                         |
| <b>Stylus.PreviewStylusInAirMove</b>     | Occurs if the stylus moves while it is within range of (but not touching) the tablet. |
| <b>Stylus.PreviewStylusInRange</b>       | Occurs when the stylus comes within range of the tablet.                              |
| <b>Stylus.PreviewStylusMove</b>          | Occurs when the stylus moves while it is touching the tablet.                         |
| <b>Stylus.PreviewStylusOutOfRange</b>    | Occurs when the stylus goes out of range of the tablet.                               |
| <b>Stylus.PreviewStylusSystemGesture</b> | Occurs when the user makes a system gesture with this stylus.                         |
| <b>Stylus.PreviewStylusUp</b>            | Occurs when the user lifts the stylus from the tablet.                                |
| <b>Stylus.StylusButtonDown</b>           | Occurs when the user presses one of the buttons on the stylus.                        |
| <b>Stylus.StylusButtonUp</b>             | Occurs when the user releases one of the buttons on the stylus.                       |
| <b>Stylus.StylusDown</b>                 | Occurs when the user touches the tip of the stylus to the tablet.                     |
| <b>Stylus.StylusEnter</b>                | Occurs when the stylus cursor enters the bounds of an element.                        |
| <b>Stylus.StylusInAirMove</b>            | Occurs when the stylus moves while it is in range of, but not touching, the tablet.   |
| <b>Stylus.StylusInRange</b>              | Occurs when the stylus comes within range of the tablet.                              |
| <b>Stylus.StylusLeave</b>                | Occurs when the stylus cursor leaves the bounds of an element.                        |
| <b>Stylus.StylusMove</b>                 | Occurs when the stylus moves while it is touching the tablet.                         |
| <b>Stylus.StylusOutOfRange</b>           | Occurs when the stylus goes out of range of the tablet.                               |
| <b>Stylus.StylusSystemGesture</b>        | Occurs when the user makes a system gesture with this stylus.                         |
| <b>Stylus.StylusUp</b>                   | Occurs when the user raises the stylus from the Tablet PC.                            |

#### 4.846 StylusButton

[x:Object](#) > StylusButton

|                      |  |
|----------------------|--|
| (usage)              | None.                                  |
| <b>(description)</b> | Represents a button on a stylus.       |
| <b>(used by)</b>     | <a href="#">StylusButtonCollection</a> |



|                                   |       |
|-----------------------------------|-------|
| (usage)                           | None. |
| <b>[is default constructible]</b> | false |

#### 4.847 StylusButtonCollection

[x:Object](#) > [ReadOnlyCollection\(StylusButton\)](#) > StylusButtonCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Contains a collection of StylusButton objects. |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">StylusButton</a>                   |

#### 4.848 StylusButtonState

[x:Object](#) > StylusButtonState

|                      |   |
|----------------------|---|
| (usage)              | <b>Up  Down</b>                         |
| <b>(description)</b> | Represents the state of a StylusButton. |
| <b>[is nullable]</b> | false                                   |
| <b>[text syntax]</b> | <a href="#">StylusButtonStateSyntax</a> |

#### 4.849 StylusDeviceCollection

[x:Object](#) > [ReadOnlyCollection\(StylusDevice\)](#) > StylusDeviceCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Contains the StylusDevice objects that represent a Tablet PC's stylus devices. |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | StylusDevice   |

#### 4.850 StylusPoint

[x:Object](#) > StylusPoint

|                      |   |
|----------------------|---|
| (usage)              | <StylusPoint />   |
| <b>(description)</b> | Represents a single data point collected from the digitizer and stylus. |

|                       |   |
|-----------------------|---|
| (usage)               | <StylusPoint />   |
| <b>(used by)</b>      | <a href="#">StylusPointCollection</a>   |
| <b>[is nullable]</b>  | false   |
| <b>(properties)</b>   |   |
| <b>Description</b>    | <a href="#">StylusPointDescription</a>  |
| <b>(description)</b>  | The StylusPointDescription that specifies the properties stored in the StylusPoint.   |
| <b>PressureFactor</b> | <a href="#">x:Single</a>  |
| <b>(description)</b>  | A value between 0 and 1 that reflects the amount of pressure the stylus applies to the digitizer's surface when the StylusPoint is created. |
| <b>X</b>              | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The value for the x-coordinate of the StylusPoint.  |
| <b>Y</b>              | <a href="#">x:Double</a>  |
| <b>(description)</b>  | The y-coordinate of the StylusPoint.  |

#### 4.851 StylusPointCollection

[x:Object](#) > [Collection\(StylusPoint\)](#) > StylusPointCollection

|                        |   |
|------------------------|---|
| (usage)                | <StylusPointCollection> <a href="#">StylusPoint</a> *</StylusPointCollection> |
| <b>(description)</b>   | Contains a collection of StylusPoint objects.                                 |
| <b>(used by)</b>       | <a href="#">Stroke</a>  |
| <b>[is list]</b>       | true  |
| <b>[allowed types]</b> | <a href="#">StylusPoint</a>   |
| <b>(events)</b>        |   |
| <b>Changed</b>         | Occurs when the StylusPointCollection changes.                                |

#### 4.852 StylusPointDescription

[x:Object](#) > StylusPointDescription

|                      |   |
|----------------------|---|
| (usage)              | <StylusPointDescription />                            |
| <b>(description)</b> | Specifies the properties that are in a StylusPoint.   |
| <b>(used by)</b>     | <a href="#">InkCanvas</a> <a href="#">StylusPoint</a> |

#### 4.853 StylusPointPropertyUnit

[x:Object](#) > StylusPointPropertyUnit

|                      |  |
|----------------------|--|
| (usage)              | <b>None  Inches  Centimeters  Degrees  Radians  Seconds  Pounds  Grams</b> |
| <b>(description)</b> | Specifies the unit of measurement for a StylusPoint property.              |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">StylusPointPropertyUnitSyntax</a>                              |

#### 4.854 StylusTip

[x:Object](#) > StylusTip

|                      |   |
|----------------------|---|
| (usage)              | <a href="#">Rectangle</a>   <a href="#">Ellipse</a> |
| <b>(description)</b> | Specifies the tip to be used to draw a Stroke.      |
| <b>(used by)</b>     | <a href="#">DrawingAttributes</a>                   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">StylusTipSyntax</a>                     |

#### 4.855 SweepDirection

[x:Object](#) > SweepDirection

|                      |   |
|----------------------|---|
| (usage)              | <b>Counterclockwise  Clockwise</b>                |
| <b>(description)</b> | Defines the direction an elliptical arc is drawn. |
| <b>(used by)</b>     | <a href="#">ArcSegment</a>                        |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">SweepDirectionSyntax</a>              |

#### 4.856 SystemColors

[x:Object](#) > SystemColors

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static SystemColors.StaticPropertyName}   |
| <b>(description)</b>              | Contains system colors, system brushes, and system resource keys that correspond to system display elements. |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>ActiveBorderBrush</b>          | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>              | A SolidColorBrush that is the color of the active window's border.   |
| <b>ActiveBorderBrushKey</b>       | <a href="#">ResourceKey</a>  |

|                                  |  |
|----------------------------------|--|
| (usage)                          | {x:Static SystemColors.StaticPropertyName}   |
| <b>(description)</b>             | The ResourceKey for the SolidColorBrush used to paint the active window's border.                      |
| <b>ActiveBorderColor</b>         | <a href="#">Color</a>  |
| <b>(description)</b>             | A Color structure that is the color of the active window's border.                                     |
| <b>ActiveBorderColorKey</b>      | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the Color of the active window's border.   |
| <b>ActiveCaptionBrush</b>        | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>             | A SolidColorBrush that is the color of the background of the active window's title bar.                |
| <b>ActiveCaptionBrushKey</b>     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the SolidColorBrush used to paint the background of the active window's title bar. |
| <b>ActiveCaptionColor</b>        | <a href="#">Color</a>  |
| <b>(description)</b>             | A Color structure that is the background color of the active window's title bar.                       |
| <b>ActiveCaptionColorKey</b>     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the background Color of the active window's title bar.                             |
| <b>ActiveCaptionTextBrush</b>    | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>             | A SolidColorBrush that is the color of the text in the active window's title bar.                      |
| <b>ActiveCaptionTextBrushKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the SolidColorBrush that paints the text in the active window's title bar.         |
| <b>ActiveCaptionTextColor</b>    | <a href="#">Color</a>  |
| <b>(description)</b>             | A Color structure that is the color of the text in the active window's title bar.                      |
| <b>ActiveCaptionTextColorKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the Color of the text in the active window's title bar.                            |
| <b>AppWorkspaceBrush</b>         | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>             | A SolidColorBrush that is the color of the application workspace.                                      |

|                             |  |
|-----------------------------|--|
| (usage)                     | {x:Static SystemColors.StaticPropertyName}   |
| <b>AppWorkspaceBrushKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the SolidColorBrush that paints the application workspace.                         |
| <b>AppWorkspaceColor</b>    | <a href="#">Color</a>  |
| <b>(description)</b>        | A Color structure that is the color of the application workspace.                                      |
| <b>AppWorkspaceColorKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the Color of the application workspace.  |
| <b>ControlBrush</b>         | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>        | A SolidColorBrush that is the face color of a three-dimensional display element.                       |
| <b>ControlBrushKey</b>      | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the SolidColorBrush that paints the face of a three-dimensional display element.   |
| <b>ControlColor</b>         | <a href="#">Color</a>  |
| <b>(description)</b>        | A Color structure that is the face color of a three-dimensional display element.                       |
| <b>ControlColorKey</b>      | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the face Color of a three-dimensional display element.                             |
| <b>ControlDarkBrush</b>     | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>        | A SolidColorBrush that is the shadow color of a three-dimensional display element.                     |
| <b>ControlDarkBrushKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the SolidColorBrush that paints the shadow of a three-dimensional display element. |
| <b>ControlDarkColor</b>     | <a href="#">Color</a>  |
| <b>(description)</b>        | A Color structure that is the shadow color of a three-dimensional display element.                     |
| <b>ControlDarkColorKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the shadow Color of a three-dimensional display element.                           |
| <b>ControlDarkDarkBrush</b> | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>        | A SolidColorBrush that is the dark shadow color of a three-  |

|                                  |   |
|----------------------------------|---|
| (usage)                          | {x:Static SystemColors.StaticPropertyName}  |
|                                  | dimensional display element.  |
| <b>ControlDarkDarkBrushKey</b>   | <a href="#">ResourceKey</a>   |
| <b>(description)</b>             | The ResourceKey for the SolidColorBrush that paints the dark shadow of a three-dimensional display element. |
| <b>ControlDarkDarkColor</b>      | <a href="#">Color</a>   |
| <b>(description)</b>             | A Color structure that is the dark shadow color of a three-dimensional display element.                     |
| <b>ControlDarkDarkColorKey</b>   | <a href="#">ResourceKey</a>   |
| <b>(description)</b>             | The ResourceKey for the dark shadow Color of the highlight color of a three-dimensional display element.    |
| <b>ControlLightBrush</b>         | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>             | A SolidColorBrush that is the light color of a three-dimensional display element.                           |
| <b>ControlLightBrushKey</b>      | <a href="#">ResourceKey</a>   |
| <b>(description)</b>             | The ResourceKey for the SolidColorBrush that paints the light area of a three-dimensional display element.  |
| <b>ControlLightColor</b>         | <a href="#">Color</a>   |
| <b>(description)</b>             | A Color structure that is the light color of a three-dimensional display element.                           |
| <b>ControlLightColorKey</b>      | <a href="#">ResourceKey</a>   |
| <b>(description)</b>             | The ResourceKey for the highlight Color of a three-dimensional display element.                             |
| <b>ControlLightLightBrush</b>    | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>             | A SolidColorBrush that is the highlight color of a three-dimensional display element.                       |
| <b>ControlLightLightBrushKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>             | The ResourceKey for the SolidColorBrush that paints the highlight of a three-dimensional display element.   |
| <b>ControlLightLightColor</b>    | <a href="#">Color</a>   |
| <b>(description)</b>             | A Color structure that is the highlight color of a three-dimensional display element.                       |
| <b>ControlLightLightColorKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>             | The ResourceKey for the highlight Color of a three-dimensional display element.                             |
| <b>ControlTextBrush</b>          | <a href="#">SolidColorBrush</a>   |

|                                      |  |
|--------------------------------------|--|
| (usage)                              | {x:Static SystemColors.StaticPropertyName}   |
| <b>(description)</b>                 | A SolidColorBrush that is the color of text in a three-dimensional display element.  |
| <b>ControlTextBrushKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                 | The ResourceKey for the SolidColorBrush that paints text in a three-dimensional display element.                             |
| <b>ControlTextColor</b>              | <a href="#">Color</a>  |
| <b>(description)</b>                 | A Color structure that is the color of text in a three-dimensional display element.  |
| <b>ControlTextColorKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                 | The ResourceKey for the Color of text in a three-dimensional display element.  |
| <b>DesktopBrush</b>                  | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>                 | A SolidColorBrush that is the color of the desktop.  |
| <b>DesktopBrushKey</b>               | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                 | The ResourceKey for the SolidColorBrush that paints the desktop.   |
| <b>DesktopColor</b>                  | <a href="#">Color</a>  |
| <b>(description)</b>                 | A Color structure that is the color of the desktop.  |
| <b>DesktopColorKey</b>               | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                 | The ResourceKey for the Color of the desktop.  |
| <b>GradientActiveCaptionBrush</b>    | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>                 | A SolidColorBrush that is the right side color in the gradient of an active window's title bar.                              |
| <b>GradientActiveCaptionBrushKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                 | The ResourceKey for the SolidColorBrush that is the color of the right side of the gradient of an active window's title bar. |
| <b>GradientActiveCaptionColor</b>    | <a href="#">Color</a>  |
| <b>(description)</b>                 | A Color structure that is the right side color in the gradient of an active window's title bar.                              |
| <b>GradientActiveCaptionColorKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                 | The ResourceKey for the right-side Color in the gradient of an active window's title bar.                                    |
| <b>GradientInactiveCaptionBrush</b>  | <a href="#">SolidColorBrush</a>  |

|  |  |
|--|--|
| (usage)                                | {x:Static SystemColors.StaticPropertyName}   |
| <b>(description)</b>                   | A SolidColorBrush that is the right side color in the gradient of an inactive window's title bar.                              |
| <b>GradientInactiveCaptionBrushKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the SolidColorBrush that is the color of the right side of the gradient of an inactive window's title bar. |
| <b>GradientInactiveCaptionColor</b>    | <a href="#">Color</a>  |
| <b>(description)</b>                   | A Color structure that is the right side color in the gradient of an inactive window's title bar.                              |
| <b>GradientInactiveCaptionColorKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the right-side Color in the gradient of an inactive window's title bar.                                    |
| <b>GrayTextBrush</b>                   | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>                   | A SolidColorBrush that is the color of disabled text.  |
| <b>GrayTextBrushKey</b>                | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the SolidColorBrush that paints disabled text.   |
| <b>GrayTextColor</b>                   | <a href="#">Color</a>  |
| <b>(description)</b>                   | A Color structure that is the color of disabled text.  |
| <b>GrayTextColorKey</b>                | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the Color of disabled text.  |
| <b>HighlightBrush</b>                  | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>                   | A SolidColorBrush that paints the background of selected items.  |
| <b>HighlightBrushKey</b>               | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the SolidColorBrush that paints the background of selected items.  |
| <b>HighlightColor</b>                  | <a href="#">Color</a>  |
| <b>(description)</b>                   | A Color structure that is the background color of selected items.  |
| <b>HighlightColorKey</b>               | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the background Color of selected items.  |
| <b>HighlightTextBrush</b>              | <a href="#">SolidColorBrush</a>  |



|                               |   |
|-------------------------------|---|
| (usage)                       | {x:Static SystemColors.StaticPropertyName}  |
| <b>(description)</b>          | A SolidColorBrush that is the color of the text of selected items.                    |
| <b>HighlightTextBrushKey</b>  | <a href="#">ResourceKey</a>   |
| <b>(description)</b>          | The ResourceKey for the SolidColorBrush that paints the text of selected items.       |
| <b>HighlightTextColor</b>     | <a href="#">Color</a>   |
| <b>(description)</b>          | A Color structure that is the color of the text of selected items.                    |
| <b>HighlightTextColorKey</b>  | <a href="#">ResourceKey</a>   |
| <b>(description)</b>          | The ResourceKey for the Color of a selected item's text.                              |
| <b>HotTrackBrush</b>          | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>          | A SolidColorBrush that is the color used to designate a hot-tracked item.             |
| <b>HotTrackBrushKey</b>       | <a href="#">ResourceKey</a>   |
| <b>(description)</b>          | The ResourceKey for the SolidColorBrush that paints hot-tracked items.                |
| <b>HotTrackColor</b>          | <a href="#">Color</a>   |
| <b>(description)</b>          | A Color structure that is the color used to designate a hot-tracked item.             |
| <b>HotTrackColorKey</b>       | <a href="#">ResourceKey</a>   |
| <b>(description)</b>          | The ResourceKey for the Color that designates a hot-tracked item.                     |
| <b>InactiveBorderBrush</b>    | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>          | A SolidColorBrush that is the color of an inactive window's border.                   |
| <b>InactiveBorderBrushKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>          | The ResourceKey for the SolidColorBrush that paints the border of an inactive window. |
| <b>InactiveBorderColor</b>    | <a href="#">Color</a>   |
| <b>(description)</b>          | A Color structure that is the color of an inactive window's border.                   |
| <b>InactiveBorderColorKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>          | The ResourceKey for the Color of an inactive window's border.                         |
| <b>InactiveCaptionBrush</b>   | <a href="#">SolidColorBrush</a>   |

|   |   |
|---|---|
| (usage)                                       | {x:Static SystemColors.StaticPropertyName}  |
| <b>(description)</b>                          | A SolidColorBrush that is the background color of an inactive window's title bar.                     |
| <b>InactiveCaptionBrushKey</b>                | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                          | The ResourceKey for the SolidColorBrush that paints the background of an inactive window's title bar. |
| <b>InactiveCaptionColor</b>                   | <a href="#">Color</a>   |
| <b>(description)</b>                          | A Color structure that is the background color of an inactive window's title bar.                     |
| <b>InactiveCaptionColorKey</b>                | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                          | The ResourceKey for the background Color of an inactive window's title bar.                           |
| <b>InactiveCaptionTextBrush</b>               | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>                          | A SolidColorBrush that is the color of the text of an inactive window's title bar.                    |
| <b>InactiveCaptionTextBrushKey</b>            | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                          | The ResourceKey for the SolidColorBrush that paints the text of an inactive window's title bar.       |
| <b>InactiveCaptionTextColor</b>               | <a href="#">Color</a>   |
| <b>(description)</b>                          | A Color structure that is the color of the text of an inactive window's title bar.                    |
| <b>InactiveCaptionTextColorKey</b>            | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                          | The ResourceKey for the Color of the text of an inactive window's title bar.                          |
| <b>InactiveSelectionHighlightBrush</b>        | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>                          |   |
| <b>InactiveSelectionHighlightBrushKey</b>     | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                          |   |
| <b>InactiveSelectionHighlightTextBrush</b>    | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>                          |   |
| <b>InactiveSelectionHighlightTextBrushKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                          |   |
| <b>InfoBrush</b>                              | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>                          | A SolidColorBrush that is the background color for the ToolTip control.                               |

|                         |  |
|-------------------------|--|
| (usage)                 | {x:Static SystemColors.StaticPropertyName}   |
| <b>InfoBrushKey</b>     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>    | The ResourceKey for the SolidColorBrush that paints the background of the ToolTip control. |
| <b>InfoColor</b>        | <a href="#">Color</a>  |
| <b>(description)</b>    | A Color structure that is the background color for the ToolTip control.                    |
| <b>InfoColorKey</b>     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>    | The ResourceKey for the background Color of the ToolTip control.                           |
| <b>InfoTextBrush</b>    | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>    | A SolidColorBrush that is the text color for the ToolTip control.                          |
| <b>InfoTextBrushKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>    | The ResourceKey for the SolidColorBrush that paints the text in a ToolTip control.         |
| <b>InfoTextColor</b>    | <a href="#">Color</a>  |
| <b>(description)</b>    | A Color structure that is the text color for the ToolTip control.                          |
| <b>InfoTextColorKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>    | The ResourceKey for the Color of the text in a ToolTip control.                            |
| <b>MenuBarBrush</b>     | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>    | A SolidColorBrush that is the background color for a menu bar.                             |
| <b>MenuBarBrushKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>    | The ResourceKey for the SolidColorBrush that paints the background of a menu bar.          |
| <b>MenuBarColor</b>     | <a href="#">Color</a>  |
| <b>(description)</b>    | A Color structure that is the background color for a menu bar.                             |
| <b>MenuBarColorKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>    | The ResourceKey for the background Color of a menu bar.                                    |
| <b>MenuBrush</b>        | <a href="#">SolidColorBrush</a>  |
| <b>(description)</b>    | A SolidColorBrush that is the color of a menu's background.                                |

|                              |   |
|------------------------------|---|
| (usage)                      | {x:Static SystemColors.StaticPropertyName}                                    |
| <b>MenuBrushKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>         | The ResourceKey for the SolidColorBrush that paints the background of a menu. |
| <b>MenuColor</b>             | <a href="#">Color</a>   |
| <b>(description)</b>         | A Color structure that is the color of a menu's background.                   |
| <b>MenuColorKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>         | The ResourceKey for the background Color of a menu.                           |
| <b>MenuHighlightBrush</b>    | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>         | A SolidColorBrush that is the color used to highlight a menu item.            |
| <b>MenuHighlightBrushKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>         | The ResourceKey for the SolidColorBrush that paints a highlighted menu item.  |
| <b>MenuHighlightColor</b>    | <a href="#">Color</a>   |
| <b>(description)</b>         | A Color structure that is the color used to highlight a menu item.            |
| <b>MenuHighlightColorKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>         | The ResourceKey for the background Color of a highlighted menu item.          |
| <b>MenuTextBrush</b>         | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>         | A SolidColorBrush that is the color of a menu's text.                         |
| <b>MenuTextBrushKey</b>      | <a href="#">ResourceKey</a>   |
| <b>(description)</b>         | The ResourceKey for the SolidColorBrush that paints a menu's text.            |
| <b>MenuTextColor</b>         | <a href="#">Color</a>   |
| <b>(description)</b>         | A Color structure that is the color of a menu's text.                         |
| <b>MenuTextColorKey</b>      | <a href="#">ResourceKey</a>   |
| <b>(description)</b>         | The ResourceKey for the Color of a menu's text.                               |
| <b>ScrollBarBrush</b>        | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>         | A SolidColorBrush that is the background color of a scroll bar.               |
| <b>ScrollBarBrushKey</b>     | <a href="#">ResourceKey</a>   |
| <b>(description)</b>         | The ResourceKey for the SolidColorBrush that paints the                       |

|                            |   |
|----------------------------|---|
| (usage)                    | {x:Static SystemColors.StaticPropertyName}  |
|                            | background of a scroll bar.   |
| <b>ScrollBarColor</b>      | <a href="#">Color</a>   |
| <b>(description)</b>       | A Color structure that is the background color of a scroll bar.                               |
| <b>ScrollBarColorKey</b>   | <a href="#">ResourceKey</a>   |
| <b>(description)</b>       | The ResourceKey for the background Color of a scroll bar.                                     |
| <b>WindowBrush</b>         | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>       | A SolidColorBrush that is the background color in the client area of a window.                |
| <b>WindowBrushKey</b>      | <a href="#">ResourceKey</a>   |
| <b>(description)</b>       | The ResourceKey for the SolidColorBrush that paints the background of a window's client area. |
| <b>WindowColor</b>         | <a href="#">Color</a>   |
| <b>(description)</b>       | A Color structure that is the background color in the client area of a window.                |
| <b>WindowColorKey</b>      | <a href="#">ResourceKey</a>   |
| <b>(description)</b>       | The ResourceKey for the background Color of a window's client area.                           |
| <b>WindowFrameBrush</b>    | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>       | A SolidColorBrush that is the color of a window frame.  |
| <b>WindowFrameBrushKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>       | The ResourceKey for the SolidColorBrush that paints a window frame.                           |
| <b>WindowFrameColor</b>    | <a href="#">Color</a>   |
| <b>(description)</b>       | A Color structure that is the color of a window frame.  |
| <b>WindowFrameColorKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>       | The ResourceKey for the Color of a window frame.  |
| <b>WindowTextBrush</b>     | <a href="#">SolidColorBrush</a>   |
| <b>(description)</b>       | A SolidColorBrush that is the color of the text in the client area of a window.               |
| <b>WindowTextBrushKey</b>  | <a href="#">ResourceKey</a>   |
| <b>(description)</b>       | The ResourceKey for the SolidColorBrush that paints the text in the client area of a window.  |
| <b>WindowTextColor</b>     | <a href="#">Color</a>   |

|                           |   |
|---------------------------|---|
| (usage)                   | {x:Static SystemColors.StaticPropertyName}                                      |
| <b>(description)</b>      | A Color structure that is the color of the text in the client area of a window. |
| <b>WindowTextColorKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>      | The ResourceKey for the Color of text in a window's client area.                |

#### 4.857 SystemCommands (4.5)

[x:Object](#) > SystemCommands

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static SystemCommands.StaticPropertyName}                  |
| <b>(description)</b>              | Defines routed commands that are common to window management. |
| <b>[is default constructible]</b> | false   |
| <b>(static properties)</b>        |   |
| <b>CloseWindowCommand</b>         | <a href="#">RoutedCommand</a>                                 |
| <b>(description)</b>              | A command that closes a window.                               |
| <b>MaximizeWindowCommand</b>      | <a href="#">RoutedCommand</a>                                 |
| <b>(description)</b>              | A command that maximizes a window.                            |
| <b>MinimizeWindowCommand</b>      | <a href="#">RoutedCommand</a>                                 |
| <b>(description)</b>              | A command that maximizes a window.                            |
| <b>RestoreWindowCommand</b>       | <a href="#">RoutedCommand</a>                                 |
| <b>(description)</b>              | A command that restores a window.                             |
| <b>ShowSystemMenuCommand</b>      | <a href="#">RoutedCommand</a>                                 |
| <b>(description)</b>              | A command that displays the system menu.                      |

#### 4.858 SystemFonts

[x:Object](#) > SystemFonts

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static SystemFonts.StaticPropertyName}                                |
| <b>(description)</b>              | Contains properties that expose the system resources that concern fonts. |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>CaptionFontFamily</b>          | <a href="#">FontFamily</a>   |

|                                      |   |
|--------------------------------------|---|
| (usage)                              | {x:Static SystemFonts.StaticPropertyName}   |
| <b>(description)</b>                 | The metric that determines the font family of the caption of the nonclient area of a nonminimized window. |
| <b>CaptionFontFamilyKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the CaptionFontFamily property.   |
| <b>CaptionFontSize</b>               | <a href="#">x:Double</a>  |
| <b>(description)</b>                 | The metric that determines the caption font-size for the nonclient area of a nonminimized window.         |
| <b>CaptionFontSizeKey</b>            | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the CaptionFontSize property.   |
| <b>CaptionFontStyle</b>              | <a href="#">FontStyle</a>   |
| <b>(description)</b>                 | The metric that determines the caption font-style for the nonclient area of a nonminimized window.        |
| <b>CaptionFontStyleKey</b>           | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the CaptionFontStyle property.  |
| <b>CaptionFontTextDecorations</b>    | <a href="#">TextDecorationCollection</a>  |
| <b>(description)</b>                 | The metric that determines the caption text-decorations for the nonclient area of a nonminimized window.  |
| <b>CaptionFontTextDecorationsKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the CaptionFontTextDecorations property.  |
| <b>CaptionFontWeight</b>             | <a href="#">FontWeight</a>  |
| <b>(description)</b>                 | The metric that determines the caption font-weight for the nonclient area of a nonminimized window.       |
| <b>CaptionFontWeightKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the CaptionFontWeight property.   |
| <b>IconFontFamily</b>                | <a href="#">FontFamily</a>  |
| <b>(description)</b>                 | The font family from the logical font information for the current icon-title font.                        |
| <b>IconFontFamilyKey</b>             | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the IconFontFamily property.  |
| <b>IconFontSize</b>                  | <a href="#">x:Double</a>  |
| <b>(description)</b>                 | The font size from the logical font information for the current icon-title font.                          |

|                                   |   |
|-----------------------------------|---|
| (usage)                           | {x:Static SystemFonts.StaticPropertyName}   |
| <b>IconFontSizeKey</b>            | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the IconFontSize property.  |
| <b>IconFontStyle</b>              | <a href="#">FontStyle</a>   |
| <b>(description)</b>              | The font style from the logical font information for the current icon-title font.       |
| <b>IconFontStyleKey</b>           | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the IconFontStyle property.   |
| <b>IconFontTextDecorations</b>    | <a href="#">TextDecorationCollection</a>  |
| <b>(description)</b>              | The text decorations from the logical font information for the current icon-title font. |
| <b>IconFontTextDecorationsKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the IconFontTextDecorations property.                               |
| <b>IconFontWeight</b>             | <a href="#">FontWeight</a>  |
| <b>(description)</b>              | The font weight from the logical font information for the current icon-title font.      |
| <b>IconFontWeightKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the IconFontWeight property.  |
| <b>MenuFontFamily</b>             | <a href="#">FontFamily</a>  |
| <b>(description)</b>              | The metric that determines the font family for menu text.                               |
| <b>MenuFontFamilyKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MenuFontFamily property.  |
| <b>MenuFontSize</b>               | <a href="#">x:Double</a>  |
| <b>(description)</b>              | The metric that determines the font size of menu text.                                  |
| <b>MenuFontSizeKey</b>            | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MenuFontSize property.  |
| <b>MenuFontStyle</b>              | <a href="#">FontStyle</a>   |
| <b>(description)</b>              | The metric that determines the font style for menu text.                                |
| <b>MenuFontStyleKey</b>           | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MenuFontStyle property.   |
| <b>MenuFontTextDecorations</b>    | <a href="#">TextDecorationCollection</a>  |
| <b>(description)</b>              | The metric that determines the text decorations for menu                                |



|                                      |  |
|--------------------------------------|--|
| (usage)                              | {x:Static SystemFonts.StaticPropertyName}                        |
|                                      | text.  |
| <b>MenuFontTextDecorationsKey</b>    | <a href="#">ResourceKey</a>                                      |
| <b>(description)</b>                 | The ResourceKey for the MenuFontTextDecorations property.        |
| <b>MenuFontWeight</b>                | <a href="#">FontWeight</a>                                       |
| <b>(description)</b>                 | The metric that determines the font weight for menu text.        |
| <b>MenuFontWeightKey</b>             | <a href="#">ResourceKey</a>                                      |
| <b>(description)</b>                 | The ResourceKey for the MenuFontWeight property.                 |
| <b>MessageFontFamily</b>             | <a href="#">FontFamily</a>                                       |
| <b>(description)</b>                 | The metric that determines the font family for message box text. |
| <b>MessageFontFamilyKey</b>          | <a href="#">ResourceKey</a>                                      |
| <b>(description)</b>                 | The ResourceKey for the MessageFontFamily property.              |
| <b>MessageFontSize</b>               | <a href="#">x:Double</a>   |
| <b>(description)</b>                 | The metric that determines the font size of message box text.    |
| <b>MessageFontSizeKey</b>            | <a href="#">ResourceKey</a>                                      |
| <b>(description)</b>                 | The ResourceKey for the MessageFontSize property.                |
| <b>MessageFontStyle</b>              | <a href="#">FontStyle</a>  |
| <b>(description)</b>                 | The metric that determines the font style for message box text.  |
| <b>MessageFontStyleKey</b>           | <a href="#">ResourceKey</a>                                      |
| <b>(description)</b>                 | The ResourceKey for the MessageFontStyle property.               |
| <b>MessageFontTextDecorations</b>    | <a href="#">TextDecorationCollection</a>                         |
| <b>(description)</b>                 | The metric that determines the decorations for message box text. |
| <b>MessageFontTextDecorationsKey</b> | <a href="#">ResourceKey</a>                                      |
| <b>(description)</b>                 | The ResourceKey for the MessageFontTextDecorations property.     |
| <b>MessageFontWeight</b>             | <a href="#">FontWeight</a>                                       |
| <b>(description)</b>                 | The metric that determines the font weight for message box text. |
| <b>MessageFontWeightKey</b>          | <a href="#">ResourceKey</a>                                      |
| <b>(description)</b>                 | The ResourceKey for the MessageFontWeight property.              |

|   |  |
|---|--|
| (usage)                                   | {x:Static SystemFonts.StaticPropertyName}  |
| <b>SmallCaptionFontFamily</b>             | <a href="#">FontFamily</a>   |
| <b>(description)</b>                      | The metric that determines the font family of the small-caption text for the nonclient area of a nonminimized window.                    |
| <b>SmallCaptionFontFamilyKey</b>          | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                      | The ResourceKey for the SmallCaptionFontFamily property.   |
| <b>SmallCaptionFontSize</b>               | <a href="#">x:Double</a>   |
| <b>(description)</b>                      | The metric that determines the font size of the small-caption text for the nonclient area of a nonminimized window.                      |
| <b>SmallCaptionFontSizeKey</b>            | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                      | The ResourceKey for the SmallCaptionFontSize property.   |
| <b>SmallCaptionFontStyle</b>              | <a href="#">FontStyle</a>  |
| <b>(description)</b>                      | The metric that determines the font style of the small-caption text for the nonclient area of a nonminimized window.                     |
| <b>SmallCaptionFontStyleKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                      | The ResourceKey for the SmallCaptionFontStyle property.  |
| <b>SmallCaptionFontTextDecorations</b>    | <a href="#">TextDecorationCollection</a>   |
| <b>(description)</b>                      | The metric that determines the decorations of the small-caption text for the nonclient area of a nonminimized window.                    |
| <b>SmallCaptionFontTextDecorationsKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                      | The ResourceKey for the SmallCaptionFontTextDecorations property.  |
| <b>SmallCaptionFontWeight</b>             | <a href="#">FontWeight</a>   |
| <b>(description)</b>                      | The metric that determines the font weight of the small-caption text for the nonclient area of a nonminimized window.                    |
| <b>SmallCaptionFontWeightKey</b>          | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                      | The ResourceKey for the SmallCaptionFontWeight property.   |
| <b>StatusFontFamily</b>                   | <a href="#">FontFamily</a>   |
| <b>(description)</b>                      | The metric that determines the font family of the text used in status bars and ToolTips for the nonclient area of a nonminimized window. |
| <b>StatusFontFamilyKey</b>                | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                      | The ResourceKey for the StatusFontFamily property.   |
| <b>StatusFontSize</b>                     | <a href="#">x:Double</a>   |

|                                     |  |
|-------------------------------------|--|
| (usage)                             | {x:Static SystemFonts.StaticPropertyName}  |
| <b>(description)</b>                | The metric that determines the font size of the text used in status bars and ToolTips for the nonclient area of a nonminimized window.   |
| <b>StatusFontSizeKey</b>            | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                | The ResourceKey for the StatusFontSize property.   |
| <b>StatusFontStyle</b>              | <a href="#">FontStyle</a>  |
| <b>(description)</b>                | The metric that determines the font style of the text used in status bars and ToolTips for the nonclient area of a nonminimized window.  |
| <b>StatusFontStyleKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                | The ResourceKey for the StatusFontStyle property.  |
| <b>StatusFontTextDecorations</b>    | <a href="#">TextDecorationCollection</a>   |
| <b>(description)</b>                | The metric that determines the decorations of the text used in status bars and ToolTips for the nonclient area of a nonminimized window. |
| <b>StatusFontTextDecorationsKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                | The ResourceKey for the StatusFontTextDecorations property.  |
| <b>StatusFontWeight</b>             | <a href="#">FontWeight</a>   |
| <b>(description)</b>                | The metric that determines the font weight of the text used in status bars and ToolTips for the nonclient area of a nonminimized window. |
| <b>StatusFontWeightKey</b>          | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                | The ResourceKey for the StatusFontWeight property.   |

#### 4.859 SystemGesture

[x:Object](#) > SystemGesture

|                      |  |
|----------------------|--|
| (usage)              | <b>None  Tap  RightTap  Drag  RightDrag  HoldEnter  HoverEnter  HoverLeave  Flick...</b> |
| <b>(description)</b> | Defines the available system gestures.   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">SystemGestureSyntax</a>  |

#### 4.860 SystemParameters

[x:Object](#) > SystemParameters

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static SystemParameters.StaticPropertyName}   |
| <b>(description)</b>              | Contains properties that you can use to query system settings.                                 |
| <b>[is default constructible]</b> | false  |
| <b>(static properties)</b>        |  |
| <b>Border</b>                     | <a href="#">x:Int32</a>  |
| <b>(description)</b>              | The border multiplier factor that determines the width of a window's sizing border.            |
| <b>BorderKey</b>                  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>              | The ResourceKey for the Border property.   |
| <b>BorderWidth</b>                | <a href="#">x:Double</a>   |
| <b>(description)</b>              | The metric that determines the border width of the nonclient area of a nonminimized window.    |
| <b>BorderWidthKey</b>             | <a href="#">ResourceKey</a>  |
| <b>(description)</b>              | The ResourceKey for the BorderWidth property.  |
| <b>CaptionHeight</b>              | <a href="#">x:Double</a>   |
| <b>(description)</b>              | The metric that determines the caption height for the nonclient area of a nonminimized window. |
| <b>CaptionHeightKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>              | The ResourceKey for the CaptionHeight property.  |
| <b>CaptionWidth</b>               | <a href="#">x:Double</a>   |
| <b>(description)</b>              | The metric that determines the caption width for the nonclient area of a nonminimized window.  |
| <b>CaptionWidthKey</b>            | <a href="#">ResourceKey</a>  |
| <b>(description)</b>              | The ResourceKey for the CaptionWidth property.   |
| <b>CaretWidth</b>                 | <a href="#">x:Double</a>   |
| <b>(description)</b>              | The caret width, in pixels, for edit controls.   |
| <b>CaretWidthKey</b>              | <a href="#">ResourceKey</a>  |
| <b>(description)</b>              | The ResourceKey for the CaretWidth property.   |
| <b>ClientAreaAnimation</b>        | <a href="#">x:Boolean</a>  |
| <b>(description)</b>              | A value indicating whether the client area animation feature is enabled.                       |
| <b>ClientAreaAnimationKey</b>     | <a href="#">ResourceKey</a>  |

|                                  |  |
|----------------------------------|--|
| (usage)                          | {x:Static SystemParameters.StaticPropertyName}                               |
| <b>(description)</b>             | A ResourceKey for the ClientAreaAnimation property.                          |
| <b>ComboBoxAnimation</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value indicating whether the slide-open effect for combo boxes is enabled. |
| <b>ComboBoxAnimationKey</b>      | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the ComboBoxAnimation property.                          |
| <b>ComboBoxPopupAnimation</b>    | <a href="#">PopupAnimation</a>   |
| <b>(description)</b>             | The system value of the PopupAnimation property for combo boxes.             |
| <b>ComboBoxPopupAnimationKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the ComboBoxPopupAnimation property.                     |
| <b>CursorHeight</b>              | <a href="#">x:Double</a>   |
| <b>(description)</b>             | The height, in pixels, of a cursor.  |
| <b>CursorHeightKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the CursorHeight property.                               |
| <b>CursorShadow</b>              | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value indicating whether the cursor has a shadow around it.                |
| <b>CursorShadowKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the CursorShadow property.                               |
| <b>CursorWidth</b>               | <a href="#">x:Double</a>   |
| <b>(description)</b>             | The width, in pixels, of a cursor.   |
| <b>CursorWidthKey</b>            | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the CursorWidth property.                                |
| <b>DragFullWindows</b>           | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value indicating whether dragging of full windows is enabled.              |
| <b>DragFullWindowsKey</b>        | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the DragFullWindows property.                            |
| <b>DropShadow</b>                | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value indicating whether the drop shadow effect is                         |

|  |   |
|--|---|
| (usage)                                    | {x:Static SystemParameters.StaticPropertyName}                              |
|  | enabled.  |
| <b>DropShadowKey</b>                       | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                       | The ResourceKey for the DropShadow property.                                |
| <b>FixedFrameHorizontalBorderHeight</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The height of the horizontal border of the frame around a window.           |
| <b>FixedFrameHorizontalBorderHeightKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                       | The ResourceKey for the FixedFrameHorizontalBorderHeight property.          |
| <b>FixedFrameVerticalBorderWidth</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The width of the vertical border of the frame around a window.              |
| <b>FixedFrameVerticalBorderWidthKey</b>    | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                       | The ResourceKey for the FixedFrameVerticalBorderWidth property.             |
| <b>FlatMenu</b>                            | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                       | A value indicating whether native menus appear as a flat menu.              |
| <b>FlatMenuKey</b>                         | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                       | The ResourceKey for the FlatMenu property.                                  |
| <b>FocusBorderHeight</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The height, in pixels, of the upper and lower edges of the focus rectangle. |
| <b>FocusBorderHeightKey</b>                | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                       | The ResourceKey for the FocusBorderHeight property.                         |
| <b>FocusBorderWidth</b>                    | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The width, in pixels, of the left and right edges of the focus rectangle.   |
| <b>FocusBorderWidthKey</b>                 | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                       | The ResourceKey for the FocusBorderWidth property.                          |
| <b>FocusHorizontalBorderHeight</b>         | <a href="#">x:Double</a>  |
| <b>(description)</b>                       | The height of the upper and lower edges of the focus rectangle.             |
| <b>FocusHorizontalBorderHeightKey</b>      | <a href="#">ResourceKey</a>   |

|                                    |  |
|------------------------------------|--|
| (usage)                            | {x:Static SystemParameters.StaticPropertyName}   |
| <b>(description)</b>               | The ResourceKey for the FocusHorizontalBorderHeight property.  |
| <b>FocusVerticalBorderWidth</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b>               | The width of the left and right edges of the focus rectangle.  |
| <b>FocusVerticalBorderWidthKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>               | The ResourceKey for the FocusVerticalBorderWidth property.   |
| <b>FocusVisualStyleKey</b>         | <a href="#">ResourceKey</a>  |
| <b>(description)</b>               | The ResourceKey for the FocusVisualStyle property.   |
| <b>ForegroundFlashCount</b>        | <a href="#">x:Int32</a>  |
| <b>(description)</b>               | The number of times the Set Foreground Window flashes the taskbar button when rejecting a foreground switch request. |
| <b>ForegroundFlashCountKey</b>     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>               | The ResourceKey for the ForegroundFlashCount property.   |
| <b>FullPrimaryScreenHeight</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b>               | The height, in pixels, of the client area for a full-screen window on the primary display monitor.                   |
| <b>FullPrimaryScreenHeightKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>               | The ResourceKey for the FullPrimaryScreenHeight property.  |
| <b>FullPrimaryScreenWidth</b>      | <a href="#">x:Double</a>   |
| <b>(description)</b>               | The width, in pixels, of the client area for a full-screen window on the primary display monitor.                    |
| <b>FullPrimaryScreenWidthKey</b>   | <a href="#">ResourceKey</a>  |
| <b>(description)</b>               | The ResourceKey for the FullPrimaryScreenWidth property.   |
| <b>GradientCaptions</b>            | <a href="#">x:Boolean</a>  |
| <b>(description)</b>               | A value indicating whether the gradient effect for window title bars is enabled.                                     |
| <b>GradientCaptionsKey</b>         | <a href="#">ResourceKey</a>  |
| <b>(description)</b>               | The ResourceKey for the GradientCaptions property.   |
| <b>HighContrast</b>                | <a href="#">x:Boolean</a>  |
| <b>(description)</b>               | Information about the High Contrast accessibility feature.   |

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| (usage)                                  | {x:Static SystemParameters.StaticPropertyName}   |
| <b>HighContrastKey</b>                   | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the HighContrast property.   |
| <b>HorizontalScrollBarButtonWidth</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | The width, in pixels, of the arrow bitmap on a horizontal scroll bar.  |
| <b>HorizontalScrollBarButtonWidthKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the HorizontalScrollBarButtonWidth property.   |
| <b>HorizontalScrollBarHeight</b>         | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | The height of a horizontal scroll bar, in pixels.  |
| <b>HorizontalScrollBarHeightKey</b>      | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the HorizontalScrollBarHeight property.  |
| <b>HorizontalScrollBarThumbWidth</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | The width, in pixels, of the Thumb in a horizontal scroll bar.   |
| <b>HorizontalScrollBarThumbWidthKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the HorizontalScrollBarThumbWidth property.  |
| <b>HotTracking</b>                       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value indicating whether hot tracking of user-interface elements, such as menu names on menu bars, is enabled. |
| <b>HotTrackingKey</b>                    | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the HotTracking property.  |
| <b>IconGridHeight</b>                    | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | The height of a grid in which a large icon will fit.   |
| <b>IconGridHeightKey</b>                 | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the IconGridHeight property.   |
| <b>IconGridWidth</b>                     | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | The width of a grid that a large icon will fit into.   |
| <b>IconGridWidthKey</b>                  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the IconGridWidth property.  |



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| (usage)                         | {x:Static SystemParameters.StaticPropertyName}  |
| <b>IconHeight</b>               | <a href="#">x:Double</a>  |
| <b>(description)</b>            | The default height of an icon.  |
| <b>IconHeightKey</b>            | <a href="#">ResourceKey</a>   |
| <b>(description)</b>            | The ResourceKey for the IconHeight property.  |
| <b>IconHorizontalSpacing</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>            | The width, in pixels, of an icon cell. The system uses this rectangle to arrange icons in large icon view.                    |
| <b>IconHorizontalSpacingKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>            | The ResourceKey for the IconHorizontalSpacing property.   |
| <b>IconTitleWrap</b>            | <a href="#">x:Boolean</a>   |
| <b>(description)</b>            | A value indicating whether icon-title wrapping is enabled.  |
| <b>IconTitleWrapKey</b>         | <a href="#">ResourceKey</a>   |
| <b>(description)</b>            | The ResourceKey for the IconTitleWrap property.   |
| <b>IconVerticalSpacing</b>      | <a href="#">x:Double</a>  |
| <b>(description)</b>            | The height, in pixels, of an icon cell. The system uses this rectangle to arrange icons in large icon view.                   |
| <b>IconVerticalSpacingKey</b>   | <a href="#">ResourceKey</a>   |
| <b>(description)</b>            | The ResourceKey for the IconVerticalSpacing property.   |
| <b>IconWidth</b>                | <a href="#">x:Double</a>  |
| <b>(description)</b>            | The default width of an icon.   |
| <b>IconWidthKey</b>             | <a href="#">ResourceKey</a>   |
| <b>(description)</b>            | The ResourceKey for the IconWidth property.   |
| <b>IsGlassEnabled (4.5)</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>            | A value that indicates whether glass window frames are being used.  |
| <b>IsImmEnabled</b>             | <a href="#">x:Boolean</a>   |
| <b>(description)</b>            | A value that indicates whether the system is ready to use a Unicode-based Input Method Editor (IME) on a Unicode application. |
| <b>IsImmEnabledKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>            | The ResourceKey for the IsImmEnabled property.  |
| <b>IsMediaCenter</b>            | <a href="#">x:Boolean</a>   |

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| (usage)                          | {x:Static SystemParameters.StaticPropertyName}   |
| <b>(description)</b>             | A value that indicates whether the current system is a media center.                               |
| <b>IsMediaCenterKey</b>          | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the IsMediaCenter property.  |
| <b>IsMenuDropRightAligned</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether drop-down menus are right-aligned with the corresponding menu item. |
| <b>IsMenuDropRightAlignedKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the IsMenuDropRightAligned property.   |
| <b>IsMiddleEastEnabled</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether the system is enabled for Hebrew and Arabic languages.              |
| <b>IsMiddleEastEnabledKey</b>    | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the IsMiddleEastEnabled property.  |
| <b>IsMousePresent</b>            | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether a mouse is installed.   |
| <b>IsMousePresentKey</b>         | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the IsMousePresent property.   |
| <b>IsMouseWheelPresent</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether the installed mouse has a vertical scroll wheel.                    |
| <b>IsMouseWheelPresentKey</b>    | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the IsMouseWheelPresent property.  |
| <b>IsPenWindows</b>              | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether a pen system is installed.  |
| <b>IsPenWindowsKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>             | The ResourceKey for the IsPenWindows property.   |
| <b>IsRemotelyControlled</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether the current session is remotely controlled.                         |
| <b>IsRemotelyControlledKey</b>   | <a href="#">ResourceKey</a>  |

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| (usage)                     | {x:Static SystemParameters.StaticPropertyName}   |
| <b>(description)</b>        | The ResourceKey for the IsRemotelyControlled property.   |
| <b>IsRemoteSession</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>        | A value that indicates whether the calling process is associated with a Terminal Services client session.  |
| <b>IsRemoteSessionKey</b>   | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the IsRemoteSession property.  |
| <b>IsSlowMachine</b>        | <a href="#">x:Boolean</a>  |
| <b>(description)</b>        | A value that indicates whether the computer has a low-end (slow) processor.  |
| <b>IsSlowMachineKey</b>     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the IsSlowMachine property.  |
| <b>IsTabletPC</b>           | <a href="#">x:Boolean</a>  |
| <b>(description)</b>        | A value that indicates whether the current system is a tablet.   |
| <b>IsTabletPCKey</b>        | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the IsTabletPC property.   |
| <b>KanjiWindowHeight</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b>        | A value that indicates the height, in pixels, of the kanji window at the bottom of the screen for systems that use double-byte characters.               |
| <b>KanjiWindowHeightKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the KanjiWindowHeight property.  |
| <b>KeyboardCues</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>        | A value indicating whether menu access keys are always underlined.   |
| <b>KeyboardCuesKey</b>      | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the KeyboardCues property.   |
| <b>KeyboardDelay</b>        | <a href="#">x:Int32</a>  |
| <b>(description)</b>        | The keyboard repeat-delay setting, which is a value in the range from 0 (approximately 250 milliseconds delay) through 3 (approximately 1 second delay). |
| <b>KeyboardDelayKey</b>     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>        | The ResourceKey for the KeyboardDelay property.  |

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| (usage)                                | {x:Static SystemParameters.StaticPropertyName}   |
| <b>KeyboardPreference</b>              | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value indicating whether the user relies on the keyboard instead of the mouse, and whether the user wants applications to display keyboard interfaces that are typically hidden. |
| <b>KeyboardPreferenceKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the KeyboardPreference property.   |
| <b>KeyboardSpeed</b>                   | <a href="#">x:Int32</a>  |
| <b>(description)</b>                   | The keyboard repeat-speed setting, which is a value in the range from 0 (approximately 2.5 repetitions per second) through 31 (approximately 30 repetitions per second).           |
| <b>KeyboardSpeedKey</b>                | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the KeyboardSpeed property.  |
| <b>ListBoxSmoothScrolling</b>          | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | A value indicating whether the smooth-scrolling effect for list boxes is enabled.  |
| <b>ListBoxSmoothScrollingKey</b>       | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the ListBoxSmoothScrolling property.   |
| <b>MaximizedPrimaryScreenHeight</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b>                   | A value that indicates the height, in pixels, of a maximized top-level window on the primary display monitor.  |
| <b>MaximizedPrimaryScreenHeightKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the MaximizedPrimaryScreenHeight property.   |
| <b>MaximizedPrimaryScreenWidth</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b>                   | A value that indicates the width, in pixels, of a maximized top-level window on the primary display monitor.   |
| <b>MaximizedPrimaryScreenWidthKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the MaximizedPrimaryScreenWidth property.  |
| <b>MaximumWindowTrackHeight</b>        | <a href="#">x:Double</a>   |
| <b>(description)</b>                   | A value that indicates the maximum height, in pixels, of a window that has a caption and sizing borders.   |
| <b>MaximumWindowTrackHeightKey</b>     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                   | The ResourceKey for the MaximumWindowTrackHeight   |

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|-----------------------------------|---|
| (usage)                           | {x:Static SystemParameters.StaticPropertyName}  |
|                                   | property.   |
| <b>MaximumWindowTrackWidth</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>              | A value that indicates the maximum width, in pixels, of a window that has a caption and sizing borders. |
| <b>MaximumWindowTrackWidthKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MaximumWindowTrackWidth property.   |
| <b>MenuAnimation</b>              | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value indicating whether the menu animation feature is enabled.                                       |
| <b>MenuAnimationKey</b>           | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MenuAnimation property.   |
| <b>MenuBarHeight</b>              | <a href="#">x:Double</a>  |
| <b>(description)</b>              | A value that indicates the height, in pixels, of a single-line menu bar.                                |
| <b>MenuBarHeightKey</b>           | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MenuBarHeight property.   |
| <b>MenuButtonHeight</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>              | A value that indicates the height, in pixels, of a menu bar button.                                     |
| <b>MenuButtonHeightKey</b>        | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MenuButtonHeight property.  |
| <b>MenuButtonWidth</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>              | A value that indicates the width, in pixels, of a menu bar button.                                      |
| <b>MenuButtonWidthKey</b>         | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MenuButtonWidth property.   |
| <b>MenuCheckmarkHeight</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b>              | A value that indicates the height, in pixels, of the default menu check-mark bitmap.                    |
| <b>MenuCheckmarkHeightKey</b>     | <a href="#">ResourceKey</a>   |
| <b>(description)</b>              | The ResourceKey for the MenuCheckmarkHeight property.   |
| <b>MenuCheckmarkWidth</b>         | <a href="#">x:Double</a>  |

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| (usage)                      | {x:Static SystemParameters.StaticPropertyName}   |
| <b>(description)</b>         | A value that indicates the width, in pixels, of the default menu check-mark bitmap.  |
| <b>MenuCheckmarkWidthKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>         | The ResourceKey for the MenuCheckmarkWidth property.   |
| <b>MenuDropAlignment</b>     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value indicating whether pop-up menus are left-aligned or right-aligned, relative to the corresponding menu item.              |
| <b>MenuDropAlignmentKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>         | The ResourceKey for the MenuDropAlignment property.  |
| <b>MenuFade</b>              | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value indicating whether menu fade animation is enabled.   |
| <b>MenuFadeKey</b>           | <a href="#">ResourceKey</a>  |
| <b>(description)</b>         | The ResourceKey for the MenuFade property.   |
| <b>MenuHeight</b>            | <a href="#">x:Double</a>   |
| <b>(description)</b>         | The metric that determines the height of the menu.   |
| <b>MenuHeightKey</b>         | <a href="#">ResourceKey</a>  |
| <b>(description)</b>         | The ResourceKey for the MenuHeight property.   |
| <b>MenuPopupAnimation</b>    | <a href="#">PopupAnimation</a>   |
| <b>(description)</b>         | The system value of the PopupAnimation property for menus.   |
| <b>MenuPopupAnimationKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>         | The ResourceKey for the MenuPopupAnimation property.   |
| <b>MenuShowDelay</b>         | <a href="#">x:Int32</a>  |
| <b>(description)</b>         | The time, in milliseconds, that the system waits before displaying a shortcut menu when the mouse cursor is over a submenu item. |
| <b>MenuShowDelayKey</b>      | <a href="#">ResourceKey</a>  |
| <b>(description)</b>         | The ResourceKey for the MenuShowDelay property.  |
| <b>MenuWidth</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b>         | The metric that determines the width of the menu.  |
| <b>MenuWidthKey</b>          | <a href="#">ResourceKey</a>  |

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| (usage)                              | {x:Static SystemParameters.StaticPropertyName}  |
| <b>(description)</b>                 | The ResourceKey for the MenuWidth property.   |
| <b>MinimizeAnimation</b>             | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                 | The animation effects associated with user actions.   |
| <b>MinimizeAnimationKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the MinimizeAnimation property.   |
| <b>MinimizedGridHeight</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>                 | A value that indicates the height, in pixels, of a grid cell for a minimized window.  |
| <b>MinimizedGridHeightKey</b>        | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the MinimizedGridHeight property.   |
| <b>MinimizedGridWidth</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>                 | A value that indicates the width, in pixels, of a grid cell for a minimized window.   |
| <b>MinimizedGridWidthKey</b>         | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the MinimizedGridWidth property.  |
| <b>MinimizedWindowHeight</b>         | <a href="#">x:Double</a>  |
| <b>(description)</b>                 | A value that indicates the height, in pixels, of a minimized window.  |
| <b>MinimizedWindowHeightKey</b>      | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the MinimizedWindowHeight property.   |
| <b>MinimizedWindowWidth</b>          | <a href="#">x:Double</a>  |
| <b>(description)</b>                 | A value that indicates the width, in pixels, of a minimized window.   |
| <b>MinimizedWindowWidthKey</b>       | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                 | The ResourceKey for the MinimizedWindowWidth property.  |
| <b>MinimumHorizontalDragDistance</b> | <a href="#">x:Double</a>  |
| <b>(description)</b>                 | The width of a rectangle centered on a drag point to allow for limited movement of the mouse pointer before a drag operation begins.  |
| <b>MinimumVerticalDragDistance</b>   | <a href="#">x:Double</a>  |
| <b>(description)</b>                 | The height of a rectangle centered on a drag point to allow for limited movement of the mouse pointer before a drag operation begins. |

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| (usage)                            | {x:Static SystemParameters.StaticPropertyName}  |
| <b>MinimumWindowHeight</b>         | <a href="#">x:Double</a>  |
| <b>(description)</b>               | A value that indicates the minimum height, in pixels, of a window.  |
| <b>MinimumWindowHeightKey</b>      | <a href="#">ResourceKey</a>   |
| <b>(description)</b>               | The ResourceKey for the MinimumWindowHeight property.   |
| <b>MinimumWindowTrackHeight</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>               | A value that indicates the minimum tracking height of a window, in pixels.  |
| <b>MinimumWindowTrackHeightKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>               | The ResourceKey for the MinimumWindowTrackHeight property.  |
| <b>MinimumWindowTrackWidth</b>     | <a href="#">x:Double</a>  |
| <b>(description)</b>               | A value that indicates the minimum tracking width of a window, in pixels.   |
| <b>MinimumWindowTrackWidthKey</b>  | <a href="#">ResourceKey</a>   |
| <b>(description)</b>               | The ResourceKey for the MinimumWindowTrackWidth property.   |
| <b>MinimumWindowWidth</b>          | <a href="#">x:Double</a>  |
| <b>(description)</b>               | A value that indicates the minimum width, in pixels, of a window.   |
| <b>MinimumWindowWidthKey</b>       | <a href="#">ResourceKey</a>   |
| <b>(description)</b>               | The ResourceKey for the MinimumWindowWidth property.  |
| <b>MouseHoverHeight</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>               | The height, in pixels, of the rectangle within which the mouse pointer has to stay to generate a mouse-hover event.   |
| <b>MouseHoverHeightKey</b>         | <a href="#">ResourceKey</a>   |
| <b>(description)</b>               | The ResourceKey for the MouseHoverHeight property.  |
| <b>MouseHoverTime</b>              | <a href="#">x:TimeSpan</a>  |
| <b>(description)</b>               | The time, in milliseconds, that the mouse pointer must remain in the hover rectangle to generate a mouse-hover event. |
| <b>MouseHoverTimeKey</b>           | <a href="#">ResourceKey</a>   |
| <b>(description)</b>               | The ResourceKey for the MouseHoverTime property.  |



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| (usage)                                     | {x:Static SystemParameters.StaticPropertyName}  |
| <b>MouseHoverWidth</b>                      | <a href="#">x:Double</a>  |
| <b>(description)</b>                        | The width, in pixels, of the rectangle within which the mouse pointer has to stay to generate a mouse-hover event.                              |
| <b>MouseHoverWidthKey</b>                   | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                        | The ResourceKey for the MouseHoverWidth property.   |
| <b>NavigationChromeDownLevelStyleKey</b>    | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                        | The ResourceKey for the NavigationChromeDownLevelStyleKey property.   |
| <b>NavigationChromeStyleKey</b>             | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                        | The ResourceKey for the NavigationChromeStyleKey property.  |
| <b>PowerLineStatus</b>                      | <a href="#">PowerLineStatus</a>   |
| <b>(description)</b>                        | A value indicating whether the system power is online, or that the system power status is unknown.  |
| <b>PowerLineStatusKey</b>                   | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                        | A ResourceKey for the PowerLineStatus property.   |
| <b>PrimaryScreenHeight</b>                  | <a href="#">x:Double</a>  |
| <b>(description)</b>                        | A value that indicates the screen height, in pixels, of the primary display monitor.  |
| <b>PrimaryScreenHeightKey</b>               | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                        | The ResourceKey for the PrimaryScreenHeight property.   |
| <b>PrimaryScreenWidth</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>                        | A value that indicates the screen width, in pixels, of the primary display monitor.   |
| <b>PrimaryScreenWidthKey</b>                | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                        | The ResourceKey for the PrimaryScreenWidth property.  |
| <b>ResizeFrameHorizontalBorderHeight</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>                        | A value that indicates the height (thickness), in pixels, of the horizontal sizing border around the perimeter of a window that can be resized. |
| <b>ResizeFrameHorizontalBorderHeightKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                        | The ResourceKey for the ResizeFrameHorizontalBorderHeight property.   |

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| (usage)                                  | {x:Static SystemParameters.StaticPropertyName}   |
| <b>ResizeFrameVerticalBorderWidth</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | A value that indicates the width (thickness), in pixels, of the vertical sizing border around the perimeter of a window that can be resized. |
| <b>ResizeFrameVerticalBorderWidthKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the ResizeFrameVerticalBorderWidth property.   |
| <b>ScrollHeight</b>                      | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | The metric that determines the scroll height of the nonclient area of a nonminimized window.   |
| <b>ScrollHeightKey</b>                   | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the ScrollHeight property.   |
| <b>ScrollWidth</b>                       | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | The metric that determines the scroll width of the nonclient area of a nonminimized window.  |
| <b>ScrollWidthKey</b>                    | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the ScrollWidth property.  |
| <b>SelectionFade</b>                     | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value indicating whether the selection fade effect is enabled.   |
| <b>SelectionFadeKey</b>                  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the SelectionFade property.  |
| <b>ShowSounds</b>                        | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value that indicates whether the user requires information in visual format.   |
| <b>ShowSoundsKey</b>                     | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the ShowSounds property.   |
| <b>SmallCaptionHeight</b>                | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | The metric that determines the height of the small caption of the nonclient area of a nonminimized window.                                   |
| <b>SmallCaptionHeightKey</b>             | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the SmallCaptionHeight property.   |
| <b>SmallCaptionWidth</b>                 | <a href="#">x:Double</a>   |

|  |  |
|--|--|
| (usage)                                  | {x:Static SystemParameters.StaticPropertyName}   |
| <b>(description)</b>                     | The metric that determines the width of the small caption of the nonclient area of a nonminimized window.  |
| <b>SmallCaptionWidthKey</b>              | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the SmallCaptionWidth property.  |
| <b>SmallIconHeight</b>                   | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | A value that indicates the recommended height, in pixels, of a small icon.   |
| <b>SmallIconHeightKey</b>                | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the SmallIconHeight property.  |
| <b>SmallIconWidth</b>                    | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | A value that indicates the recommended width, in pixels, of a small icon.  |
| <b>SmallIconWidthKey</b>                 | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the SmallIconWidth property.   |
| <b>SmallWindowCaptionButtonHeight</b>    | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | A value that indicates the height, in pixels, of small caption buttons.  |
| <b>SmallWindowCaptionButtonHeightKey</b> | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the SmallWindowCaptionButtonHeight property.   |
| <b>SmallWindowCaptionButtonWidth</b>     | <a href="#">x:Double</a>   |
| <b>(description)</b>                     | A value that indicates the width, in pixels, of small caption buttons.   |
| <b>SmallWindowCaptionButtonWidthKey</b>  | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the SmallWindowCaptionButtonWidth property.  |
| <b>SnapToDefaultButton</b>               | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value indicating whether the snap-to-default button is enabled. If enabled, the mouse cursor automatically moves to the default button of a dialog box, such as OK or Apply. |
| <b>SnapToDefaultButtonKey</b>            | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                     | The ResourceKey for the SnapToDefaultButton property.  |
| <b>StylusHotTracking</b>                 | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                     | A value indicating whether hot tracking of a stylus is   |

|                                       |   |
|---------------------------------------|---|
| (usage)                               | {x:Static SystemParameters.StaticPropertyName}  |
|                                       | enabled.  |
| <b>StylusHotTrackingKey</b>           | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                  | The ResourceKey for the StylusHotTracking property.   |
| <b>SwapButtons</b>                    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether the functionality of the left and right mouse buttons are swapped. |
| <b>SwapButtonsKey</b>                 | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                  | The ResourceKey for the SwapButtons property.   |
| <b>ThickHorizontalBorderHeight</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>                  | A value that indicates the height, in pixels, of a 3-D border.                                    |
| <b>ThickHorizontalBorderHeightKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                  | The ResourceKey for the ThickHorizontalBorderHeight property.                                     |
| <b>ThickVerticalBorderWidth</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b>                  | A value that indicates the width, in pixels, of a 3-D border.                                     |
| <b>ThickVerticalBorderWidthKey</b>    | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                  | The ResourceKey for the ThickVerticalBorderWidth property.  |
| <b>ThinHorizontalBorderHeight</b>     | <a href="#">x:Double</a>  |
| <b>(description)</b>                  | A value that indicates the height, in pixels, of a horizontal window border.                      |
| <b>ThinHorizontalBorderHeightKey</b>  | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                  | The ResourceKey for the ThinHorizontalBorderHeight property.                                      |
| <b>ThinVerticalBorderWidth</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b>                  | A value that indicates the width, in pixels, of a vertical window border.                         |
| <b>ThinVerticalBorderWidthKey</b>     | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                  | The ResourceKey for the ThinVerticalBorderWidth property.   |
| <b>ToolTipAnimation</b>               | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value indicating whether ToolTip animation is enabled.  |
| <b>ToolTipAnimationKey</b>            | <a href="#">ResourceKey</a>   |

|   |   |
|---|---|
| (usage)                                 | {x:Static SystemParameters.StaticPropertyName}  |
| <b>(description)</b>                    | The ResourceKey for the ToolTipAnimation property.  |
| <b>ToolTipFade</b>                      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                    | A value indicating whether ToolTip animation uses a fade effect or a slide effect.          |
| <b>ToolTipFadeKey</b>                   | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                    | The ResourceKey for the ToolTipFade property.   |
| <b>ToolTipPopupAnimation</b>            | <a href="#">PopupAnimation</a>  |
| <b>(description)</b>                    | The system value of the PopupAnimation property for ToolTips.                               |
| <b>ToolTipPopupAnimationKey</b>         | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                    | The ResourceKey for the ToolTipPopupAnimation property.                                     |
| <b>UIEffects</b>                        | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                    | A value that indicates whether all user interface (UI) effects are enabled.                 |
| <b>UIEffectsKey</b>                     | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                    | The ResourceKey for the UIEffects property.   |
| <b>UxThemeColor (4.5)</b>               | <a href="#">x:String</a>  |
| <b>(description)</b>                    | The color theme name.   |
| <b>UxThemeName (4.5)</b>                | <a href="#">x:String</a>  |
| <b>(description)</b>                    | The theme name.   |
| <b>VerticalScrollBarButtonHeight</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>                    | A value that indicates the height, in pixels, of the arrow bitmap on a vertical scroll bar. |
| <b>VerticalScrollBarButtonHeightKey</b> | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                    | The ResourceKey for the VerticalScrollBarButtonHeight property.                             |
| <b>VerticalScrollBarThumbHeight</b>     | <a href="#">x:Double</a>  |
| <b>(description)</b>                    | A value that indicates the height, in pixels, of the thumb in a vertical scroll bar.        |
| <b>VerticalScrollBarThumbHeightKey</b>  | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                    | The ResourceKey for the VerticalScrollBarThumbHeight property.                              |
| <b>VerticalScrollBarWidth</b>           | <a href="#">x:Double</a>  |

|                                     |   |
|-------------------------------------|---|
| (usage)                             | {x:Static SystemParameters.StaticPropertyName}  |
| <b>(description)</b>                | A value that indicates the width, in pixels, of a vertical scroll bar.                  |
| <b>VerticalScrollBarWidthKey</b>    | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                | The ResourceKey for the VerticalScrollBarWidth property.                                |
| <b>VirtualScreenHeight</b>          | <a href="#">x:Double</a>  |
| <b>(description)</b>                | A value that indicates the height, in pixels, of the virtual screen.                    |
| <b>VirtualScreenHeightKey</b>       | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                | The ResourceKey for the VirtualScreenHeight property.                                   |
| <b>VirtualScreenLeft</b>            | <a href="#">x:Double</a>  |
| <b>(description)</b>                | A value that indicates the coordinate for the left side of the virtual screen.          |
| <b>VirtualScreenLeftKey</b>         | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                | The ResourceKey for the VirtualScreenLeft property.                                     |
| <b>VirtualScreenTop</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b>                | A value that indicates the upper coordinate of the virtual screen.                      |
| <b>VirtualScreenTopKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                | The ResourceKey for the VirtualScreenTop property.                                      |
| <b>VirtualScreenWidth</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>                | A value that indicates the width, in pixels, of the virtual screen.                     |
| <b>VirtualScreenWidthKey</b>        | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                | The ResourceKey for the VirtualScreenWidth property.                                    |
| <b>WheelScrollLines</b>             | <a href="#">x:Int32</a>   |
| <b>(description)</b>                | A value that indicates the number of lines to scroll when the mouse wheel is rotated.   |
| <b>WheelScrollLinesKey</b>          | <a href="#">ResourceKey</a>   |
| <b>(description)</b>                | The ResourceKey for the WheelScrollLines property.                                      |
| <b>WindowCaptionButtonHeight</b>    | <a href="#">x:Double</a>  |
| <b>(description)</b>                | A value that indicates the height, in pixels, of a button in the title bar of a window. |
| <b>WindowCaptionButtonHeightKey</b> | <a href="#">ResourceKey</a>   |

|  |  |
|--|--|
| (usage)                                    | {x:Static SystemParameters.StaticPropertyName}   |
| <b>(description)</b>                       | The ResourceKey for the WindowCaptionButtonHeight property.                            |
| <b>WindowCaptionButtonWidth</b>            | <a href="#">x:Double</a>   |
| <b>(description)</b>                       | A value that indicates the width, in pixels, of a button in the title bar of a window. |
| <b>WindowCaptionButtonWidthKey</b>         | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                       | The ResourceKey for the WindowCaptionButtonWidth property.                             |
| <b>WindowCaptionHeight</b>                 | <a href="#">x:Double</a>   |
| <b>(description)</b>                       | A value that indicates the height, in pixels, of a caption area.                       |
| <b>WindowCaptionHeightKey</b>              | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                       | The ResourceKey for the WindowCaptionHeight property.                                  |
| <b>WindowCornerRadius (4.5)</b>            | <a href="#">CornerRadius</a>   |
| <b>(description)</b>                       | The radius of the corners for a window.  |
| <b>WindowGlassBrush (4.5)</b>              | <a href="#">Brush</a>  |
| <b>(description)</b>                       | The brush that paints the glass window frame.  |
| <b>WindowGlassColor (4.5)</b>              | <a href="#">Color</a>  |
| <b>(description)</b>                       | The color that is used to paint the glass window frame.                                |
| <b>WindowNonClientFrameThickness (4.5)</b> | <a href="#">Thickness</a>  |
| <b>(description)</b>                       | The size of the non-client area of the window.   |
| <b>WindowResizeBorderThickness (4.5)</b>   | <a href="#">Thickness</a>  |
| <b>(description)</b>                       | The size of the resizing border around the window.                                     |
| <b>WorkArea</b>                            | <a href="#">Rect</a>   |
| <b>(description)</b>                       | The size of the work area on the primary display monitor.                              |
| <b>WorkAreaKey</b>                         | <a href="#">ResourceKey</a>  |
| <b>(description)</b>                       | The ResourceKey for the WorkArea property.   |

#### 4.861 TabControl

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [Selector](#) > TabControl, [IInputElement](#)

|         |  |
|---------|--|
| (usage) | <TabControl> <a href="#">x:Object</a> *</TabControl> |
|---------|--|

|                                |   |
|--------------------------------|---|
| (usage)                        | <TabControl> <a href="#">x:Object</a> *</TabControl>  |
| <b>(description)</b>           | Represents a control that contains multiple items that share the same space on the screen.                                      |
| <b>[content property]</b>      | Items   |
| <b>[name property]</b>         | Name  |
| <b>[xml lang property]</b>     | Language  |
| <b>(properties)</b>            |   |
| <b>ContentStringFormat</b>     | <a href="#">x:String</a>  |
| <b>(description)</b>           | A composite string that specifies how to format the contents of the TabItem objects if they are displayed as strings.           |
| <b>ContentTemplate</b>         | <a href="#">DataTemplate</a>  |
| <b>(description)</b>           | The DataTemplate to apply to any TabItem that does not have a ContentTemplate or ContentTemplateSelector property defined.      |
| <b>ContentTemplateSelector</b> | <a href="#">DataTemplateSelector</a>  |
| <b>(description)</b>           | A DataTemplateSelector that provides custom logic for choosing the template that is used to display the content of the control. |
| <b>TabStripPlacement</b>       | <a href="#">Dock</a>  |
| <b>(description)</b>           | How tab headers align relative to the tab content.  |

#### 4.862 TabItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [HeaderedContentControl](#) > TabItem, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <TabItem> <a href="#">x:Object</a> </TabItem>           |
| <b>(description)</b>       | Represents a selectable item inside a TabControl.       |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>IsSelected</b>          | <a href="#">x:Boolean</a>                               |
| <b>(description)</b>       | A value that indicates whether the TabItem is selected. |

#### 4.863 Table

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Block](#) > Table, [IInputElement](#)



|                            |   |
|----------------------------|---|
| (usage)                    | <Table> <a href="#">TableRowGroup</a> *</Table>   |
| <b>(description)</b>       | A block-level flow content element that provides a grid-based presentation organized by rows and columns. |
| <b>[content property]</b>  | RowGroups   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>CellSpacing</b>         | <a href="#">x:Double</a>  |
| <b>(description)</b>       | The amount of spacing between cells in a table.   |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>Columns</b>             | <a href="#">TableColumnCollection</a>   |
| <b>(description)</b>       | A TableColumnCollection object that contains the columns hosted by the table.                             |
| <b>[read only]</b>         | true  |
| <b>RowGroups</b>           | <a href="#">TableRowGroupCollection</a>   |
| <b>(description)</b>       | A TableRowGroupCollection collection object that contains the row groups hosted by the table.             |
| <b>[read only]</b>         | true  |

#### 4.864 TableCell

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > TableCell, [InputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <TableCell> <a href="#">Block</a> *</TableCell>  |
| <b>(description)</b>       | A flow content element that defines a cell of content within a Table.                                  |
| <b>(used by)</b>           | <a href="#">TableCellCollection</a>  |
| <b>[content property]</b>  | Blocks   |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Blocks</b>              | <a href="#">BlockCollection</a>  |
| <b>(description)</b>       | A BlockCollection containing the top-level Block elements that comprise the contents of the TableCell. |
| <b>[read only]</b>         | true   |

|                             |   |
|-----------------------------|---|
| (usage)                     | <TableCell> <a href="#">Block</a> *</TableCell>   |
| <b>BorderBrush</b>          | <a href="#">Brush</a>   |
| <b>(description)</b>        | A Brush to use when painting the element's border.  |
| <b>BorderThickness</b>      | <a href="#">Thickness</a>   |
| <b>(description)</b>        | The border thickness for the element.   |
| <b>ColumnSpan</b>           | <a href="#">x:Int32</a>   |
| <b>(description)</b>        | The number of columns that the TableCell should span.   |
| <b>FlowDirection</b>        | <a href="#">FlowDirection</a>   |
| <b>(description)</b>        | A value that specifies the relative direction for flow of content within a TableCell element. |
| <b>LineHeight</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The height of each line of content.   |
| <b>[text syntax]</b>        | <a href="#">LengthSyntax</a>  |
| <b>LineStackingStrategy</b> | <a href="#">LineStackingStrategy</a>  |
| <b>(description)</b>        | The mechanism by which a line box is determined for each line of text within the TableCell.   |
| <b>Padding</b>              | <a href="#">Thickness</a>   |
| <b>(description)</b>        | The padding thickness for the element.  |
| <b>RowSpan</b>              | <a href="#">x:Int32</a>   |
| <b>(description)</b>        | The number of rows that the TableCell should span.  |
| <b>TextAlignment</b>        | <a href="#">TextAlignment</a>   |
| <b>(description)</b>        | A value that indicates the horizontal alignment of text content.                              |

#### 4.865 TableCellCollection

[x:Object](#) > TableCellCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Provides standard facilities for creating and managing a type-safe, ordered collection of TableCell objects. |
| <b>(used by)</b>                  | <a href="#">TableRow</a>   |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">TableCell</a>  |

|                      |  |
|----------------------|--|
| (usage)              | None.  |
| <b>(properties)</b>  |  |
| <b>Capacity</b>      | <a href="#">x:Int32</a>  |
| <b>(description)</b> | The preallocated collection item capacity for this collection. |

#### 4.866 TableColumn

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > TableColumn, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <TableColumn />  |
| <b>(description)</b>       | A flow content element that defines a column within a Table.   |
| <b>(used by)</b>           | <a href="#">TableColumnCollection</a>  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Background</b>          | <a href="#">Brush</a>  |
| <b>(description)</b>       | The background Brush used to fill the content of the TableColumn.  |
| <b>Width</b>               | <a href="#">GridLength</a>   |
| <b>(description)</b>       | The width of a TableColumn element. The Width property measures the sum of the TableColumn content, padding, and border from side to side. |

#### 4.867 TableColumnCollection

[x:Object](#) > TableColumnCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Provides standard facilities for creating and managing a type-safe, ordered collection of TableColumn objects. |
| <b>(used by)</b>                  | <a href="#">Table</a>  |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">TableColumn</a>  |
| <b>(properties)</b>               |  |
| <b>Capacity</b>                   | <a href="#">x:Int32</a>  |

|                      |   |
|----------------------|---|
| (usage)              | None.   |
| <b>(description)</b> | The pre-allocated collection item capacity for this collection. |

#### 4.868 TableRow

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > TableRow, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <TableRow> <a href="#">TableCell</a> *</TableRow>         |
| <b>(description)</b>       | A flow content element that defines a row within a Table. |
| <b>(used by)</b>           | <a href="#">TableRowCollection</a>                        |
| <b>[content property]</b>  | Cells   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Cells</b>               | <a href="#">TableCellCollection</a>                       |
| <b>(description)</b>       | A TableCellCollection that contains cells of a TableRow.  |
| <b>[read only]</b>         | true  |

#### 4.869 TableRowCollection

[x:Object](#) > TableRowCollection

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Provides standard facilities for creating and managing a type-safe, ordered collection of TableRow objects. |
| <b>(used by)</b>                  | <a href="#">TableRowGroup</a>   |
| <b>[is default constructible]</b> | false   |
| <b>[is list]</b>                  | true  |
| <b>[allowed types]</b>            | <a href="#">TableRow</a>  |
| <b>(properties)</b>               |   |
| <b>Capacity</b>                   | <a href="#">x:Int32</a>   |
| <b>(description)</b>              | The pre-allocated collection item capacity for this collection.   |

#### 4.870 TableRowGroup

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > TableRowGroup, [IInputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <TableRowGroup> <a href="#">TableRow</a> *</TableRowGroup>   |
| <b>(description)</b>       | Represents a flow content element used to group TableRow elements within a Table.                        |
| <b>(used by)</b>           | <a href="#">TableRowGroupCollection</a>  |
| <b>[content property]</b>  | Rows   |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Rows</b>                | <a href="#">TableRowCollection</a>   |
| <b>(description)</b>       | A TableRowCollection that contains the TableRow objects that comprise the contents of the TableRowGroup. |
| <b>[read only]</b>         | true   |

#### 4.871 TableRowGroupCollection

[x:Object](#) > TableRowGroupCollection

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Provides standard facilities for creating and managing a type-safe, ordered collection of TableRowGroup objects. |
| <b>(used by)</b>                  | <a href="#">Table</a>  |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">TableRowGroup</a>  |
| <b>(properties)</b>               |  |
| <b>Capacity</b>                   | <a href="#">x:Int32</a>  |
| <b>(description)</b>              | The pre-allocated collection item capacity for this collection.  |

#### 4.872 TabletDeviceType

[x:Object](#) > TabletDeviceType

|                      |  |
|----------------------|--|
| (usage)              | <a href="#">Stylus</a>   <b>Touch</b>                          |
| <b>(description)</b> | Defines values for the type of devices the tablet device uses. |
| <b>[is nullable]</b> | false  |

|               |  |
|---------------|--|
| (usage)       | <a href="#">Stylus</a>   <a href="#">Touch</a> |
| [text syntax] | <a href="#">TabletDeviceTypeSyntax</a>         |

#### 4.873 TabletHardwareCapabilities

[x:Object](#) > TabletHardwareCapabilities

|               |   |
|---------------|---|
| (usage)       | <b>None</b>   <b>Integrated</b>   <b>StylusMustTouch</b>   <b>HardProximity</b>   <b>StylusHasPhysicalIds</b>   <b>SupportsPressure</b> |
| (description) | Defines values that specify the hardware capabilities of a tablet device, including desktop digitizers and mice.                        |
| [is nullable] | false   |
| [text syntax] | <a href="#">TabletHardwareCapabilitiesSyntax</a>  |

#### 4.874 TabPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > TabPanel, [IInputElement](#)

|                     |  |
|---------------------|--|
| (usage)             | <TabPanel> <a href="#">UIElement</a> *</TabPanel>          |
| (description)       | Handles the layout of the TabItem objects on a TabControl. |
| [content property]  | Children   |
| [name property]     | Name   |
| [xml lang property] | Language   |

#### 4.875 TaskbarItemInfo

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > TaskbarItemInfo

|               |  |
|---------------|--|
| (usage)       | <TaskbarItemInfo />  |
| (description) | Represents information about how the taskbar thumbnail is displayed.     |
| (used by)     | <a href="#">Window</a>   |
| (properties)  |  |
| Description   | <a href="#">x:String</a>   |
| (description) | The text for the taskbar item tooltip.                                   |
| Overlay       | <a href="#">ImageSource</a>  |
| (description) | The image that is displayed over the program icon in the taskbar button. |
| ProgressState | <a href="#">TaskbarItemProgressState</a>                                 |

|                            |   |
|----------------------------|---|
| (usage)                    | <TaskbarItemInfo />   |
| <b>(description)</b>       | A value that indicates how the progress indicator is displayed in the taskbar button.                               |
| <b>ProgressValue</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that indicates the fullness of the progress indicator in the taskbar button.                                |
| <b>ThumbButtonInfos</b>    | <a href="#">ThumbButtonInfoCollection</a>   |
| <b>(description)</b>       | The collection of ThumbButtonInfo objects that are associated with the Window.                                      |
| <b>ThumbnailClipMargin</b> | <a href="#">Thickness</a>   |
| <b>(description)</b>       | A value that specifies the part of the application window's client area that is displayed in the taskbar thumbnail. |

#### 4.876 TaskbarItemProgressState

[x:Object](#) > TaskbarItemProgressState

|                      |   |
|----------------------|---|
| (usage)              | <b>None  Indeterminate  Normal  Error  Paused</b>                     |
| <b>(description)</b> | Specifies the state of the progress indicator in the Windows taskbar. |
| <b>(used by)</b>     | <a href="#">TaskbarItemInfo</a>                                       |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TaskbarItemProgressStateSyntax</a>                        |

#### 4.877 TemplateBindingExtension

[x:Object](#) > [x:MarkupExtension](#) > TemplateBindingExtension

|                            |  |
|----------------------------|--|
| (usage)                    | {TemplateBinding }   <TemplateBinding />   |
| <b>(description)</b>       | Implements a markup extension that supports the binding between the value of a property in a template and the value of some other exposed property on the templated control. |
| <b>[return value type]</b> | <a href="#">x:Object</a>   |
| <b>[constructors]</b>      |  |
| <b>(1 parameter)</b>       |  |
| <b>property</b>            | <a href="#">DependencyProperty</a>   |
| <b>(description)</b>       | The identifier of the property being bound.  |
| <b>(properties)</b>        |  |
| <b>Converter</b>           | <a href="#">IValueConverter</a>  |

|                           |   |
|---------------------------|---|
| (usage)                   | {TemplateBinding }   <TemplateBinding />                              |
| <b>(description)</b>      | The converter that interprets between source and target of a binding. |
| <b>ConverterParameter</b> | <a href="#">x:Object</a>  |
| <b>(description)</b>      | The parameter to pass to the converter.                               |
| <b>Property</b>           | <a href="#">DependencyProperty</a>                                    |
| <b>(description)</b>      | The property being bound to.  |

#### 4.878 TemplateKey

[x:Object](#) > [x:MarkupExtension](#) > [ResourceKey](#) > TemplateKey

|  |   |
|--|---|
| <a href="#">DataTemplateKey</a> <a href="#">ItemContainerTemplateKey</a> |   |
| <b>(usage)</b>   | None.   |
| <b>(description)</b>   | When used as a resource key for a data template, allows the data template to participate in the lookup process. |
| <b>[is default constructible]</b>  | false   |
| <b>[return value type]</b>   | <a href="#">ResourceKey</a>   |
| <b>(properties)</b>  |   |
| <b>DataType</b>  | <a href="#">x:Object</a>  |
| <b>(description)</b>   | The type for which the template is designed.  |

#### 4.879 TextAlignment

[x:Object](#) > [TextAlignment](#)

|                      |  |
|----------------------|--|
| (usage)              | <b>Left  Right  Center  Justify</b>  |
| <b>(description)</b> | Specifies whether the text in the object is left-aligned, right-aligned, centered, or justified.   |
| <b>(used by)</b>     | <a href="#">AccessText</a> <a href="#">AnchoredBlock</a> <a href="#">Block</a> <a href="#">FlowDocument</a> <a href="#">ListItem</a> <a href="#">RibbonTwoLineText</a> <a href="#">TableCell</a> <a href="#">TextBlock</a> <a href="#">TextBox</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">TextAlignmentSyntax</a>  |

#### 4.880 TextBlock

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > TextBlock, [IInputElement](#)



|                             |   |
|-----------------------------|---|
| (usage)                     | <TextBlock> <a href="#">Inline</a>   <a href="#">UIElement</a>   <a href="#">x:String</a> *</TextBlock>   |
| <b>(description)</b>        | Provides a lightweight control for displaying small amounts of flow content.                              |
| <b>[content property]</b>   | Inlines   |
| <b>[name property]</b>      | Name  |
| <b>[xml lang property]</b>  | Language  |
| <b>(properties)</b>         |   |
| <b>Background</b>           | <a href="#">Brush</a>   |
| <b>(description)</b>        | The Brush used to fill the background of content area.  |
| <b>BaselineOffset</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The amount by which each line of text is offset from the baseline.  |
| <b>FontFamily</b>           | <a href="#">FontFamily</a>  |
| <b>(description)</b>        | The preferred top-level font family for the TextBlock.  |
| <b>FontSize</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The top-level font size for the TextBlock.  |
| <b>[text syntax]</b>        | <a href="#">FontSizeSyntax</a>  |
| <b>FontStretch</b>          | <a href="#">FontStretch</a>   |
| <b>(description)</b>        | The top-level font-stretching characteristics for the TextBlock.  |
| <b>FontStyle</b>            | <a href="#">FontStyle</a>   |
| <b>(description)</b>        | The top-level font style for the TextBlock.   |
| <b>FontWeight</b>           | <a href="#">FontWeight</a>  |
| <b>(description)</b>        | The top-level font weight for the TextBlock.  |
| <b>Foreground</b>           | <a href="#">Brush</a>   |
| <b>(description)</b>        | The Brush to apply to the text contents of the TextBlock.   |
| <b>Inlines</b>              | <a href="#">InlineCollection</a>  |
| <b>(description)</b>        | An InlineCollection containing the top-level Inline elements that comprise the contents of the TextBlock. |
| <b>[read only]</b>          | true  |
| <b>IsHyphenationEnabled</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | A value that indicates whether automatic hyphenation of words is enabled or disabled.                     |
| <b>LineHeight</b>           | <a href="#">x:Double</a>  |

|                                 |   |
|---------------------------------|---|
| (usage)                         | <TextBlock> [ <a href="#">Inline</a>   <a href="#">UIElement</a>   <a href="#">x:String</a> ]* </TextBlock>                                 |
| <b>(description)</b>            | The height of each line of content.   |
| <b>[text syntax]</b>            | <a href="#">LengthSyntax</a>  |
| <b>LineStackingStrategy</b>     | <a href="#">LineStackingStrategy</a>  |
| <b>(description)</b>            | The mechanism by which a line box is determined for each line of text within the TextBlock.   |
| <b>Padding</b>                  | <a href="#">Thickness</a>   |
| <b>(description)</b>            | A value that indicates the thickness of padding space between the boundaries of the content area, and the content displayed by a TextBlock. |
| <b>Text</b>                     | <a href="#">x:String</a>  |
| <b>(description)</b>            | The text contents of a TextBlock.   |
| <b>TextAlignment</b>            | <a href="#">TextAlignment</a>   |
| <b>(description)</b>            | A value that indicates the horizontal alignment of text content.  |
| <b>TextDecorations</b>          | <a href="#">TextDecorationCollection</a>  |
| <b>(description)</b>            | A TextDecorationCollection that contains the effects to apply to the text of a TextBlock.   |
| <b>TextEffects</b>              | <a href="#">TextEffectCollection</a>  |
| <b>(description)</b>            | The effects to apply to the text content in this element.   |
| <b>TextTrimming</b>             | <a href="#">TextTrimming</a>  |
| <b>(description)</b>            | The text trimming behavior to employ when content overflows the content area.   |
| <b>TextWrapping</b>             | <a href="#">TextWrapping</a>  |
| <b>(description)</b>            | How the TextBlock should wrap text.   |
| <b>(attachable properties)</b>  |   |
| <b>TextBlock.BaselineOffset</b> | <a href="#">x:Double</a>  |
| <b>(description)</b>            | The amount by which each line of text is offset from the baseline.  |
| <b>[target type]</b>            | <a href="#">DependencyObject</a>  |
| <b>TextBlock.FontFamily</b>     | <a href="#">FontFamily</a>  |
| <b>(description)</b>            | The preferred top-level font family for the TextBlock.  |
| <b>[target type]</b>            | <a href="#">DependencyObject</a>  |
| <b>TextBlock.FontSize</b>       | <a href="#">x:Double</a>  |
| <b>(description)</b>            | The top-level font size for the TextBlock.  |

|                                       |   |
|---------------------------------------|---|
| (usage)                               | <TextBlock> <a href="#">Inline</a>   <a href="#">UIElement</a>   <a href="#">x:String</a> *</TextBlock> |
| [target type]                         | <a href="#">DependencyObject</a>  |
| [text syntax]                         | <a href="#">FontSizeSyntax</a>  |
| <b>TextBlock.FontStretch</b>          | <a href="#">FontStretch</a>   |
| (description)                         | The top-level font-stretching characteristics for the TextBlock.  |
| [target type]                         | <a href="#">DependencyObject</a>  |
| <b>TextBlock.FontStyle</b>            | <a href="#">FontStyle</a>   |
| (description)                         | The top-level font style for the TextBlock.   |
| [target type]                         | <a href="#">DependencyObject</a>  |
| <b>TextBlock.FontWeight</b>           | <a href="#">FontWeight</a>  |
| (description)                         | The top-level font weight for the TextBlock.  |
| [target type]                         | <a href="#">DependencyObject</a>  |
| <b>TextBlock.Foreground</b>           | <a href="#">Brush</a>   |
| (description)                         | The Brush to apply to the text contents of the TextBlock.   |
| [target type]                         | <a href="#">DependencyObject</a>  |
| <b>TextBlock.LineHeight</b>           | <a href="#">x:Double</a>  |
| (description)                         | The height of each line of content.   |
| [target type]                         | <a href="#">DependencyObject</a>  |
| [text syntax]                         | <a href="#">LengthSyntax</a>  |
| <b>TextBlock.LineStackingStrategy</b> | <a href="#">LineStackingStrategy</a>  |
| (description)                         | The mechanism by which a line box is determined for each line of text within the TextBlock.             |
| [target type]                         | <a href="#">DependencyObject</a>  |
| <b>TextBlock.TextAlignment</b>        | <a href="#">TextAlignment</a>   |
| (description)                         | A value that indicates the horizontal alignment of text content.  |
| [target type]                         | <a href="#">DependencyObject</a>  |

#### 4.881 TextBox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [TextBoxBase](#) > [TextBox](#), [InputElement](#)

|   |   |
|---|---|
| <a href="#">DatePickerTextBox</a> <a href="#">RibbonTextBox</a> |   |
| (usage)   | <TextBox> <a href="#">x:String</a> </TextBox> |

| <a href="#">DatePickerTextBox</a> <a href="#">RibbonTextBox</a> |   |
|---|---|
| <b>(description)</b>  | Represents a control that can be used to display or edit unformatted text.            |
| <b>[content property]</b>                                       | Text  |
| <b>[name property]</b>  | Name  |
| <b>[xml lang property]</b>                                      | Language  |
| <b>(properties)</b>   |   |
| <b>CaretIndex</b>   | <a href="#">x:Int32</a>   |
| <b>(description)</b>  | The insertion position index of the caret.  |
| <b>CharacterCasing</b>  | <a href="#">CharacterCasing</a>   |
| <b>(description)</b>  | How characters are cased when they are manually entered into the text box.            |
| <b>MaxLength</b>  | <a href="#">x:Int32</a>   |
| <b>(description)</b>  | The maximum number of characters that can be manually entered into the text box.      |
| <b>MaxLines</b>   | <a href="#">x:Int32</a>   |
| <b>(description)</b>  | The maximum number of visible lines.  |
| <b>MinLines</b>   | <a href="#">x:Int32</a>   |
| <b>(description)</b>  | The minimum number of visible lines.  |
| <b>SelectedText</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The content of the current selection in the text box.                                 |
| <b>SelectionLength</b>  | <a href="#">x:Int32</a>   |
| <b>(description)</b>  | A value indicating the number of characters in the current selection in the text box. |
| <b>SelectionStart</b>   | <a href="#">x:Int32</a>   |
| <b>(description)</b>  | A character index for the beginning of the current selection.                         |
| <b>Text</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>  | The text contents of the text box.  |
| <b>TextAlignment</b>  | <a href="#">TextAlignment</a>   |
| <b>(description)</b>  | The horizontal alignment of the contents of the text box.                             |
| <b>TextDecorations</b>  | <a href="#">TextDecorationCollection</a>  |
| <b>(description)</b>  | The text decorations to apply to the text box.  |
| <b>TextWrapping</b>   | <a href="#">TextWrapping</a>  |

|   |                                    |
|---|------------------------------------|
| <a href="#">DatePickerTextBox</a> <a href="#">RibbonTextBox</a> |                                    |
| <b>(description)</b>  | How the text box should wrap text. |

## 4.882 TextBoxBase

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [TextBoxBase](#), [IInputElement](#)

|   |  |
|---|--|
| <a href="#">RichTextBox</a> <a href="#">TextBox</a> |  |
| <b>(usage)</b>                                      | None.  |
| <b>(description)</b>                                | A base type that provides functionality for text editing controls.   |
| <b>[is default constructible]</b>                   | false  |
| <b>[name property]</b>                              | Name   |
| <b>[xml lang property]</b>                          | Language   |
| <b>(properties)</b>                                 |  |
| <b>AcceptsReturn</b>                                | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                | A value that indicates how the text editing control responds when the user presses the ENTER key.  |
| <b>AcceptsTab</b>                                   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                | A value that indicates how the text editing control responds when the user presses the TAB key.  |
| <b>AutoWordSelection</b>                            | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                | A value that determines whether when a user selects part of a word by dragging across it with the mouse, the rest of the word is selected. |
| <b>CaretBrush</b>                                   | <a href="#">Brush</a>  |
| <b>(description)</b>                                | The brush that is used to paint the caret of the text box.   |
| <b>HorizontalScrollBarVisibility</b>                | <a href="#">ScrollBarVisibility</a>  |
| <b>(description)</b>                                | A value that indicates whether a horizontal scroll bar is shown.   |
| <b>IsInactiveSelectionHighlightEnabled</b>          | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                |  |
| <b>IsReadOnly</b>                                   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                | A value that indicates whether the text editing control is read-only to a user interacting with the control.                               |
| <b>IsReadOnlyCaretVisible</b>                       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                | A value that indicates whether a read-only text box displays a   |

| <a href="#">RichTextBox</a> <a href="#">TextBox</a> |  |
|---|--|
|   | caret.   |
| <b>IsUndoEnabled</b>                                | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                                | A value that indicates whether undo support is enabled for the text-editing control. |
| <b>SelectionBrush</b>                               | <a href="#">Brush</a>  |
| <b>(description)</b>                                | The brush that highlights selected text.   |
| <b>SelectionOpacity</b>                             | <a href="#">x:Double</a>   |
| <b>(description)</b>                                | The opacity of the SelectionBrush.   |
| <b>UndoLimit</b>                                    | <a href="#">x:Int32</a>  |
| <b>(description)</b>                                | The number of actions stored in the undo queue.                                      |
| <b>VerticalScrollBarVisibility</b>                  | <a href="#">ScrollBarVisibility</a>  |
| <b>(description)</b>                                | A value that indicates whether a vertical scroll bar is shown.                       |
| <b>(events)</b>                                     |  |
| <b>SelectionChanged</b>                             | Occurs when the text selection has changed.  |
| <b>TextChanged</b>                                  | Occurs when content changes in the text element.                                     |

#### 4.883 TextCollapsingStyle

[x:Object](#) > TextCollapsingStyle

|                      |   |
|----------------------|---|
| (usage)              | <b>TrailingCharacter  TrailingWord</b>    |
| <b>(description)</b> | Specifies the style of collapsed text.    |
| <b>[is nullable]</b> | false                                     |
| <b>[text syntax]</b> | <a href="#">TextCollapsingStyleSyntax</a> |

#### 4.884 TextCompositionAutoComplete

[x:Object](#) > TextCompositionAutoComplete

|                      |   |
|----------------------|---|
| (usage)              | <b>Off  On</b>  |
| <b>(description)</b> | Defines a set of states for the handling of automatic completion of a text composition. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TextCompositionAutoCompleteSyntax</a>                                       |

## 4.885 TextDataFormat

[x:Object](#) > TextDataFormat

|                      |  |
|----------------------|--|
| (usage)              | <b>Text  UnicodeText  Rtf  Html  CommaSeparatedValue  Xaml</b> |
| <b>(description)</b> | Specifies the data format of the text data.                    |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">TextDataFormatSyntax</a>                           |

## 4.886 TextDecoration

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > TextDecoration

|                         |   |
|-------------------------|---|
| (usage)                 | <b>Baseline  OverLine  Strikethrough  <a href="#">Underline</a></b>   |
| <b>(description)</b>    | Represents a text decoration, which is a visual ornamentation that is added to text (such as an underline). |
| <b>(used by)</b>        | <a href="#">TextDecorationCollection</a>  |
| <b>(properties)</b>     |   |
| <b>Location</b>         | <a href="#">TextDecorationLocation</a>  |
| <b>(description)</b>    | The vertical location at which the text decoration is drawn.  |
| <b>Pen</b>              | <a href="#">Pen</a>   |
| <b>(description)</b>    | The Pen used to draw the text decoration.   |
| <b>PenOffset</b>        | <a href="#">x:Double</a>  |
| <b>(description)</b>    | The text decoration's offset from its Location.   |
| <b>PenOffsetUnit</b>    | <a href="#">TextDecorationUnit</a>  |
| <b>(description)</b>    | The units in which the PenOffset value is expressed.  |
| <b>PenThicknessUnit</b> | <a href="#">TextDecorationUnit</a>  |
| <b>(description)</b>    | The units in which the Thickness of the text decoration's Pen is expressed.                                 |

## 4.887 TextDecorationCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > TextDecorationCollection

|                      |   |
|----------------------|---|
| (usage)              | <TextDecorationCollection> string </TextDecorationCollection>   |
| <b>(description)</b> | Represents a collection of TextDecoration instances.  |
| <b>(used by)</b>     | <a href="#">AccessText</a> <a href="#">Inline</a> <a href="#">Paragraph</a> <a href="#">RibbonTwoLineText</a> <a href="#">TextBlock</a> <a href="#">TextBox</a> |
| <b>[text syntax]</b> | <a href="#">TextDecorationCollectionSyntax</a>  |

|                 |   |
|-----------------|---|
| (usage)         | <TextDecorationCollection> string </TextDecorationCollection> |
| [is list]       | true  |
| [allowed types] | <a href="#">TextDecoration</a>                                |

#### 4.888 TextDecorationLocation

[x:Object](#) > TextDecorationLocation

|               |   |
|---------------|---|
| (usage)       | <a href="#">Underline</a>   <a href="#">OverLine</a>   <a href="#">Strikethrough</a>   <a href="#">Baseline</a> |
| (description) | Specifies the vertical position of a TextDecoration object.   |
| (used by)     | <a href="#">TextDecoration</a>  |
| [is nullable] | false   |
| [text syntax] | <a href="#">TextDecorationLocationSyntax</a>  |

#### 4.889 TextDecorations

[x:Object](#) > TextDecorations

|                            |   |
|----------------------------|---|
| (usage)                    | {x:Static TextDecorations.StaticPropertyName}         |
| (description)              | Provides a set of static predefined text decorations. |
| [is default constructible] | false   |
| (static properties)        |   |
| <b>Baseline</b>            | <a href="#">TextDecorationCollection</a>              |
| (description)              | Specifies a baseline TextDecoration.                  |
| <b>OverLine</b>            | <a href="#">TextDecorationCollection</a>              |
| (description)              | Specifies an overline TextDecoration.                 |
| <b>Strikethrough</b>       | <a href="#">TextDecorationCollection</a>              |
| (description)              | Specifies a strikethrough TextDecoration.             |
| <b>Underline</b>           | <a href="#">TextDecorationCollection</a>              |
| (description)              | Specifies an underline TextDecoration.                |

#### 4.890 TextDecorationUnit

[x:Object](#) > TextDecorationUnit

|               |  |
|---------------|--|
| (usage)       | <b>FontRecommended</b>   <b>FontRenderingEmSize</b>   <b>Pixel</b>                     |
| (description) | Specifies the unit type of either a TextDecoration PenOffset or a Pen thickness value. |



|                      |  |
|----------------------|--|
| (usage)              | <b>FontRecommended</b>   <b>FontRenderingEmSize</b>   <b>Pixel</b> |
| <b>(used by)</b>     | <a href="#">TextDecoration</a>                                     |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">TextDecorationUnitSyntax</a>                           |

#### 4.891 TextEffect

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > TextEffect

|                      |   |
|----------------------|---|
| (usage)              | <TextEffect />  |
| <b>(description)</b> | Represents a text effect that can be applied to text objects.     |
| <b>(used by)</b>     | <a href="#">TextEffectCollection</a>                              |
| <b>(properties)</b>  |   |
| <b>Clip</b>          | <a href="#">Geometry</a>  |
| <b>(description)</b> | The clipping region of the TextEffect.                            |
| <b>Foreground</b>    | <a href="#">Brush</a>   |
| <b>(description)</b> | The Brush to apply to the content of the TextEffect.              |
| <b>PositionCount</b> | <a href="#">x:Int32</a>   |
| <b>(description)</b> | The position in the text that the TextEffect applies to.          |
| <b>PositionStart</b> | <a href="#">x:Int32</a>   |
| <b>(description)</b> | The starting position in the text that the TextEffect applies to. |
| <b>Transform</b>     | <a href="#">Transform</a>   |
| <b>(description)</b> | The Transform that is applied to the TextEffect.                  |

#### 4.892 TextEffectCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > TextEffectCollection

|                        |   |
|------------------------|---|
| (usage)                | <TextEffectCollection> <a href="#">TextEffect</a> *</TextEffectCollection>  |
| <b>(description)</b>   | Provides collection support for a collection of TextEffect objects.   |
| <b>(used by)</b>       | <a href="#">AccessText</a> <a href="#">FlowDocument</a> <a href="#">RibbonTwoLineText</a> <a href="#">TextBlock</a> <a href="#">TextElement</a> |
| <b>[is list]</b>       | true  |
| <b>[allowed types]</b> | <a href="#">TextEffect</a>  |

## 4.893 TextElement

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#), [IInputElement](#)

| <a href="#">Block</a> <a href="#">Inline</a> <a href="#">ListItem</a> <a href="#">TableCell</a> <a href="#">TableRow</a> <a href="#">TableRowGroup</a> |  |
|--|--|
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | A base type for elements that contain text.                          |
| <b>[is default constructible]</b>  | false  |
| <b>[name property]</b>   | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(properties)</b>  |  |
| <b>Background</b>  | <a href="#">Brush</a>  |
| <b>(description)</b>   | The Brush used to fill the background of the content area.           |
| <b>FontFamily</b>  | <a href="#">FontFamily</a>   |
| <b>(description)</b>   | The preferred top-level font family for the content of the element.  |
| <b>FontSize</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b>   | The font size for the content of the element.                        |
| <b>[text syntax]</b>   | <a href="#">FontSizeSyntax</a>                                       |
| <b>FontStretch</b>   | <a href="#">FontStretch</a>  |
| <b>(description)</b>   | The font-stretching characteristics for the content of the element.  |
| <b>FontStyle</b>   | <a href="#">FontStyle</a>  |
| <b>(description)</b>   | The font style for the content of the element.                       |
| <b>FontWeight</b>  | <a href="#">FontWeight</a>   |
| <b>(description)</b>   | The top-level font weight for the content of the element.            |
| <b>Foreground</b>  | <a href="#">Brush</a>  |
| <b>(description)</b>   | The Brush to apply to the content of the element.                    |
| <b>TextEffects</b>   | <a href="#">TextEffectCollection</a>                                 |
| <b>(description)</b>   | A collection of text effects to apply to the content of the element. |
| <b>(attachable properties)</b>   |  |
| <b>TextElement.FontFamily</b>  | <a href="#">FontFamily</a>   |
| <b>(description)</b>   | The preferred top-level font family for the content of the element.  |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>                                     |

|  |   |
|--|---|
| <a href="#">Block</a> <a href="#">Inline</a> <a href="#">ListItem</a> <a href="#">TableCell</a> <a href="#">TableRow</a> <a href="#">TableRowGroup</a> |   |
| <b>TextElement.FontSize</b>  | <a href="#">x:Double</a>  |
| <b>(description)</b>   | The font size for the content of the element.                       |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>                                    |
| <b>[text syntax]</b>   | <a href="#">FontSizeSyntax</a>                                      |
| <b>TextElement.FontStretch</b>   | <a href="#">FontStretch</a>   |
| <b>(description)</b>   | The font-stretching characteristics for the content of the element. |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>                                    |
| <b>TextElement.FontStyle</b>   | <a href="#">FontStyle</a>   |
| <b>(description)</b>   | The font style for the content of the element.                      |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>                                    |
| <b>TextElement.FontWeight</b>  | <a href="#">FontWeight</a>  |
| <b>(description)</b>   | The top-level font weight for the content of the element.           |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>                                    |
| <b>TextElement.Foreground</b>  | <a href="#">Brush</a>   |
| <b>(description)</b>   | The Brush to apply to the content of the element.                   |
| <b>[target type]</b>   | <a href="#">DependencyObject</a>                                    |

#### 4.894 TextElementCollection(T)

[x:Object](#) > TextElementCollection(T)

|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | None.   |
| <b>(description)</b>              | Provides standard facilities for creating and managing a type-safe, ordered collection of TextElement objects. This is a generic collection for working with objects of a specified type that derives from TextElement. |
| <b>[is default constructible]</b> | false   |
| <b>[is list]</b>                  | true  |
| <b>[allowed types]</b>            | T   |

#### 4.895 TextFormattingMode

[x:Object](#) > TextFormattingMode

|                |                        |
|----------------|------------------------|
| <b>(usage)</b> | <b>Display   Ideal</b> |
|----------------|------------------------|

|                      |   |
|----------------------|---|
| (usage)              | <b>Display  Ideal</b>   |
| <b>(description)</b> | Defines the formatting methods supported by the TextFormatter type. |
| <b>(used by)</b>     | <a href="#">TextOptions</a>   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TextFormattingModeSyntax</a>                            |

#### 4.896 TextHintingMode

[x:Object](#) > TextHintingMode

|                      |  |
|----------------------|--|
| (usage)              | <b>Auto  Fixed  Animated</b>                               |
| <b>(description)</b> | Defines the rendering behavior of static or animated text. |
| <b>(used by)</b>     | <a href="#">TextOptions</a>                                |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">TextHintingModeSyntax</a>                      |

#### 4.897 TextMarkerStyle

[x:Object](#) > TextMarkerStyle

|                      |   |
|----------------------|---|
| (usage)              | <b>None  Disc  Circle  Square  Box  LowerRoman  UpperRoman  LowerLatin  UpperLatin...</b> |
| <b>(description)</b> | Describes the appearance of a list item's bullet style.                                   |
| <b>(used by)</b>     | <a href="#">List</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TextMarkerStyleSyntax</a>   |

#### 4.898 TextOptions

[x:Object](#) > TextOptions

|                                       |   |
|---------------------------------------|---|
| (usage)                               | None.   |
| <b>(description)</b>                  | Defines a set of attached properties that affect the way text is displayed in an element. |
| <b>[is default constructible]</b>     | false   |
| <b>(attachable properties)</b>        |   |
| <b>TextOptions.TextFormattingMode</b> | <a href="#">TextFormattingMode</a>  |
| <b>(description)</b>                  | The TextFormattingMode for the element. This is an attached                               |

|                                      |  |
|--------------------------------------|--|
| (usage)                              | None.  |
|                                      | property.  |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>                                     |
| <b>TextOptions.TextHintingMode</b>   | <a href="#">TextHintingMode</a>                                      |
| <b>(description)</b>                 | The TextHintingMode for the element. This is an attached property.   |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>                                     |
| <b>TextOptions.TextRenderingMode</b> | <a href="#">TextRenderingMode</a>                                    |
| <b>(description)</b>                 | The TextRenderingMode for the element. This is an attached property. |
| <b>[target type]</b>                 | <a href="#">DependencyObject</a>                                     |

#### 4.899 TextPointerContext

[x:Object](#) > TextPointerContext

|                      |   |
|----------------------|---|
| (usage)              | <b>None  Text  EmbeddedElement  ElementStart  ElementEnd</b>  |
| <b>(description)</b> | Determines the category of content that is adjacent to a TextPointer in a specified LogicalDirection. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TextPointerContextSyntax</a>  |

#### 4.900 TextRenderingMode

[x:Object](#) > TextRenderingMode

|                      |   |
|----------------------|---|
| (usage)              | <b>Auto  Aliased  Grayscale  ClearType</b>      |
| <b>(description)</b> | Defines the supported rendering modes for text. |
| <b>(used by)</b>     | <a href="#">TextOptions</a>                     |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TextRenderingModeSyntax</a>         |

#### 4.901 TextRunCache

[x:Object](#) > TextRunCache

|                      |  |
|----------------------|--|
| (usage)              | <TextRunCache />   |
| <b>(description)</b> | Provides caching services to the TextFormatter object in order to improve performance. |

## 4.902 TextSearch

[x:Object](#) > [DependencyObject](#) > TextSearch

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Enables a user to quickly access items in a set by typing prefixes of strings.       |
| <b>[is default constructible]</b> | false  |
| <b>(attachable properties)</b>    |  |
| <b>TextSearch.Text</b>            | <a href="#">x:String</a>   |
| <b>(description)</b>              | The string that identifies an item in a control's collection.                        |
| <b>[target type]</b>              | <a href="#">DependencyObject</a>   |
| <b>TextSearch.TextPath</b>        | <a href="#">x:String</a>   |
| <b>(description)</b>              | The name of the items' property that identifies each item in a control's collection. |
| <b>[target type]</b>              | <a href="#">DependencyObject</a>   |

## 4.903 TextTabAlignment

[x:Object](#) > TextTabAlignment

|                      |  |
|----------------------|--|
| (usage)              | <b>Left  Center  Right  Character</b>            |
| <b>(description)</b> | Describes how text is aligned at a tab location. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">TextTabAlignmentSyntax</a>           |

## 4.904 TextTrimming

[x:Object](#) > TextTrimming

|                      |  |
|----------------------|--|
| (usage)              | <b>None  CharacterEllipsis  WordEllipsis</b>   |
| <b>(description)</b> | Describes how text is trimmed when it overflows the edge of its containing box.        |
| <b>(used by)</b>     | <a href="#">AccessText</a> <a href="#">RibbonTwoLineText</a> <a href="#">TextBlock</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">TextTrimmingSyntax</a>   |

## 4.905 TextWrapping

[x:Object](#) > TextWrapping

|                      |  |
|----------------------|--|
| (usage)              | <b>WrapWithOverflow  NoWrap  Wrap</b>  |
| <b>(description)</b> | Specifies whether text wraps when it reaches the edge of the containing box  |
| <b>(used by)</b>     | <a href="#">AccessText</a> <a href="#">TextBlock</a> <a href="#">TextBox</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">TextWrappingSyntax</a>   |

#### 4.906 ThemeDictionaryExtension

[x:Object](#) > [x:MarkupExtension](#) > ThemeDictionaryExtension

|                            |   |
|----------------------------|---|
| (usage)                    | {ThemeDictionary }   <ThemeDictionary />  |
| <b>(description)</b>       | Implements a markup extension that enables application authors to customize control styles based on the current system theme. |
| <b>[return value type]</b> | <a href="#">x:Uri</a>   |
| <b>[constructors]</b>      |   |
| <b>(1 parameter)</b>       |   |
| <b>assemblyName</b>        | <a href="#">x:String</a>  |
| <b>(description)</b>       | The assembly name string.   |
| <b>(properties)</b>        |   |
| <b>AssemblyName</b>        | <a href="#">x:String</a>  |
| <b>(description)</b>       | A particular naming convention to identify which dictionary applies for a particular theme.                                   |

#### 4.907 Thickness

[x:Object](#) > Thickness

|                      |  |
|----------------------|--|
| (usage)              | <Thickness> string </Thickness>  |
| <b>(description)</b> | Describes the thickness of a frame around a rectangle. Four Double values describe the Left, Top, Right, and Bottom sides of the rectangle, respectively.  |
| <b>(used by)</b>     | <a href="#">AnchoredBlock</a> <a href="#">Block</a> <a href="#">Border</a> <a href="#">Control</a> <a href="#">FlowDocument</a> <a href="#">FrameworkElement</a> <a href="#">ListItem</a> <a href="#">RibbonTwoLineText</a> <a href="#">TableCell</a> <a href="#">TaskbarItemInfo</a> <a href="#">TextBlock</a> <a href="#">ThicknessKeyFrame</a> <a href="#">WindowChrome</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">ThicknessSyntax</a>  |
| <b>(properties)</b>  |  |

|                      |  |
|----------------------|--|
| (usage)              | <Thickness> string </Thickness>                                    |
| <b>Bottom</b>        | <a href="#">x:Double</a>   |
| <b>(description)</b> | The width, in pixels, of the lower side of the bounding rectangle. |
| <b>Left</b>          | <a href="#">x:Double</a>   |
| <b>(description)</b> | The width, in pixels, of the left side of the bounding rectangle.  |
| <b>Right</b>         | <a href="#">x:Double</a>   |
| <b>(description)</b> | The width, in pixels, of the right side of the bounding rectangle. |
| <b>Top</b>           | <a href="#">x:Double</a>   |
| <b>(description)</b> | The width, in pixels, of the upper side of the bounding rectangle. |

#### 4.908 ThicknessAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [ThicknessAnimationBase](#) > ThicknessAnimation

|                        |  |
|------------------------|--|
| (usage)                | <ThicknessAnimation />   |
| <b>(description)</b>   | Animates the value of a Thickness property between two target values using linear interpolation over a specified Duration. |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">x:Nullable(Thickness)</a>  |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>   | The easing function applied to this animation.   |
| <b>From</b>            | <a href="#">x:Nullable(Thickness)</a>  |
| <b>(description)</b>   | The animation's starting value.  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value.     |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.  |
| <b>To</b>              | <a href="#">x:Nullable(Thickness)</a>  |
| <b>(description)</b>   | The animation's ending value.  |



## 4.909 ThicknessAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > ThicknessAnimationBase

|   |  |
|---|--|
| <a href="#">ThicknessAnimation</a> <a href="#">ThicknessAnimationUsingKeyFrames</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that animates a Thickness value. |
| <b>[is default constructible]</b>   | false  |
| <b>[name property]</b>  | Name   |

## 4.910 ThicknessAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [ThicknessAnimationBase](#) > ThicknessAnimationUsingKeyFrames

|                           |  |
|---------------------------|--|
| <b>(usage)</b>            | <ThicknessAnimationUsingKeyFrames> <a href="#">ThicknessKeyFrame</a> *</ThicknessAnimationUsingKeyFrames>              |
| <b>(description)</b>      | Animates the value of a Thickness property along a set of KeyFrames.   |
| <b>[content property]</b> | KeyFrames  |
| <b>[name property]</b>    | Name   |
| <b>(properties)</b>       |  |
| <b>IsAdditive</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>KeyFrames</b>          | <a href="#">ThicknessKeyFrameCollection</a>  |
| <b>(description)</b>      | The collection of ThicknessKeyFrame objects that define the animation.   |

## 4.911 ThicknessKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ThicknessKeyFrame

[DiscreteThicknessKeyFrame](#) [EasingThicknessKeyFrame](#) [LinearThicknessKeyFrame](#) [SplineThicknessKeyFrame](#)

|   |   |
|---|---|
| <a href="#">DiscreteThicknessKeyFrame</a> <a href="#">EasingThicknessKeyFrame</a> <a href="#">LinearThicknessKeyFrame</a> <a href="#">SplineThicknessKeyFrame</a> |   |
| <b>(usage)</b>  | None.   |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a ThicknessAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">ThicknessKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false   |
| <b>(properties)</b>   |   |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>   |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.   |
| <b>Value</b>  | <a href="#">Thickness</a>   |
| <b>(description)</b>  | The key frame's target value.   |

#### 4.912 ThicknessKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ThicknessKeyFrameCollection

|                            |   |
|----------------------------|---|
| <b>(usage)</b>             | <ThicknessKeyFrameCollection> <a href="#">ThicknessKeyFrame</a> *</ThicknessKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of ThicknessKeyFrame objects.   |
| <b>(used by)</b>           | <a href="#">ThicknessAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true  |
| <b>[allowed types]</b>     | <a href="#">ThicknessKeyFrame</a>   |
| <b>(static properties)</b> |   |
| <b>Empty</b>               | ThicknessKeyFrameCollection   |
| <b>(description)</b>       | An empty ThicknessKeyFrameCollection.   |

#### 4.913 Thumb

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > Thumb, [IInputElement](#)

|                              |   |
|------------------------------|---|
| <a href="#">GridSplitter</a> |   |
| <b>(usage)</b>               | <Thumb />   |
| <b>(description)</b>         | Represents a control that can be dragged by the user. |
| <b>(used by)</b>             | <a href="#">Track</a>                                 |

|                              |  |
|------------------------------|--|
| <a href="#">GridSplitter</a> |  |
| <b>[name property]</b>       | Name   |
| <b>[xml lang property]</b>   | Language   |
| <b>(events)</b>              |  |
| <b>DragCompleted</b>         | Occurs when the Thumb control loses mouse capture.   |
| <b>DragDelta</b>             | Occurs one or more times as the mouse changes position when a Thumb control has logical focus and mouse capture. |
| <b>DragStarted</b>           | Occurs when a Thumb control receives logical focus and mouse capture.  |

#### 4.914 ThumbButtonInfo

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > ThumbButtonInfo

|                            |   |
|----------------------------|---|
| (usage)                    | <ThumbButtonInfo />   |
| <b>(description)</b>       | Represents information about how to display a button in the Windows 7 taskbar thumbnail.          |
| <b>(used by)</b>           | <a href="#">ThumbButtonInfoCollection</a>   |
| <b>(properties)</b>        |   |
| <b>Command</b>             | <a href="#">ICommand</a>  |
| <b>(description)</b>       | The command to invoke when this thumbnail button is clicked.                                      |
| <b>CommandParameter</b>    | <a href="#">x:Object</a>  |
| <b>(description)</b>       | The parameter to pass to the Command property.  |
| <b>CommandTarget</b>       | <a href="#">IInputElement</a>   |
| <b>(description)</b>       | The element on which to raise the specified command.  |
| <b>Description</b>         | <a href="#">x:String</a>  |
| <b>(description)</b>       | The text to display for the thumbnail button tooltip.   |
| <b>DismissWhenClicked</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether the taskbar thumbnail closes when the thumbnail button is clicked. |
| <b>ImageSource</b>         | <a href="#">ImageSource</a>   |
| <b>(description)</b>       | The image that is displayed on the thumbnail button.  |
| <b>IsBackgroundVisible</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a border and highlight is displayed around the thumbnail button.   |

|                      |   |
|----------------------|---|
| (usage)              | <ThumbButtonInfo />   |
| <b>IsEnabled</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b> | A value that indicates whether the thumbnail button is enabled.                 |
| <b>IsInteractive</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b> | A value that indicates whether the user can interact with the thumbnail button. |
| <b>Visibility</b>    | <a href="#">Visibility</a>  |
| <b>(description)</b> | A value that specifies the display state of the thumbnail button.               |
| <b>(events)</b>      |   |
| <b>Click</b>         | Occurs when the thumbnail button is clicked.                                    |

#### 4.915 ThumbButtonInfoCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [FreezableCollection\(ThumbButtonInfo\)](#) > ThumbButtonInfoCollection

|                        |   |
|------------------------|---|
| (usage)                | <ThumbButtonInfoCollection> <a href="#">ThumbButtonInfo</a> *</ThumbButtonInfoCollection> |
| <b>(description)</b>   | Represents a collection of ThumbButtonInfo objects that are associated with a Window.     |
| <b>(used by)</b>       | <a href="#">TaskbarItemInfo</a>   |
| <b>[is list]</b>       | true  |
| <b>[allowed types]</b> | <a href="#">ThumbButtonInfo</a>   |

#### 4.916 TickBar

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > TickBar, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <TickBar />   |
| <b>(description)</b>       | Represents a control that draws a set of tick marks for a Slider control. |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Fill</b>                | <a href="#">Brush</a>   |
| <b>(description)</b>       | The Brush that is used to draw the tick marks.                            |
| <b>IsDirectionReversed</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | The direction of increasing value of the tick marks.                      |

|                                |  |
|--------------------------------|--|
| (usage)                        | <TickBar />  |
| <b>IsSelectionRangeEnabled</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | Whether the TickBar displays a selection range.  |
| <b>Maximum</b>                 | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The maximum value that is possible for a tick mark.  |
| <b>Minimum</b>                 | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The minimum value that is possible for a tick mark.  |
| <b>Placement</b>               | <a href="#">TickBarPlacement</a>   |
| <b>(description)</b>           | Where tick marks appear relative to a Track of a Slider control.                           |
| <b>ReservedSpace</b>           | <a href="#">x:Double</a>   |
| <b>(description)</b>           | A space buffer for the area that contains the tick marks that are specified for a TickBar. |
| <b>SelectionEnd</b>            | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The end point of a selection.  |
| <b>SelectionStart</b>          | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The start point of a selection.  |
| <b>TickFrequency</b>           | <a href="#">x:Double</a>   |
| <b>(description)</b>           | The interval between tick marks.   |
| <b>Ticks</b>                   | <a href="#">DoubleCollection</a>   |
| <b>(description)</b>           | The positions of the tick marks.   |

#### 4.917 TickBarPlacement

[x:Object](#) > TickBarPlacement

|                      |   |
|----------------------|---|
| (usage)              | <b>Left  Top  Right  Bottom</b>   |
| <b>(description)</b> | Specifies the placement of a TickBar with respect to the Track of a Slider control. |
| <b>(used by)</b>     | <a href="#">TickBar</a>   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TickBarPlacementSyntax</a>  |

#### 4.918 TickPlacement

[x:Object](#) > TickPlacement

|                      |   |
|----------------------|---|
| (usage)              | <b>None  TopLeft  BottomRight  Both</b>   |
| <b>(description)</b> | Specifies the position of tick marks in a Slider control with respect to the Track that the control implements. |
| <b>(used by)</b>     | <a href="#">Slider</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TickPlacementSyntax</a>   |

#### 4.919 TiffBitmapEncoder

[x:Object](#) > [BitmapEncoder](#) > TiffBitmapEncoder

|                      |  |
|----------------------|--|
| (usage)              | <TiffBitmapEncoder />  |
| <b>(description)</b> | Defines an encoder that is used to encode Tagged Image File Format (TIFF) format images.                   |
| <b>(properties)</b>  |  |
| <b>Compression</b>   | <a href="#">TiffCompressOption</a>   |
| <b>(description)</b> | A value that indicates the type of compression that is used by this Tagged Image File Format (TIFF) image. |

#### 4.920 TiffCompressOption

[x:Object](#) > TiffCompressOption

|                      |   |
|----------------------|---|
| (usage)              | <b>Default  None  Ccitt3  Ccitt4  Lzw  Rle  Zip</b>   |
| <b>(description)</b> | Specifies the possible compression schemes for Tagged Image File Format (TIFF) bitmap images. |
| <b>(used by)</b>     | <a href="#">TiffBitmapEncoder</a>   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TiffCompressOptionSyntax</a>  |

#### 4.921 TileBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > TileBrush

|   |   |
|---|---|
| <a href="#">DrawingBrush</a> <a href="#">ImageBrush</a> <a href="#">VisualBrush</a> |   |
| <b>(usage)</b>  | <TileBrush> string </TileBrush>                               |
| <b>(description)</b>  | Describes a way to paint a region by using one or more tiles. |
| <b>[is default constructible]</b>   | false   |

|   |  |
|---|--|
| <a href="#">DrawingBrush</a> <a href="#">ImageBrush</a> <a href="#">VisualBrush</a> |  |
| <b>[text syntax]</b>  | <a href="#">BrushSyntax</a>  |
| <b>(properties)</b>   |  |
| <b>AlignmentX</b>   | <a href="#">AlignmentX</a>   |
| <b>(description)</b>  | The horizontal alignment of content in the TileBrush base tile.  |
| <b>AlignmentY</b>   | <a href="#">AlignmentY</a>   |
| <b>(description)</b>  | The vertical alignment of content in the TileBrush base tile.  |
| <b>Stretch</b>  | <a href="#">Stretch</a>  |
| <b>(description)</b>  | A value that specifies how the content of this TileBrush stretches to fit its tiles.   |
| <b>TileMode</b>   | <a href="#">TileMode</a>   |
| <b>(description)</b>  | A value that specifies how a TileBrush fills the area that you are painting if the base tile is smaller than the output area.  |
| <b>Viewbox</b>  | <a href="#">Rect</a>   |
| <b>(description)</b>  | The position and dimensions of the content in a TileBrush tile.  |
| <b>ViewboxUnits</b>   | <a href="#">BrushMappingMode</a>   |
| <b>(description)</b>  | A value that specifies whether the Viewbox value is relative to the bounding box of the TileBrush contents or whether the value is absolute.   |
| <b>Viewport</b>   | <a href="#">Rect</a>   |
| <b>(description)</b>  | The position and dimensions of the base tile for a TileBrush.  |
| <b>ViewportUnits</b>  | <a href="#">BrushMappingMode</a>   |
| <b>(description)</b>  | A BrushMappingMode enumeration that specifies whether the value of the Viewport, which indicates the size and position of the TileBrush base tile, is relative to the size of the output area. |

## 4.922 TileMode

[x:Object](#) > TileMode

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <b>None  Tile  FlipX  FlipY  FlipXY</b>                     |
| <b>(description)</b> | Describes how a TileBrush paints tiles onto an output area. |
| <b>(used by)</b>     | <a href="#">TileBrush</a>                                   |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TileModeSyntax</a>                              |

## 4.923 Timeline

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Timeline

| <a href="#">AnimationTimeline</a> <a href="#">MediaTimeline</a> <a href="#">TimelineGroup</a> |  |
|---|--|
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | Defines a segment of time.   |
| <b>(used by)</b>  | <a href="#">TimelineCollection</a>   |
| <b>[is default constructible]</b>   | false  |
| <b>[name property]</b>  | Name   |
| <b>(properties)</b>   |  |
| <b>AccelerationRatio</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b>  | A value specifying the percentage of the timeline's Duration spent accelerating the passage of time from zero to its maximum rate. |
| <b>AutoReverse</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether the timeline plays in reverse after it completes a forward iteration.                               |
| <b>BeginTime</b>  | <a href="#">x:Nullable(x:TimeSpan)</a>   |
| <b>(description)</b>  | The time at which this Timeline should begin.  |
| <b>DecelerationRatio</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b>  | A value specifying the percentage of the timeline's Duration spent decelerating the passage of time from its maximum rate to zero. |
| <b>Duration</b>   | <a href="#">Duration</a>   |
| <b>(description)</b>  | The length of time for which this timeline plays, not counting repetitions.  |
| <b>FillBehavior</b>   | <a href="#">FillBehavior</a>   |
| <b>(description)</b>  | A value that specifies how the Timeline behaves after it reaches the end of its active period.                                     |
| <b>Name</b>   | <a href="#">x:String</a>   |
| <b>(description)</b>  | The name of this Timeline.   |
| <b>RepeatBehavior</b>   | <a href="#">RepeatBehavior</a>   |
| <b>(description)</b>  | The repeating behavior of this timeline.   |
| <b>SpeedRatio</b>   | <a href="#">x:Double</a>   |
| <b>(description)</b>  | The rate, relative to its parent, at which time progresses for this Timeline.  |



|   |   |
|---|---|
| <a href="#">AnimationTimeline</a> <a href="#">MediaTimeline</a> <a href="#">TimelineGroup</a> |   |
| <b>(attachable properties)</b>  |   |
| <b>Timeline.DesiredFrameRate</b>  | <a href="#">x:Nullable(x:Int32)</a>   |
| <b>(description)</b>  | The desired frame rate for this timeline and its child timelines.                                     |
| <b>[target type]</b>  | Timeline  |
| <b>(events)</b>   |   |
| <b>Completed</b>  | Occurs when this timeline has completely finished playing: it will no longer enter its active period. |
| <b>CurrentGlobalSpeedInvalidated</b>  | Occurs when the rate at which time progresses for the timeline's clock changes.                       |
| <b>CurrentStateInvalidated</b>  | Occurs when the CurrentState property of the timeline's Clock is updated.                             |
| <b>CurrentTimeInvalidated</b>   | Occurs when the CurrentTime property of the timeline's Clock is updated.                              |
| <b>RemoveRequested</b>  | Occurs when the clock created for this timeline or one of its parent timelines is removed.            |

#### 4.924 TimelineCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > TimelineCollection

|                        |  |
|------------------------|--|
| <b>(usage)</b>         | <TimelineCollection> <a href="#">Timeline</a> *</TimelineCollection> |
| <b>(description)</b>   | Represents a collection of Timeline objects.                         |
| <b>(used by)</b>       | <a href="#">TimelineGroup</a>  |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">Timeline</a>   |

#### 4.925 TimelineGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > TimelineGroup

|                                   |   |
|-----------------------------------|---|
| <a href="#">ParallelTimeline</a>  |   |
| <b>(usage)</b>                    | None.   |
| <b>(description)</b>              | A base type that represents a Timeline that may contain a collection of child Timeline objects. |
| <b>[is default constructible]</b> | false   |
| <b>[content property]</b>         | Children  |

|                                  |   |
|----------------------------------|---|
| <a href="#">ParallelTimeline</a> |   |
| <b>[name property]</b>           | Name  |
| <b>(properties)</b>              |   |
| <b>Children</b>                  | <a href="#">TimelineCollection</a>                                    |
| <b>(description)</b>             | The collection of direct child Timeline objects of the TimelineGroup. |

#### 4.926 TimeSeekOrigin

[x:Object](#) > TimeSeekOrigin

|                      |  |
|----------------------|--|
| (usage)              | <b>BeginTime</b>   <a href="#">Duration</a>  |
| <b>(description)</b> | Indicates the origin of a seek operation. The offset of the seek operation is relative to this origin. |
| <b>(used by)</b>     | <a href="#">SeekStoryboard</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">TimeSeekOriginSyntax</a>   |

#### 4.927 ToggleButton

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > [ButtonBase](#) > ToggleButton, [IInputElement](#)

|   |  |
|---|--|
| <a href="#">CheckBox</a> <a href="#">RadioButton</a> <a href="#">RibbonToggleButton</a> |  |
| <b>(usage)</b>  | <ToggleButton> <a href="#">x:Object</a> </ToggleButton>          |
| <b>(description)</b>  | Base type for controls that can switch states, such as CheckBox. |
| <b>[content property]</b>   | Content  |
| <b>[name property]</b>  | Name   |
| <b>[xml lang property]</b>  | Language   |
| <b>(properties)</b>   |  |
| <b>IsChecked</b>  | <a href="#">x:Nullable(x:Boolean)</a>                            |
| <b>(description)</b>  | Whether the ToggleButton is checked.                             |
| <b>IsThreeState</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | Determines whether the control supports two or three states.     |
| <b>(events)</b>   |  |
| <b>Checked</b>  | Occurs when a ToggleButton is checked.                           |

|   |  |
|---|--|
| <a href="#">CheckBox</a> <a href="#">RadioButton</a> <a href="#">RibbonToggleButton</a> |  |
| <b>Indeterminate</b>  | Occurs when the state of a ToggleButton is neither on nor off. |
| <b>Unchecked</b>  | Occurs when a ToggleButton is unchecked.                       |

## 4.928 ToleranceType

[x:Object](#) > ToleranceType

|                      |  |
|----------------------|--|
| (usage)              | <b>Absolute</b>   <b>Relative</b>                                      |
| <b>(description)</b> | Determines the means by which an error tolerance value is interpreted. |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">ToleranceTypeSyntax</a>                                    |

## 4.929 ToolBar

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > ToolBar, [InputElement](#)

|                                |  |
|--------------------------------|--|
| (usage)                        | <ToolBar> <a href="#">x:Object</a> *</ToolBar>   |
| <b>(description)</b>           | Provides a container for a group of commands or controls.  |
| <b>(used by)</b>               | <a href="#">ToolBarTray</a>  |
| <b>[content property]</b>      | Items  |
| <b>[name property]</b>         | Name   |
| <b>[xml lang property]</b>     | Language   |
| <b>(properties)</b>            |  |
| <b>Band</b>                    | <a href="#">x:Int32</a>  |
| <b>(description)</b>           | A value that indicates where the toolbar should be located in the ToolBarTray.                           |
| <b>BandIndex</b>               | <a href="#">x:Int32</a>  |
| <b>(description)</b>           | The band index number that indicates the position of the toolbar on the band.                            |
| <b>IsOverflowOpen</b>          | <a href="#">x:Boolean</a>  |
| <b>(description)</b>           | A value that indicates whether the ToolBar overflow area is currently visible.                           |
| <b>(attachable properties)</b> |  |
| <b>ToolBar.OverflowMode</b>    | <a href="#">OverflowMode</a>   |
| <b>(description)</b>           | A value that indicates when an item should be placed in the overflow panel instead of in the main panel. |

|                             |  |
|-----------------------------|--|
| (usage)                     | <ToolBar> <a href="#">x:Object</a> *</ToolBar>           |
| [target type]               | <a href="#">DependencyObject</a>                         |
| (static properties)         |  |
| <b>ButtonStyleKey</b>       | <a href="#">ResourceKey</a>                              |
| (description)               | The Style applied to buttons on a toolbar.               |
| <b>CheckBoxStyleKey</b>     | <a href="#">ResourceKey</a>                              |
| (description)               | The Style applied to check boxes on a ToolBar.           |
| <b>ComboBoxStyleKey</b>     | <a href="#">ResourceKey</a>                              |
| (description)               | The Style applied to combo boxes on a ToolBar.           |
| <b>MenuStyleKey</b>         | <a href="#">ResourceKey</a>                              |
| (description)               | The Style applied to menus on a ToolBar.                 |
| <b>RadioButtonStyleKey</b>  | <a href="#">ResourceKey</a>                              |
| (description)               | The Style applied to radio buttons on a toolbar.         |
| <b>SeparatorStyleKey</b>    | <a href="#">ResourceKey</a>                              |
| (description)               | The Style applied to separators on a ToolBar.            |
| <b>TextBoxStyleKey</b>      | <a href="#">ResourceKey</a>                              |
| (description)               | The Style applied to text boxes on a ToolBar.            |
| <b>ToggleButtonStyleKey</b> | <a href="#">ResourceKey</a>                              |
| (description)               | The Style applied to ToggleButton controls on a ToolBar. |

#### 4.930 ToolBarOverflowPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > ToolBarOverflowPanel, [InputElement](#)

|                     |   |
|---------------------|---|
| (usage)             | <ToolBarOverflowPanel> <a href="#">UIElement</a> *</ToolBarOverflowPanel>   |
| (description)       | Used to arrange overflow ToolBar items.                                     |
| [content property]  | Children  |
| [name property]     | Name  |
| [xml lang property] | Language  |
| (properties)        |   |
| <b>WrapWidth</b>    | <a href="#">x:Double</a>  |
| (description)       | The recommended width for an overflow ToolBar before items flow to the next |

|         |   |
|---------|---|
| (usage) | <ToolBarOverflowPanel> <a href="#">UIElement</a> *</ToolBarOverflowPanel> |
|         | line.   |

#### 4.931 ToolBarPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > [StackPanel](#) > [ToolBarPanel](#), [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <ToolBarPanel> <a href="#">UIElement</a> *</ToolBarPanel> |
| <b>(description)</b>       | Arranges ToolBar items inside a ToolBar.                  |
| <b>[content property]</b>  | Children  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.932 ToolBarTray

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [ToolBarTray](#), [IInputElement](#)

|                                |   |
|--------------------------------|---|
| (usage)                        | <ToolBarTray> <a href="#">ToolBar</a> *</ToolBarTray>                       |
| <b>(description)</b>           | Represents the container that handles the layout of a ToolBar.              |
| <b>[content property]</b>      | ToolBars  |
| <b>[name property]</b>         | Name  |
| <b>[xml lang property]</b>     | Language  |
| <b>(properties)</b>            |   |
| <b>Background</b>              | <a href="#">Brush</a>   |
| <b>(description)</b>           | A brush to use for the background color of the ToolBarTray.                 |
| <b>IsLocked</b>                | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a ToolBar can be moved inside a ToolBarTray. |
| <b>Orientation</b>             | <a href="#">Orientation</a>   |
| <b>(description)</b>           | Specifies the orientation of a ToolBarTray.                                 |
| <b>ToolBars</b>                | <a href="#">Collection(ToolBar)</a>   |
| <b>(description)</b>           | The collection of ToolBar elements in the ToolBarTray.                      |
| <b>[read only]</b>             | true  |
| <b>(attachable properties)</b> |   |
| <b>ToolBarTray.IsLocked</b>    | <a href="#">x:Boolean</a>   |

|               |   |
|---------------|---|
| (usage)       | <ToolBarTray> <a href="#">ToolBar</a> *</ToolBarTray>                       |
| (description) | A value that indicates whether a ToolBar can be moved inside a ToolBarTray. |
| [target type] | <a href="#">DependencyObject</a>  |

### 4.933 ToolTip

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > ToolTip, [IInputElement](#)

|                               |   |
|-------------------------------|---|
| <a href="#">RibbonToolTip</a> |   |
| (usage)                       | <ToolTip> <a href="#">x:Object</a> </ToolTip>   |
| (description)                 | Represents a control that creates a pop-up window that displays information for an element in the interface.                            |
| [content property]            | Content   |
| [name property]               | Name  |
| [xml lang property]           | Language  |
| (properties)                  |   |
| HasDropShadow                 | <a href="#">x:Boolean</a>   |
| (description)                 | A value that indicates whether the control has a drop shadow.   |
| HorizontalOffset              | <a href="#">x:Double</a>  |
| (description)                 | Get or sets the horizontal distance between the target origin and the popup alignment point.  |
| [text syntax]                 | <a href="#">LengthSyntax</a>  |
| IsOpen                        | <a href="#">x:Boolean</a>   |
| (description)                 | A value that indicates whether a ToolTip is visible.  |
| Placement                     | <a href="#">PlacementMode</a>   |
| (description)                 | The orientation of the ToolTip control when it opens, and specifies how the ToolTip control behaves when it overlaps screen boundaries. |
| PlacementRectangle            | <a href="#">Rect</a>  |
| (description)                 | The rectangular area relative to which the ToolTip control is positioned when it opens.   |
| PlacementTarget               | <a href="#">UIElement</a>   |
| (description)                 | The UIElement relative to which the ToolTip is positioned when it opens.  |
| StaysOpen                     | <a href="#">x:Boolean</a>   |
| (description)                 | A value that indicates whether an open ToolTip remains open until the user clicks the mouse when the mouse is not over the ToolTip.     |

|                               |  |
|-------------------------------|--|
| <a href="#">RibbonToolTip</a> |  |
| <b>VerticalOffset</b>         | <a href="#">x:Double</a>   |
| <b>(description)</b>          | Get or sets the vertical distance between the target origin and the popup alignment point. |
| <b>[text syntax]</b>          | <a href="#">LengthSyntax</a>   |
| <b>(events)</b>               |  |
| <b>Closed</b>                 | Occurs when a ToolTip is closed and is no longer visible.                                  |
| <b>Opened</b>                 | Occurs when a ToolTip becomes visible.   |

#### 4.934 ToolTipService

[x:Object](#) > ToolTipService

|  |  |
|--|--|
| (usage)                                | None.  |
| <b>(description)</b>                   | Represents a service that provides properties and events to control the display and behavior of tooltips.                        |
| <b>[is default constructible]</b>      | false  |
| <b>(attachable properties)</b>         |  |
| <b>ToolTipService.BetweenShowDelay</b> | <a href="#">x:Int32</a>  |
| <b>(description)</b>                   | The maximum time between the display of two tooltips where the second tooltip appears without a delay.                           |
| <b>[target type]</b>                   | <a href="#">DependencyObject</a>   |
| <b>ToolTipService.HasDropShadow</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                   | Whether the tooltip displays a drop shadow effect.   |
| <b>[target type]</b>                   | <a href="#">DependencyObject</a>   |
| <b>ToolTipService.HorizontalOffset</b> | <a href="#">x:Double</a>   |
| <b>(description)</b>                   | The offset from the left of the area that is specified for the tooltip by the PlacementRectangle and PlacementTarget properties. |
| <b>[target type]</b>                   | <a href="#">DependencyObject</a>   |
| <b>[text syntax]</b>                   | <a href="#">LengthSyntax</a>   |
| <b>ToolTipService.InitialShowDelay</b> | <a href="#">x:Int32</a>  |
| <b>(description)</b>                   | The length of time before a tooltip opens.   |
| <b>[target type]</b>                   | <a href="#">DependencyObject</a>   |
| <b>ToolTipService.IsEnabled</b>        | <a href="#">x:Boolean</a>  |

|  |   |
|--|---|
| (usage)                                  | None.   |
| <b>(description)</b>                     | Whether a tooltip appears.  |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>ToolTipService.Placement</b>          | <a href="#">PlacementMode</a>   |
| <b>(description)</b>                     | The orientation of the tooltip when it opens, and specifies how the tooltip behaves when it overlaps screen boundaries.           |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>ToolTipService.PlacementRectangle</b> | <a href="#">Rect</a>  |
| <b>(description)</b>                     | The rectangular area relative to which the tooltip is positioned.   |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>ToolTipService.PlacementTarget</b>    | <a href="#">UIElement</a>   |
| <b>(description)</b>                     | The object relative to which the tooltip is positioned.   |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>ToolTipService.ShowDuration</b>       | <a href="#">x:Int32</a>   |
| <b>(description)</b>                     | The amount of time that a tooltip remains visible.  |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>ToolTipService.ShowOnDisabled</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | Whether a tooltip appears for an object that is not enabled.  |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>ToolTipService.ToolTip</b>            | <a href="#">x:Object</a>  |
| <b>(description)</b>                     | The content of a tooltip.   |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>ToolTipService.VerticalOffset</b>     | <a href="#">x:Double</a>  |
| <b>(description)</b>                     | The distance from the top of the area that is specified for the tooltip by the PlacementRectangle and PlacementTarget properties. |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>[text syntax]</b>                     | <a href="#">LengthSyntax</a>  |
| <b>(attachable events)</b>               |   |
| <b>ToolTipService.ToolTipClosing</b>     |   |
| <b>ToolTipService.ToolTipOpening</b>     |   |



## 4.935 TouchAction

[x:Object](#) > TouchAction

|                      |   |
|----------------------|---|
| (usage)              | <b>Down  Move  Up</b>                           |
| <b>(description)</b> | Describes the action of a specific touch point. |
| <b>(used by)</b>     | <a href="#">TouchPoint</a>                      |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">TouchActionSyntax</a>               |

## 4.936 TouchPoint

[x:Object](#) > TouchPoint

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(description)</b>              | Represents a single touch point from a multitouch message source.      |
| <b>(used by)</b>                  | <a href="#">TouchPointCollection</a>                                   |
| <b>[is default constructible]</b> | false  |
| <b>(properties)</b>               |  |
| <b>Action</b>                     | <a href="#">TouchAction</a>  |
| <b>(description)</b>              | The last action that occurred at this location.                        |
| <b>Bounds</b>                     | <a href="#">Rect</a>   |
| <b>(description)</b>              | The bounds of the area that the finger has in contact with the screen. |
| <b>Position</b>                   | <a href="#">Point</a>  |
| <b>(description)</b>              | The location of the touch point.                                       |

## 4.937 TouchPointCollection

[x:Object](#) > [Collection\(TouchPoint\)](#) > TouchPointCollection

|                        |  |
|------------------------|--|
| (usage)                | <TouchPointCollection> <a href="#">TouchPoint</a> *</TouchPointCollection> |
| <b>(description)</b>   | Contains a collection of TouchPoint objects.                               |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">TouchPoint</a>   |

## 4.938 Track

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Track, [InputElement](#)

|                             |   |
|-----------------------------|---|
| (usage)                     | <Track />   |
| <b>(description)</b>        | Represents a control primitive that handles the positioning and sizing of a Thumb control and two RepeatButton controls that are used to set a Value. |
| <b>[name property]</b>      | Name  |
| <b>[xml lang property]</b>  | Language  |
| <b>(properties)</b>         |   |
| <b>DecreaseRepeatButton</b> | <a href="#">RepeatButton</a>  |
| <b>(description)</b>        | The RepeatButton that decreases the Value property of the Track.  |
| <b>IncreaseRepeatButton</b> | <a href="#">RepeatButton</a>  |
| <b>(description)</b>        | The RepeatButton that increases the Value property of the Track type.   |
| <b>IsDirectionReversed</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | Whether the direction of increasing Value is reversed from the default direction.   |
| <b>Maximum</b>              | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The maximum possible Value of the Track.  |
| <b>Minimum</b>              | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The minimum possible Value of the Track.  |
| <b>Orientation</b>          | <a href="#">Orientation</a>   |
| <b>(description)</b>        | A value that indicates whether the Track is displayed horizontally or vertically.   |
| <b>Thumb</b>                | <a href="#">Thumb</a>   |
| <b>(description)</b>        | The Thumb control that is used to change the Value of a Track.  |
| <b>Value</b>                | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The current value of the Track as determined by the position of the Thumb control.  |
| <b>ViewportSize</b>         | <a href="#">x:Double</a>  |
| <b>(description)</b>        | The size of the part of the scrollable content that is visible.   |

#### 4.939 Transform

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform](#) > Transform

|  |   |
|--|---|
| <a href="#">MatrixTransform</a> <a href="#">RotateTransform</a> <a href="#">ScaleTransform</a> <a href="#">SkewTransform</a> <a href="#">TransformGroup</a> <a href="#">TranslateTransform</a> |   |
| <b>(usage)</b>   | <Transform> string </Transform>                             |
| <b>(description)</b>   | A base type for transformations in a two-dimensional plane. |

|  |  |
|--|--|
| <a href="#">MatrixTransform</a> <a href="#">RotateTransform</a> <a href="#">ScaleTransform</a> <a href="#">SkewTransform</a> <a href="#">TransformGroup</a> <a href="#">TranslateTransform</a> |  |
| <b>(used by)</b>   | <a href="#">Brush</a> <a href="#">ContainerVisual</a> <a href="#">DrawingGroup</a> <a href="#">FrameworkElement</a> <a href="#">Geometry</a> <a href="#">TextEffect</a> <a href="#">TransformCollection</a> <a href="#">TransformedBitmap</a> <a href="#">UIElement</a> <a href="#">Viewport3DVisual</a> |
| <b>[is default constructible]</b>  | false  |
| <b>[text syntax]</b>   | <a href="#">TransformSyntax</a>  |
| <b>(static properties)</b>   |  |
| <b>Identity</b>  | Transform  |
| <b>(description)</b>   | An identity transform.   |

#### 4.940 Transform3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform3D](#) > Transform3D

|  |   |
|--|---|
| <a href="#">AffineTransform3D</a> <a href="#">MatrixTransform3D</a> <a href="#">Transform3DGroup</a> |   |
| <b>(usage)</b>   | {x:Static Transform3D.StaticPropertyName}   |
| <b>(description)</b>   | A base type for transformations in a three-dimensional plane.   |
| <b>(used by)</b>   | <a href="#">Camera</a> <a href="#">Model3D</a> <a href="#">ModelVisual3D</a> <a href="#">Transform3DCollection</a> <a href="#">Visual3D</a> |
| <b>[is default constructible]</b>  | false   |
| <b>(static properties)</b>   |   |
| <b>Identity</b>  | Transform3D   |
| <b>(description)</b>   | The identity transformation.  |

#### 4.941 Transform3DCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > Transform3DCollection

|                        |   |
|------------------------|---|
| <b>(usage)</b>         | <Transform3DCollection> <a href="#">Transform3D</a> *</Transform3DCollection> |
| <b>(description)</b>   | Represents an ordered collection of Transform3D objects.                      |
| <b>(used by)</b>       | <a href="#">Transform3DGroup</a>  |
| <b>[is list]</b>       | true  |
| <b>[allowed types]</b> | <a href="#">Transform3D</a>   |

#### 4.942 Transform3DGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform3D](#) > [Transform3D](#) > Transform3DGroup

|                           |   |
|---------------------------|---|
| (usage)                   | <Transform3DGroup> <a href="#">Transform3D</a> *</Transform3DGroup>                                       |
| <b>(description)</b>      | Represents a transformation that is a composite of the Transform3D children in its Transform3DCollection. |
| <b>[content property]</b> | Children  |
| <b>(properties)</b>       |   |
| <b>Children</b>           | <a href="#">Transform3DCollection</a>   |
| <b>(description)</b>      | A collection of Transform3D objects.  |

#### 4.943 TransformCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > TransformCollection

|                        |  |
|------------------------|--|
| (usage)                | <TransformCollection> <a href="#">Transform</a> *</TransformCollection>                  |
| <b>(description)</b>   | Represents a collection of Transform objects that can be individually accessed by index. |
| <b>(used by)</b>       | <a href="#">TransformGroup</a>   |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">Transform</a>  |

#### 4.944 TransformedBitmap

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > TransformedBitmap

|                      |   |
|----------------------|---|
| (usage)              | <TransformedBitmap> string </TransformedBitmap>                     |
| <b>(description)</b> | Scales and rotates a BitmapSource.                                  |
| <b>[text syntax]</b> | x:Uri, from <a href="#">[MS-XAML]</a>                               |
| <b>(properties)</b>  |   |
| <b>Source</b>        | <a href="#">BitmapSource</a>  |
| <b>(description)</b> | The source for the bitmap.  |
| <b>Transform</b>     | <a href="#">Transform</a>   |
| <b>(description)</b> | The Transform, which specifies the scale or rotation of the bitmap. |

#### 4.945 TransformGroup

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform](#) > [Transform](#) > TransformGroup

|                           |  |
|---------------------------|--|
| (usage)                   | <TransformGroup> string   <a href="#">Transform</a> *</TransformGroup> |
| <b>(description)</b>      | Represents a composite Transform composed of other Transform objects.  |
| <b>[text syntax]</b>      | <a href="#">TransformSyntax</a>  |
| <b>[content property]</b> | Children   |
| <b>(properties)</b>       |  |
| <b>Children</b>           | <a href="#">TransformCollection</a>                                    |
| <b>(description)</b>      | The TransformCollection that defines this TransformGroup.              |

#### 4.946 TranslateTransform

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform](#) > [Transform](#) > TranslateTransform

|                      |  |
|----------------------|--|
| (usage)              | <TranslateTransform> string </TranslateTransform>              |
| <b>(description)</b> | Translates (moves) an object in the 2-D x-y coordinate system. |
| <b>[text syntax]</b> | <a href="#">TransformSyntax</a>                                |
| <b>(properties)</b>  |  |
| <b>X</b>             | <a href="#">x:Double</a>                                       |
| <b>(description)</b> | The distance to translate along the x-axis.                    |
| <b>Y</b>             | <a href="#">x:Double</a>                                       |
| <b>(description)</b> | The distance to translate (move) an object along the y-axis.   |

#### 4.947 TranslateTransform3D

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [GeneralTransform3D](#) > [Transform3D](#) > [AffineTransform3D](#) > TranslateTransform3D

|                      |  |
|----------------------|--|
| (usage)              | <TranslateTransform3D />                                   |
| <b>(description)</b> | Translates an object in the three-dimensional x-y-z plane. |
| <b>(properties)</b>  |  |
| <b>OffsetX</b>       | <a href="#">x:Double</a>                                   |
| <b>(description)</b> | The X-axis value of the translation's offset.              |
| <b>OffsetY</b>       | <a href="#">x:Double</a>                                   |
| <b>(description)</b> | The Y-axis value of the translation's offset.              |
| <b>OffsetZ</b>       | <a href="#">x:Double</a>                                   |
| <b>(description)</b> | The Z-axis value of the translation's offset.              |

## 4.948 TreeView

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [TreeView](#), [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <TreeView> <a href="#">x:Object</a> *</TreeView>  |
| <b>(description)</b>       | Represents a control that displays hierarchical data in a tree structure that has items that can expand and collapse. |
| <b>[content property]</b>  | Items   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>SelectedValuePath</b>   | <a href="#">x:String</a>  |
| <b>(description)</b>       | The path that is used to get the SelectedValue of the SelectedItem in a TreeView.                                     |
| <b>(events)</b>            |   |
| <b>SelectedItemChanged</b> | Occurs when the SelectedItem changes.   |

## 4.949 TreeViewItem

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ItemsControl](#) > [HeaderedItemsControl](#) > [TreeViewItem](#), [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <TreeViewItem> <a href="#">x:Object</a> *</TreeViewItem>              |
| <b>(description)</b>       | Implements a selectable item in a TreeView control.                   |
| <b>[content property]</b>  | Items   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>IsExpanded</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | Whether the nested items in a TreeViewItem are expanded or collapsed. |
| <b>IsSelected</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | Whether a TreeViewItem control is selected.                           |
| <b>(events)</b>            |   |
| <b>Collapsed</b>           | Occurs when the IsExpanded property changes from true to false.       |
| <b>Expanded</b>            | Occurs when the IsExpanded property changes from false to true.       |

|                   |   |
|-------------------|---|
| (usage)           | <TreeViewItem> <a href="#">x:Object</a> *</TreeViewItem>                          |
| <b>Selected</b>   | Occurs when the IsSelected property of a TreeViewItem changes from false to true. |
| <b>Unselected</b> | Occurs when the IsSelected property of a TreeViewItem changes from true to false. |

#### 4.950 Trigger

[x:Object](#) > [DependencyObject](#) > [TriggerBase](#) > Trigger

|                           |  |
|---------------------------|--|
| (usage)                   | <Trigger> <a href="#">SetterBase</a> *</Trigger>   |
| <b>(description)</b>      | Represents a trigger that applies property values or performs actions conditionally.   |
| <b>[content property]</b> | Setters  |
| <b>(properties)</b>       |  |
| <b>Property</b>           | <a href="#">DependencyProperty</a>   |
| <b>(description)</b>      | The property that returns the value that is compared with the Value property of the trigger. The comparison is a reference equality check. |
| <b>Setters</b>            | <a href="#">SetterBaseCollection</a>   |
| <b>(description)</b>      | A collection of Setter objects, which describe the property values to apply when the specified condition has been met.                     |
| <b>[read only]</b>        | true   |
| <b>SourceName</b>         | <a href="#">x:String</a>   |
| <b>(description)</b>      | The name of the object with the property that causes the associated setters to be applied.   |
| <b>Value</b>              | <a href="#">x:Object</a>   |
| <b>(description)</b>      | The value to be compared with the property value of the element. The comparison is a reference equality check.                             |
| <b>[text syntax]</b>      | This property's text syntax is the text syntax of the Property.  |

#### 4.951 TriggerAction

[x:Object](#) > [DependencyObject](#) > TriggerAction

|  |   |
|--|---|
| <a href="#">BeginStoryboard</a> <a href="#">ControllableStoryboardAction</a> <a href="#">SoundPlayerAction</a> |   |
| <b>(usage)</b>   | None.   |
| <b>(description)</b>   | Describes an action to perform for a trigger. |
| <b>(used by)</b>   | <a href="#">TriggerActionCollection</a>       |

|  |       |
|--|-------|
| <a href="#">BeginStoryboard</a> <a href="#">ControllableStoryboardAction</a> <a href="#">SoundPlayerAction</a> |       |
| [is default constructible]   | false |

#### 4.952 TriggerActionCollection

[x:Object](#) > [TriggerActionCollection](#)

|                 |   |
|-----------------|---|
| (usage)         | <TriggerActionCollection> <a href="#">TriggerAction</a> *</TriggerActionCollection> |
| (description)   | Represents a collection of TriggerAction objects.                                   |
| (used by)       | <a href="#">EventTrigger</a> <a href="#">TriggerBase</a>                            |
| [is list]       | true  |
| [allowed types] | <a href="#">TriggerAction</a>   |

#### 4.953 TriggerBase

[x:Object](#) > [DependencyObject](#) > [TriggerBase](#)

|  |   |
|--|---|
| <a href="#">DataTrigger</a> <a href="#">EventTrigger</a> <a href="#">MultiDataTrigger</a> <a href="#">MultiTrigger</a> <a href="#">Trigger</a> |   |
| (usage)  | None.   |
| (description)  | Represents the base type for specifying a conditional value within a Style object.  |
| (used by)  | <a href="#">TriggerCollection</a>   |
| [is default constructible]   | false   |
| (properties)   |   |
| EnterActions   | <a href="#">TriggerActionCollection</a>   |
| (description)  | A collection of TriggerAction objects to apply when the trigger object becomes active. This property does not apply to the EventTrigger type.   |
| [read only]  | true  |
| ExitActions  | <a href="#">TriggerActionCollection</a>   |
| (description)  | A collection of TriggerAction objects to apply when the trigger object becomes inactive. This property does not apply to the EventTrigger type. |
| [read only]  | true  |

#### 4.954 TriggerCollection

[x:Object](#) > [Collection](#)([TriggerBase](#)) > [TriggerCollection](#)

|               |   |
|---------------|---|
| (usage)       | None.   |
| (description) | Represents a collection of TriggerBase objects. |



|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(used by)</b>                  | <a href="#">ControlTemplate</a> <a href="#">DataTemplate</a> <a href="#">FrameworkElement</a> <a href="#">Style</a> |
| <b>[is default constructible]</b> | false   |
| <b>[is list]</b>                  | true  |
| <b>[allowed types]</b>            | <a href="#">TriggerBase</a>   |

## 4.955 Typography

[x:Object](#) > Typography

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Provides access to a rich set of OpenType typography properties.  |
| <b>[is default constructible]</b> | false   |
| <b>(properties)</b>               |   |
| <b>AnnotationAlternates</b>       | <a href="#">x:Int32</a>   |
| <b>(description)</b>              | A value that specifies the index of an alternate annotation form.   |
| <b>Capitals</b>                   | <a href="#">FontCapitals</a>  |
| <b>(description)</b>              | A FontCapitals enumerated value that indicates the capital form of the selected font.                                 |
| <b>CapitalSpacing</b>             | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value that determines whether inter-glyph spacing for all-capital text is globally adjusted to improve readability. |
| <b>CaseSensitiveForms</b>         | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value that determines whether glyphs adjust their vertical position to better align with uppercase glyphs.          |
| <b>ContextualAlternates</b>       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value that determines whether custom glyph forms can be used based upon the context of the text being rendered.     |
| <b>ContextualLigatures</b>        | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value that determines whether contextual ligatures are enabled.   |
| <b>ContextualSwashes</b>          | <a href="#">x:Int32</a>   |
| <b>(description)</b>              | A value that specifies the index of a contextual swashes form.  |
| <b>DiscretionaryLigatures</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>              | A value that determines whether discretionary ligatures are enabled.  |

|                             |   |
|-----------------------------|---|
| (usage)                     | None.   |
| <b>EastAsianExpertForms</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | A value that determines whether the standard Japanese font forms have been replaced with the corresponding preferred typographic forms.                                 |
| <b>EastAsianLanguage</b>    | <a href="#">FontEastAsianLanguage</a>   |
| <b>(description)</b>        | A FontEastAsianLanguage enumerated value that indicates the version of glyphs to be used for a specific writing system or language.                                     |
| <b>EastAsianWidths</b>      | <a href="#">FontEastAsianWidths</a>   |
| <b>(description)</b>        | A FontEastAsianWidths enumerated value that indicates the proportional width to be used for Latin characters in an East Asian font.                                     |
| <b>Fraction</b>             | <a href="#">FontFraction</a>  |
| <b>(description)</b>        | A FontFraction enumerated value that indicates the fraction style.  |
| <b>HistoricalForms</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | A value that determines whether historical forms are enabled.   |
| <b>HistoricalLigatures</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | A value that indicates whether historical ligatures are enabled.  |
| <b>Kerning</b>              | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | A value that indicates whether kerning is enabled.  |
| <b>MathematicalGreek</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | A value that indicates whether standard typographic font forms of Greek glyphs have been replaced with corresponding font forms commonly used in mathematical notation. |
| <b>NumeralAlignment</b>     | <a href="#">FontNumeralAlignment</a>  |
| <b>(description)</b>        | A FontNumeralAlignment enumerated value that indicates the alignment of widths when using numerals.   |
| <b>NumeralStyle</b>         | <a href="#">FontNumeralStyle</a>  |
| <b>(description)</b>        | A FontNumeralStyle enumerated value that determines the set of glyphs that are used to render numeric alternate font forms.   |
| <b>SlashedZero</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>        | A value that indicates whether a nominal zero font form should be replaced with a slashed zero.   |
| <b>StandardLigatures</b>    | <a href="#">x:Boolean</a>   |

|                            |   |
|----------------------------|---|
| (usage)                    | None.   |
| <b>(description)</b>       | A value that indicates whether standard ligatures are enabled.            |
| <b>StandardSwashes</b>     | <a href="#">x:Int32</a>   |
| <b>(description)</b>       | A value that specifies the index of a standard swashes form.              |
| <b>StylisticAlternates</b> | <a href="#">x:Int32</a>   |
| <b>(description)</b>       | A value that specifies the index of a stylistic alternates form.          |
| <b>StylisticSet1</b>       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet10</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet11</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet12</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet13</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet14</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet15</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet16</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet17</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>StylisticSet18</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>       | A value that indicates whether a stylistic set of a font form is          |

|                                |   |
|--------------------------------|---|
| (usage)                        | None.   |
|                                | enabled.  |
| <b>StylisticSet19</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet2</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet20</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet3</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet4</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet5</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet6</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet7</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet8</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>StylisticSet9</b>           | <a href="#">x:Boolean</a>   |
| <b>(description)</b>           | A value that indicates whether a stylistic set of a font form is enabled.                               |
| <b>Variants</b>                | <a href="#">FontVariants</a>  |
| <b>(description)</b>           | A FontVariants enumerated value that indicates a variation of the standard typographic form to be used. |
| <b>(attachable properties)</b> |   |

|  |   |
|--|---|
| (usage)                                  | None.   |
| <b>Typography.AnnotationAlternates</b>   | <a href="#">x:Int32</a>   |
| <b>(description)</b>                     | A value that specifies the index of an alternate annotation form.   |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>Typography.Capitals</b>               | <a href="#">FontCapitals</a>  |
| <b>(description)</b>                     | A FontCapitals enumerated value that indicates the capital form of the selected font.                                 |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>Typography.CapitalSpacing</b>         | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that determines whether inter-glyph spacing for all-capital text is globally adjusted to improve readability. |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>Typography.CaseSensitiveForms</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that determines whether glyphs adjust their vertical position to better align with uppercase glyphs.          |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>Typography.ContextualAlternates</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that determines whether custom glyph forms can be used based upon the context of the text being rendered.     |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>Typography.ContextualLigatures</b>    | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that determines whether contextual ligatures are enabled.   |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>Typography.ContextualSwashes</b>      | <a href="#">x:Int32</a>   |
| <b>(description)</b>                     | A value that specifies the index of a contextual swashes form.  |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>Typography.DiscretionaryLigatures</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that determines whether discretionary ligatures are enabled.  |
| <b>[target type]</b>                     | <a href="#">DependencyObject</a>  |
| <b>Typography.EastAsianExpertForms</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                     | A value that determines whether the standard Japanese font forms have been replaced with the corresponding preferred  |

|                                       |   |
|---------------------------------------|---|
| (usage)                               | None.   |
|                                       | typographic forms.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.EastAsianLanguage</b>   | <a href="#">FontEastAsianLanguage</a>   |
| <b>(description)</b>                  | A FontEastAsianLanguage enumerated value that indicates the version of glyphs to be used for a specific writing system or language.                                     |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.EastAsianWidths</b>     | <a href="#">FontEastAsianWidths</a>   |
| <b>(description)</b>                  | A FontEastAsianWidths enumerated value that indicates the proportional width to be used for Latin characters in an East Asian font.                                     |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.Fraction</b>            | <a href="#">FontFraction</a>  |
| <b>(description)</b>                  | A FontFraction enumerated value that indicates the fraction style.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.HistoricalForms</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that determines whether historical forms are enabled.   |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.HistoricalLigatures</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether historical ligatures are enabled.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.Kerning</b>             | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether kerning is enabled.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.MathematicalGreek</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether standard typographic font forms of Greek glyphs have been replaced with corresponding font forms commonly used in mathematical notation. |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.NumeralAlignment</b>    | <a href="#">FontNumeralAlignment</a>  |
| <b>(description)</b>                  | A FontNumeralAlignment enumerated value that indicates the alignment of widths when using numerals.   |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |

|                                       |   |
|---------------------------------------|---|
| (usage)                               | None.   |
| <b>Typography.NumeralStyle</b>        | <a href="#">FontNumeralStyle</a>  |
| <b>(description)</b>                  | A FontNumeralStyle enumerated value that determines the set of glyphs that are used to render numeric alternate font forms. |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.SlashedZero</b>         | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether a nominal zero font form should be replaced with a slashed zero.                             |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.StandardLigatures</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether standard ligatures are enabled.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.StandardSwashes</b>     | <a href="#">x:Int32</a>   |
| <b>(description)</b>                  | A value that specifies the index of a standard swashes form.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticAlternates</b> | <a href="#">x:Int32</a>   |
| <b>(description)</b>                  | A value that specifies the index of a stylistic alternates form.  |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet1</b>       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether a stylistic set of a font form is enabled.   |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet10</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether a stylistic set of a font form is enabled.   |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet11</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether a stylistic set of a font form is enabled.   |
| <b>[target type]</b>                  | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet12</b>      | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                  | A value that indicates whether a stylistic set of a font form is enabled.   |

|                                  |   |
|----------------------------------|---|
| (usage)                          | None.   |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet13</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet14</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet15</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet16</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet17</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet18</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet19</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet2</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |



|                                  |   |
|----------------------------------|---|
| (usage)                          | None.   |
| <b>Typography.StylisticSet20</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet3</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet4</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet5</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet6</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet7</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet8</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.StylisticSet9</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether a stylistic set of a font form is enabled. |
| <b>[target type]</b>             | <a href="#">DependencyObject</a>  |
| <b>Typography.Variants</b>       | <a href="#">FontVariants</a>  |

|                      |   |
|----------------------|---|
| (usage)              | None.   |
| <b>(description)</b> | A FontVariants enumerated value that indicates a variation of the standard typographic form to be used. |
| <b>[target type]</b> | <a href="#">DependencyObject</a>  |

## 4.956 UIElement

[x:Object](#) > [DependencyObject](#) > [Visual](#) > UIElement, [IInputElement](#)

|                                  |   |
|----------------------------------|---|
| <a href="#">FrameworkElement</a> |   |
| <b>(usage)</b>                   | <UIElement />   |
| <b>(description)</b>             | A base type for core elements and basic presentation characteristics.   |
| <b>(used by)</b>                 | <a href="#">AdornedElementPlaceholder</a> <a href="#">AdornerDecorator</a><br><a href="#">AutomationProperties</a> <a href="#">BlockUIContainer</a> <a href="#">BulletDecorator</a><br><a href="#">ContextMenu</a> <a href="#">ContextMenuService</a> <a href="#">Decorator</a> <a href="#">InlineCollection</a><br><a href="#">InlineUIContainer</a> <a href="#">Label</a> <a href="#">Popup</a> <a href="#">ToolTip</a> <a href="#">ToolTipService</a><br><a href="#">UIElementCollection</a> <a href="#">Viewbox</a> |
| <b>(properties)</b>              |   |
| <b>AllowDrop</b>                 | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value indicating whether this element can be used as the target of a drag-and-drop operation.   |
| <b>CacheMode</b>                 | <a href="#">CacheMode</a>   |
| <b>(description)</b>             | A cached representation of the UIElement.   |
| <b>Clip</b>                      | <a href="#">Geometry</a>  |
| <b>(description)</b>             | The geometry used to define the outline of the contents of an element.  |
| <b>ClipToBounds</b>              | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value indicating whether to clip the content of this element (or content coming from the child elements of this element) to fit into the size of the containing element.  |
| <b>CommandBindings</b>           | <a href="#">CommandBindingCollection</a>  |
| <b>(description)</b>             | A collection of CommandBinding objects associated with this element. A CommandBinding enables command handling for this element, and declares the linkage between a command, its events, and the handlers attached by this element.   |
| <b>[read only]</b>               | true  |
| <b>Effect</b>                    | <a href="#">Effect</a>  |
| <b>(description)</b>             | The bitmap effect to apply to the UIElement.  |

| <a href="#">FrameworkElement</a> |   |
|----------------------------------|---|
| <b>Focusable</b>                 | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether the element can receive focus.   |
| <b>InputBindings</b>             | <a href="#">InputBindingCollection</a>  |
| <b>(description)</b>             | The collection of input bindings associated with this element.  |
| <b>[read only]</b>               | true  |
| <b>IsEnabled</b>                 | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value indicating whether this element is enabled in the user interface (UI).  |
| <b>IsHitTestVisible</b>          | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that declares whether this element can possibly be returned as a hit test result from some portion of its rendered content. |
| <b>IsManipulationEnabled</b>     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that indicates whether manipulation events are enabled on this UIElement.   |
| <b>Opacity</b>                   | <a href="#">x:Double</a>  |
| <b>(description)</b>             | The opacity factor applied to the entire UIElement when it is rendered in the user interface (UI).                                  |
| <b>OpacityMask</b>               | <a href="#">Brush</a>   |
| <b>(description)</b>             | An opacity mask, as a Brush implementation that is applied to any alpha-channel masking for the rendered content of this element.   |
| <b>RenderSize</b>                | <a href="#">Size</a>  |
| <b>(description)</b>             | The final render size of this element.  |
| <b>RenderTransform</b>           | <a href="#">Transform</a>   |
| <b>(description)</b>             | Transform information that affects the rendering position of this element.  |
| <b>RenderTransformOrigin</b>     | <a href="#">Point</a>   |
| <b>(description)</b>             | The center point of any possible render transform declared by RenderTransform, relative to the bounds of the element.               |
| <b>SnapsToDevicePixels</b>       | <a href="#">x:Boolean</a>   |
| <b>(description)</b>             | A value that determines whether rendering for this element should use device-specific pixel settings during rendering.              |
| <b>Uid</b>                       | <a href="#">x:String</a>  |
| <b>(description)</b>             | The unique identifier (for localization) for this element.  |

| <a href="#">FrameworkElement</a>    |   |
|-------------------------------------|---|
| <b>Visibility</b>                   | <a href="#">Visibility</a>  |
| <b>(description)</b>                | The user interface (UI) visibility of this element.   |
| <b>(events)</b>                     |   |
| <b>DragEnter</b>                    | Occurs when the input system reports an underlying drag event with this element as the drag target.           |
| <b>DragLeave</b>                    | Occurs when the input system reports an underlying drag event with this element as the drag origin.           |
| <b>DragOver</b>                     | Occurs when the input system reports an underlying drag event with this element as the potential drop target. |
| <b>Drop</b>                         | Occurs when the input system reports an underlying drop event with this element as the drop target.           |
| <b>FocusableChanged</b>             | Occurs when the value of the Focusable property changes.  |
| <b>GiveFeedback</b>                 | Occurs when the input system reports an underlying drag-and-drop event that involves this element.            |
| <b>GotFocus</b>                     | Occurs when this element gets logical focus.  |
| <b>GotKeyboardFocus</b>             | Occurs when the keyboard is focused on this element.  |
| <b>GotMouseCapture</b>              | Occurs when this element captures the mouse.  |
| <b>GotStylusCapture</b>             | Occurs when this element captures the stylus.   |
| <b>GotTouchCapture</b>              | Occurs when a touch is captured to this element.  |
| <b>IsEnabledChanged</b>             | Occurs when the value of the IsEnabled property on this element changes.                                      |
| <b>IsHitTestVisibleChanged</b>      | Occurs when the value of the IsHitTestVisible property changes on this element.                               |
| <b>IsKeyboardFocusedChanged</b>     | Occurs when the value of the IsKeyboardFocused property changes on this element.                              |
| <b>IsKeyboardFocusWithinChanged</b> | Occurs when the value of the IsKeyboardFocusWithinChanged property changes on this element.                   |
| <b>IsMouseCapturedChanged</b>       | Occurs when the value of the IsMouseCaptured property changes on this element.                                |
| <b>IsMouseCaptureWithinChanged</b>  | Occurs when the value of the IsMouseCaptureWithinProperty changes on this element.                            |
| <b>IsMouseDirectlyOverChanged</b>   | Occurs when the value of the IsMouseDirectlyOver property changes on this element.                            |
| <b>IsStylusCapturedChanged</b>      | Occurs when the value of the IsStylusCaptured property changes on this element.                               |
| <b>IsStylusCaptureWithinChanged</b> | Occurs when the value of the IsStylusCaptureWithin property   |

| <a href="#">FrameworkElement</a>    |  |
|-------------------------------------|--|
|                                     | changes on this element.   |
| <b>IsStylusDirectlyOverChanged</b>  | Occurs when the value of the IsStylusDirectlyOver property changes on this element.                            |
| <b>IsVisibleChanged</b>             | Occurs when the value of the IsVisible property changes on this element.                                       |
| <b>KeyDown</b>                      | Occurs when a key is pressed while focus is on this element.   |
| <b>KeyUp</b>                        | Occurs when a key is released while focus is on this element.  |
| <b>LayoutUpdated</b>                | Occurs when the layout of the various visual elements associated with the current Dispatcher changes.          |
| <b>LostFocus</b>                    | Occurs when this element loses logical focus.  |
| <b>LostKeyboardFocus</b>            | Occurs when the keyboard is no longer focused on this element,.  |
| <b>LostMouseCapture</b>             | Occurs when this element loses mouse capture.  |
| <b>LostStylusCapture</b>            | Occurs when this element loses stylus capture.   |
| <b>LostTouchCapture</b>             | Occurs when this element loses a touch capture.  |
| <b>ManipulationBoundaryFeedback</b> | Occurs when the manipulation encounters a boundary.  |
| <b>ManipulationCompleted</b>        | Occurs when a manipulation and inertia on the UIElement object is complete.                                    |
| <b>ManipulationDelta</b>            | Occurs when the input device changes position during a manipulation.   |
| <b>ManipulationInertiaStarting</b>  | Occurs when the input device loses contact with the UIElement object during a manipulation and inertia begins. |
| <b>ManipulationStarted</b>          | Occurs when an input device begins a manipulation on the UIElement object.                                     |
| <b>ManipulationStarting</b>         | Occurs when the manipulation processor is first created.   |
| <b>MouseDown</b>                    | Occurs when any mouse button is pressed while the pointer is over this element.                                |
| <b>MouseEnter</b>                   | Occurs when the mouse pointer enters the bounds of this element.   |
| <b>MouseLeave</b>                   | Occurs when the mouse pointer leaves the bounds of this element.   |
| <b>MouseLeftButtonDown</b>          | Occurs when the left mouse button is pressed while the mouse pointer is over this element.                     |
| <b>MouseLeftButtonUp</b>            | Occurs when the left mouse button is released while the mouse pointer is over this element.                    |
| <b>MouseMove</b>                    | Occurs when the mouse pointer moves while over this element.   |
| <b>MouseRightButtonDown</b>         | Occurs when the right mouse button is pressed while the mouse pointer is over this element.                    |

| <a href="#">FrameworkElement</a>   |   |
|------------------------------------|---|
| <b>MouseRightButtonUp</b>          | Occurs when the right mouse button is released while the mouse pointer is over this element.                  |
| <b>MouseUp</b>                     | Occurs when any mouse button is released over this element.   |
| <b>MouseWheel</b>                  | Occurs when the user rotates the mouse wheel while the mouse pointer is over this element.                    |
| <b>PreviewDragEnter</b>            | Occurs when the input system reports an underlying drag event with this element as the drag target.           |
| <b>PreviewDragLeave</b>            | Occurs when the input system reports an underlying drag event with this element as the drag origin.           |
| <b>PreviewDragOver</b>             | Occurs when the input system reports an underlying drag event with this element as the potential drop target. |
| <b>PreviewDrop</b>                 | Occurs when the input system reports an underlying drop event with this element as the drop target.           |
| <b>PreviewGiveFeedback</b>         | Occurs when a drag-and-drop operation is started.   |
| <b>PreviewGotKeyboardFocus</b>     | Occurs when the keyboard is focused on this element.  |
| <b>PreviewKeyDown</b>              | Occurs when a key is pressed while focus is on this element.  |
| <b>PreviewKeyUp</b>                | Occurs when a key is released while focus is on this element.   |
| <b>PreviewLostKeyboardFocus</b>    | Occurs when the keyboard is no longer focused on this element.  |
| <b>PreviewMouseDown</b>            | Occurs when any mouse button is pressed while the pointer is over this element.                               |
| <b>PreviewMouseLeftButtonDown</b>  | Occurs when the left mouse button is pressed while the mouse pointer is over this element.                    |
| <b>PreviewMouseLeftButtonUp</b>    | Occurs when the left mouse button is released while the mouse pointer is over this element.                   |
| <b>PreviewMouseMove</b>            | Occurs when the mouse pointer moves while the mouse pointer is over this element.                             |
| <b>PreviewMouseRightButtonDown</b> | Occurs when the right mouse button is pressed while the mouse pointer is over this element.                   |
| <b>PreviewMouseRightButtonUp</b>   | Occurs when the right mouse button is released while the mouse pointer is over this element.                  |
| <b>PreviewMouseUp</b>              | Occurs when any mouse button is released while the mouse pointer is over this element.                        |
| <b>PreviewMouseWheel</b>           | Occurs when the user rotates the mouse wheel while the mouse pointer is over this element.                    |
| <b>PreviewQueryContinueDrag</b>    | Occurs when there is a change in the keyboard or mouse button state during a drag-and-drop operation.         |
| <b>PreviewStylusButtonDown</b>     | Occurs when the stylus button is pressed while the pointer is over  |

| <a href="#">FrameworkElement</a>  |  |
|-----------------------------------|--|
|                                   | this element.  |
| <b>PreviewStylusButtonUp</b>      | Occurs when the stylus button is released while the pointer is over this element.  |
| <b>PreviewStylusDown</b>          | Occurs when the stylus touches the digitizer while it is over this element.  |
| <b>PreviewStylusInAirMove</b>     | Occurs when the stylus moves over an element without actually touching the digitizer.  |
| <b>PreviewStylusInRange</b>       | Occurs when the stylus is close enough to the digitizer to be detected, while over this element.   |
| <b>PreviewStylusMove</b>          | Occurs when the stylus moves while over the element. The stylus must move while being detected by the digitizer to raise this event, otherwise, PreviewStylusInAirMove is raised instead.                                      |
| <b>PreviewStylusOutOfRange</b>    | Occurs when the stylus is too far from the digitizer to be detected.   |
| <b>PreviewStylusSystemGesture</b> | Occurs when a user performs one of several stylus gestures.  |
| <b>PreviewStylusUp</b>            | Occurs when the user raises the stylus off the digitizer while the stylus is over this element.  |
| <b>PreviewTextInput</b>           | Occurs when this element gets text in a device-independent manner.   |
| <b>PreviewTouchDown</b>           | Occurs when a finger touches the screen while the finger is over this element.   |
| <b>PreviewTouchMove</b>           | Occurs when a finger moves on the screen while the finger is over this element.  |
| <b>PreviewTouchUp</b>             | Occurs when a finger is raised off of the screen while the finger is over this element.  |
| <b>QueryContinueDrag</b>          | Occurs when there is a change in the keyboard or mouse button state during a drag-and-drop operation.  |
| <b>QueryCursor</b>                | Occurs when the cursor is requested to display. This event is raised on an element each time that the mouse pointer moves to a new location, which means the cursor object might need to be changed based on its new position. |
| <b>StylusButtonDown</b>           | Occurs when the stylus button is pressed while the pointer is over this element.   |
| <b>StylusButtonUp</b>             | Occurs when the stylus button is released while the pointer is over this element.  |
| <b>StylusDown</b>                 | Occurs when the stylus touches the digitizer while the stylus is over this element.  |
| <b>StylusEnter</b>                | Occurs when the stylus enters the bounds of this element.  |
| <b>StylusInAirMove</b>            | Occurs when the stylus moves over an element without actually touching the digitizer.  |

| <a href="#">FrameworkElement</a> |  |
|----------------------------------|--|
| <b>StylusInRange</b>             | Occurs when the stylus is close enough to the digitizer to be detected, while over this element.   |
| <b>StylusLeave</b>               | Occurs when the stylus leaves the bounds of the element.   |
| <b>StylusMove</b>                | Occurs when the stylus moves over this element. The stylus must move while on the digitizer to raise this event. Otherwise, StylusInAirMove is raised instead. |
| <b>StylusOutOfRange</b>          | Occurs when the stylus is too far from the digitizer to be detected, while over this element.  |
| <b>StylusSystemGesture</b>       | Occurs when a user performs one of several stylus gestures.  |
| <b>StylusUp</b>                  | Occurs when the user raises the stylus off the digitizer while it is over this element.  |
| <b>TextInput</b>                 | Occurs when this element gets text in a device-independent manner.   |
| <b>TouchDown</b>                 | Occurs when a finger touches the screen while the finger is over this element.   |
| <b>TouchEnter</b>                | Occurs when a touch moves from outside to inside the bounds of this element.   |
| <b>TouchLeave</b>                | Occurs when a touch moves from inside to outside the bounds of this element.   |
| <b>TouchMove</b>                 | Occurs when a finger moves on the screen while the finger is over this element.  |
| <b>TouchUp</b>                   | Occurs when a finger is raised off of the screen while the finger is over this element.  |

#### 4.957 UIElement3D

[x:Object](#) > [DependencyObject](#) > [Visual3D](#) > UIElement3D, [IInputElement](#)

| <a href="#">ContainerUIElement3D</a> <a href="#">ModelUIElement3D</a> |  |
|---|--|
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | UIElement3D is a base type for core level implementations building on elements and basic presentation characteristics. |
| <b>[is default constructible]</b>                                     | false  |
| <b>(properties)</b>   |  |
| <b>AllowDrop</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value indicating whether this element can be used as the target of a drag-and-drop operation.                        |
| <b>CommandBindings</b>  | <a href="#">CommandBindingCollection</a>   |



| <a href="#">ContainerUIElement3D</a> <a href="#">ModelUIElement3D</a> |   |
|---|---|
| <b>(description)</b>  | A collection of CommandBinding objects associated with this element.  |
| <b>[read only]</b>  | true  |
| <b>Focusable</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether the element can receive focus.   |
| <b>InputBindings</b>  | <a href="#">InputBindingCollection</a>  |
| <b>(description)</b>  | The collection of input bindings associated with this element.  |
| <b>[read only]</b>  | true  |
| <b>IsEnabled</b>  | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value indicating whether this element is enabled in the user interface (UI).  |
| <b>IsHitTestVisible</b>   | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that declares whether this element can possibly be returned as a hit test result from some portion of its rendered content. |
| <b>Visibility</b>   | <a href="#">Visibility</a>  |
| <b>(description)</b>  | The user interface (UI) visibility of this element.   |
| <b>(events)</b>   |   |
| <b>DragEnter</b>  | Occurs when the input system reports an underlying drag event with this element as the drag target.                                 |
| <b>DragLeave</b>  | Occurs when the input system reports an underlying drag event with this element as the drag origin.                                 |
| <b>DragOver</b>   | Occurs when the input system reports an underlying drag event with this element as the potential drop target.                       |
| <b>Drop</b>   | Occurs when the input system reports an underlying drop event with this element as the drop target.                                 |
| <b>FocusableChanged</b>   | Occurs when the value of the Focusable property changes.  |
| <b>GiveFeedback</b>   | Occurs when the input system reports an underlying drag-and-drop event that involves this element.                                  |
| <b>GotFocus</b>   | Occurs when this element gets logical focus.  |
| <b>GotKeyboardFocus</b>   | Occurs when the keyboard is focused on this element.  |
| <b>GotMouseCapture</b>  | Occurs when this element captures the mouse.  |
| <b>GotStylusCapture</b>   | Occurs when this element captures the stylus.   |
| <b>GotTouchCapture</b>  | Occurs when a touch is captured to this element.  |

| <a href="#">ContainerUIElement3D</a> <a href="#">ModelUIElement3D</a> |  |
|---|--|
| <b>IsEnabledChanged</b>   | Occurs when the value of the IsEnabled property on this element changes.                   |
| <b>IsHitTestVisibleChanged</b>  | Occurs when the value of the IsHitTestVisible property changes on this element.            |
| <b>IsKeyboardFocusedChanged</b>                                       | Occurs when the value of the IsKeyboardFocused property changes on this element.           |
| <b>IsKeyboardFocusWithinChanged</b>                                   | Occurs when the value of the IsKeyboardFocusWithin property changes on this element.       |
| <b>IsMouseCapturedChanged</b>   | Occurs when the value of the IsMouseCaptured property changes on this element.             |
| <b>IsMouseCaptureWithinChanged</b>                                    | Occurs when the value of the IsMouseCaptureWithin property changes on this element.        |
| <b>IsMouseDirectlyOverChanged</b>                                     | Occurs when the value of the IsMouseDirectlyOver property changes on this element.         |
| <b>IsStylusCapturedChanged</b>  | Occurs when the value of the IsStylusCaptured property changes on this element.            |
| <b>IsStylusCaptureWithinChanged</b>                                   | Occurs when the value of the IsStylusCaptureWithin property changes on this element.       |
| <b>IsStylusDirectlyOverChanged</b>                                    | Occurs when the value of the IsStylusDirectlyOver property changes on this element.        |
| <b>IsVisibleChanged</b>   | Occurs when the value of the IsVisible property changes on this element.                   |
| <b>KeyDown</b>  | Occurs when a key is pressed while the keyboard is focused on this element.                |
| <b>KeyUp</b>  | Occurs when a key is released while the keyboard is focused on this element.               |
| <b>LostFocus</b>  | Occurs when this element loses logical focus.  |
| <b>LostKeyboardFocus</b>  | Occurs when the keyboard is no longer focused on this element.                             |
| <b>LostMouseCapture</b>   | Occurs when this element loses mouse capture.  |
| <b>LostStylusCapture</b>  | Occurs when this element loses stylus capture.   |
| <b>LostTouchCapture</b>   | Occurs when this element loses a touch capture.  |
| <b>MouseDown</b>  | Occurs when any mouse button is pressed while the pointer is over this element.            |
| <b>MouseEnter</b>   | Occurs when the mouse pointer enters the bounds of this element.                           |
| <b>MouseLeave</b>   | Occurs when the mouse pointer leaves the bounds of this element.                           |
| <b>MouseLeftButtonDown</b>  | Occurs when the left mouse button is pressed while the mouse pointer is over this element. |

| <a href="#">ContainerUIElement3D</a> <a href="#">ModelUIElement3D</a> |   |
|---|---|
| <b>MouseLeftButtonUp</b>  | Occurs when the left mouse button is released while the mouse pointer is over this element.                   |
| <b>MouseMove</b>  | Occurs when the mouse pointer moves while over this element.  |
| <b>MouseRightButtonDown</b>   | Occurs when the right mouse button is pressed while the mouse pointer is over this element.                   |
| <b>MouseRightButtonUp</b>   | Occurs when the right mouse button is released while the mouse pointer is over this element.                  |
| <b>MouseUp</b>  | Occurs when any mouse button is released over this element.   |
| <b>MouseWheel</b>   | Occurs when the user rotates the mouse wheel while the mouse pointer is over this element.                    |
| <b>PreviewDragEnter</b>   | Occurs when the input system reports an underlying drag event with this element as the drag target.           |
| <b>PreviewDragLeave</b>   | Occurs when the input system reports an underlying drag event with this element as the drag origin.           |
| <b>PreviewDragOver</b>  | Occurs when the input system reports an underlying drag event with this element as the potential drop target. |
| <b>PreviewDrop</b>  | Occurs when the input system reports an underlying drop event with this element as the drop target.           |
| <b>PreviewGiveFeedback</b>  | Occurs when a drag-and-drop operation is started.   |
| <b>PreviewGotKeyboardFocus</b>  | Occurs when the keyboard is focused on this element.  |
| <b>PreviewKeyDown</b>   | Occurs when a key is pressed while the keyboard is focused on this element.                                   |
| <b>PreviewKeyUp</b>   | Occurs when a key is released while the keyboard is focused on this element.                                  |
| <b>PreviewLostKeyboardFocus</b>                                       | Occurs when the keyboard is no longer focused on this element.  |
| <b>PreviewMouseDown</b>   | Occurs when any mouse button is pressed while the pointer is over this element.                               |
| <b>PreviewMouseLeftButtonDown</b>                                     | Occurs when the left mouse button is pressed while the mouse pointer is over this element.                    |
| <b>PreviewMouseLeftButtonUp</b>                                       | Occurs when the left mouse button is released while the mouse pointer is over this element.                   |
| <b>PreviewMouseMove</b>   | Occurs when the mouse pointer moves while the mouse pointer is over this element.                             |
| <b>PreviewMouseRightButtonDown</b>                                    | Occurs when the right mouse button is pressed while the mouse pointer is over this element.                   |
| <b>PreviewMouseRightButtonUp</b>                                      | Occurs when the right mouse button is released while the mouse pointer is over this element.                  |

| <a href="#">ContainerUIElement3D</a> <a href="#">ModelUIElement3D</a> |  |
|---|--|
| <b>PreviewMouseUp</b>   | Occurs when any mouse button is released while the mouse pointer is over this element.   |
| <b>PreviewMouseWheel</b>  | Occurs when the user rotates the mouse wheel while the mouse pointer is over this element.   |
| <b>PreviewQueryContinueDrag</b>                                       | Occurs when there is a change in the keyboard or mouse button state during a drag-and-drop operation.  |
| <b>PreviewStylusButtonDown</b>  | Occurs when the stylus button is pressed while the pointer is over this element.   |
| <b>PreviewStylusButtonUp</b>  | Occurs when the stylus button is released while the pointer is over this element.  |
| <b>PreviewStylusDown</b>  | Occurs when the stylus touches the digitizer while it is over this element.  |
| <b>PreviewStylusInAirMove</b>   | Occurs when the stylus moves over an element without actually touching the digitizer.  |
| <b>PreviewStylusInRange</b>   | Occurs when the stylus is close enough to the digitizer to be detected, while over this element.   |
| <b>PreviewStylusMove</b>  | Occurs when the stylus moves while over the element. The stylus must move while being detected by the digitizer to raise this event, otherwise, PreviewStylusInAirMove is raised instead.                                      |
| <b>PreviewStylusOutOfRange</b>  | Occurs when the stylus is too far from the digitizer to be detected.   |
| <b>PreviewStylusSystemGesture</b>                                     | Occurs when a user performs one of several stylus gestures.  |
| <b>PreviewStylusUp</b>  | Occurs when the user raises the stylus off the digitizer while the stylus is over this element.  |
| <b>PreviewTextInput</b>   | Occurs when this element gets text in a device-independent manner.   |
| <b>PreviewTouchDown</b>   | Occurs when a finger touches the screen while the finger is over this element.   |
| <b>PreviewTouchMove</b>   | Occurs when a finger moves on the screen while the finger is over this element.  |
| <b>PreviewTouchUp</b>   | Occurs when a finger is raised off of the screen while the finger is over this element.  |
| <b>QueryContinueDrag</b>  | Occurs when there is a change in the keyboard or mouse button state during a drag-and-drop operation.  |
| <b>QueryCursor</b>  | Occurs when the cursor is requested to display. This event is raised on an element each time that the mouse pointer moves to a new location, which means the cursor object might need to be changed based on its new position. |
| <b>StylusButtonDown</b>   | Occurs when the stylus button is pressed while the pointer is over this element.   |

| <a href="#">ContainerUIElement3D</a> <a href="#">ModelUIElement3D</a> |  |
|---|--|
| <b>StylusButtonUp</b>   | Occurs when the stylus button is released while the pointer is over this element.  |
| <b>StylusDown</b>   | Occurs when the stylus touches the digitizer while the stylus is over this element.  |
| <b>StylusEnter</b>  | Occurs when the stylus enters the bounds of this element.  |
| <b>StylusInAirMove</b>  | Occurs when the stylus moves over an element without actually touching the digitizer.  |
| <b>StylusInRange</b>  | Occurs when the stylus is close enough to the digitizer to be detected, while over this element.   |
| <b>StylusLeave</b>  | Occurs when the stylus leaves the bounds of the element.   |
| <b>StylusMove</b>   | Occurs when the stylus moves over this element. The stylus must move while on the digitizer to raise this event. Otherwise, StylusInAirMove is raised instead. |
| <b>StylusOutOfRange</b>   | Occurs when the stylus is too far from the digitizer to be detected, while over this element.  |
| <b>StylusSystemGesture</b>  | Occurs when a user performs one of several stylus gestures.  |
| <b>StylusUp</b>   | Occurs when the user raises the stylus off the digitizer while it is over this element.  |
| <b>TextInput</b>  | Occurs when this element gets text in a device-independent manner.   |
| <b>TouchDown</b>  | Occurs when a finger touches the screen while the finger is over this element.   |
| <b>TouchEnter</b>   | Occurs when a touch moves from outside to inside the bounds of this element.   |
| <b>TouchLeave</b>   | Occurs when a touch moves from inside to outside the bounds of this element.   |
| <b>TouchMove</b>  | Occurs when a finger moves on the screen while the finger is over this element.  |
| <b>TouchUp</b>  | Occurs when a finger is raised off of the screen while the finger is over this element.  |

## 4.958 UIElementCollection

[x:Object](#) > UIElementCollection

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Represents an ordered collection of UIElement child elements.             |
| <b>(used by)</b>                  | <a href="#">FixedPage</a> <a href="#">InkCanvas</a> <a href="#">Panel</a> |
| <b>[is default constructible]</b> | false   |

|                 |  |
|-----------------|--|
| (usage)         | None.  |
| [is list]       | true   |
| [allowed types] | <a href="#">UIElement</a>  |
| (properties)    |  |
| Capacity        | <a href="#">x:Int32</a>  |
| (description)   | The number of elements that the UIElementCollection can contain. |

#### 4.959 Underline

[x:Object](#) > [DependencyObject](#) > [ContentElement](#) > [FrameworkContentElement](#) > [TextElement](#) > [Inline](#) > [Span](#) > Underline, [IInputElement](#)

|                     |   |
|---------------------|---|
| (usage)             | <Underline> <a href="#">Inline</a> <a href="#">UIElement</a> <a href="#">x:String</a> *</Underline>     |
| (description)       | An inline-level flow content element which causes content to appear with an underlined text decoration. |
| [content property]  | Inlines   |
| [name property]     | Name  |
| [xml lang property] | Language  |

#### 4.960 UndoAction

[x:Object](#) > UndoAction

|               |  |
|---------------|--|
| (usage)       | <b>None  Merge  Undo  Redo  Clear  Create</b>              |
| (description) | How the undo stack caused or is affected by a text change. |
| [is nullable] | false  |
| [text syntax] | <a href="#">UndoActionSyntax</a>                           |

#### 4.961 UniformGrid

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > UniformGrid, [IInputElement](#)

|                    |   |
|--------------------|---|
| (usage)            | <UniformGrid> <a href="#">UIElement</a> *</UniformGrid>   |
| (description)      | Provides a way to arrange content in a grid where all the cells in the grid have the same size. |
| [content property] | Children  |
| [name property]    | Name  |

|                            |   |
|----------------------------|---|
| (usage)                    | <UniformGrid> <a href="#">UIElement</a> *</UniformGrid>         |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>Columns</b>             | <a href="#">x:Int32</a>   |
| <b>(description)</b>       | The number of columns that are in the grid.                     |
| <b>FirstColumn</b>         | <a href="#">x:Int32</a>   |
| <b>(description)</b>       | The number of leading blank cells in the first row of the grid. |
| <b>Rows</b>                | <a href="#">x:Int32</a>   |
| <b>(description)</b>       | The number of rows that are in the grid.                        |

#### 4.962 UpdateSourceTrigger

[x:Object](#) > UpdateSourceTrigger

|                      |  |
|----------------------|--|
| (usage)              | <b>Default  PropertyChanged  LostFocus  Explicit</b> |
| <b>(description)</b> | Describes the timing of binding source updates.      |
| <b>(used by)</b>     | <a href="#">Binding</a> <a href="#">MultiBinding</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">UpdateSourceTriggerSyntax</a>            |

#### 4.963 UserControl

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > UserControl, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <UserControl> <a href="#">x:Object</a> </UserControl> |
| <b>(description)</b>       | Provides a simple way to create a control.            |
| <b>[content property]</b>  | Content   |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |

#### 4.964 Validation

[x:Object](#) > Validation

|                      |                                       |
|----------------------|---------------------------------------|
| (usage)              | None.                                 |
| <b>(description)</b> | Provides support for data validation. |

|  |   |
|--|---|
| (usage)                                    | None.   |
| <b>[is default constructible]</b>          | false   |
| <b>(attachable properties)</b>             |   |
| <b>Validation.ErrorTemplate</b>            | <a href="#">ControlTemplate</a>   |
| <b>(description)</b>                       | The ControlTemplate used to generate validation error feedback on the adorner layer.  |
| <b>[target type]</b>                       | <a href="#">DependencyObject</a>  |
| <b>Validation.ValidationAdornerSite</b>    | <a href="#">DependencyObject</a>  |
| <b>(description)</b>                       | The element that appears to indicate that a validation error occurred on the bound element where this property is set.                |
| <b>[target type]</b>                       | <a href="#">DependencyObject</a>  |
| <b>Validation.ValidationAdornerSiteFor</b> | <a href="#">DependencyObject</a>  |
| <b>(description)</b>                       | The element for which this element appears to indicate that an error occurred.  |
| <b>[target type]</b>                       | <a href="#">DependencyObject</a>  |
| <b>(attachable events)</b>                 |   |
| <b>Validation.Error</b>                    | Occurs when the bound element runs into a validation error, but only for bindings with the NotifyOnValidationError value set to true. |

#### 4.965 ValidationEventArgs

[x:Object](#) > ValidationEventArgs

|                      |   |
|----------------------|---|
| (usage)              | <b>Added  Removed</b>   |
| <b>(description)</b> | Describes whether a ValidationError object has been added or cleared. |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ValidationErrorEventArgsSyntax</a>                        |

#### 4.966 ValidationResult

[x:Object](#) > ValidationResult

|                                   |  |
|-----------------------------------|--|
| (usage)                           | {x:Static ValidationResult.StaticPropertyName}   |
| <b>(description)</b>              | Represents the result returned by the validation rule that indicates whether the checked value passed. |
| <b>[is default constructible]</b> | false  |



|                            |  |
|----------------------------|--|
| (usage)                    | {x:Static ValidationResult.StaticPropertyName} |
| <b>(static properties)</b> |  |
| <b>ValidResult</b>         | ValidationResult                               |
| <b>(description)</b>       | A valid instance of ValidationResult.          |

#### 4.967 ValidationRule

[x:Object](#) > ValidationRule

|   |  |
|---|--|
| <a href="#">DataErrorValidationRule</a> <a href="#">ExceptionValidationRule</a> <a href="#">NotifyDataErrorValidationRule</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | Provides a way to create a custom rule in order to check the validity of user input.                       |
| <b>(used by)</b>  | <a href="#">Binding</a> <a href="#">BindingGroup</a> <a href="#">DataGrid</a> <a href="#">MultiBinding</a> |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>ValidatesOnTargetUpdated</b>   | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether the validation rule runs when the target of the Binding is updated.         |
| <b>ValidationStep</b>   | <a href="#">ValidationStep</a>   |
| <b>(description)</b>  | When the validation rule runs.   |

#### 4.968 ValidationStep

[x:Object](#) > ValidationStep

|                      |   |
|----------------------|---|
| (usage)              | <b>RawProposedValue  ConvertedProposedValue  UpdatedValue  CommittedValue</b> |
| <b>(description)</b> | Specifies when a ValidationRule runs.   |
| <b>(used by)</b>     | <a href="#">ValidationRule</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">ValidationStepSyntax</a>  |

#### 4.969 ValueSource

[x:Object](#) > ValueSource

|                      |  |
|----------------------|--|
| (usage)              | <ValueSource />  |
| <b>(description)</b> | Reports the information returned from DependencyProperty). |

|               |                 |
|---------------|-----------------|
| (usage)       | <ValueSource /> |
| [is nullable] | false           |

#### 4.970 Vector

[x:Object](#) > Vector

|                      |  |
|----------------------|--|
| (usage)              | <Vector> string </Vector>  |
| <b>(description)</b> | Represents a displacement in 2-D space.  |
| <b>(used by)</b>     | <a href="#">ContainerVisual</a> <a href="#">InertiaExpansionBehavior</a> <a href="#">InertiaTranslationBehavior</a> <a href="#">VectorCollection</a> <a href="#">VectorKeyFrame</a> <a href="#">Viewport3DVisual</a> |
| [is nullable]        | false  |
| <b>[text syntax]</b> | <a href="#">VectorSyntax</a>   |
| <b>(properties)</b>  |  |
| <b>X</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b> | The X component of this vector.  |
| <b>Y</b>             | <a href="#">x:Double</a>   |
| <b>(description)</b> | The Y component of this vector.  |

#### 4.971 Vector3D

[x:Object](#) > Vector3D

|                      |   |
|----------------------|---|
| (usage)              | <Vector3D> string </Vector3D>   |
| <b>(description)</b> | Represents a displacement in 3-D space.   |
| <b>(used by)</b>     | <a href="#">AxisAngleRotation3D</a> <a href="#">DirectionalLight</a> <a href="#">ProjectionCamera</a> <a href="#">SpotLight</a> <a href="#">Vector3DCollection</a> <a href="#">Vector3DKeyFrame</a> |
| [is nullable]        | false   |
| <b>[text syntax]</b> | <a href="#">Vector3DSyntax</a>  |
| <b>(properties)</b>  |   |
| <b>X</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b> | The X component of this Vector3D structure.   |
| <b>Y</b>             | <a href="#">x:Double</a>  |
| <b>(description)</b> | The Y component of this Vector3D structure.   |
| <b>Z</b>             | <a href="#">x:Double</a>  |

|               |   |
|---------------|---|
| (usage)       | <Vector3D> string </Vector3D>               |
| (description) | The Z component of this Vector3D structure. |

#### 4.972 Vector3DAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Vector3DAnimationBase](#) > Vector3DAnimation

|                 |  |
|-----------------|--|
| (usage)         | <Vector3DAnimation />  |
| (description)   | Animates the value of a Vector3D property using linear interpolation between two values.                               |
| [name property] | Name   |
| (properties)    |  |
| By              | <a href="#">x:Nullable(Vector3D)</a>   |
| (description)   | The total amount by which the animation changes its starting value.  |
| EasingFunction  | <a href="#">IEasingFunction</a>  |
| (description)   | The easing function applied to this animation.   |
| From            | <a href="#">x:Nullable(Vector3D)</a>   |
| (description)   | The animation's starting value.  |
| IsAdditive      | <a href="#">x:Boolean</a>  |
| (description)   | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| IsCumulative    | <a href="#">x:Boolean</a>  |
| (description)   | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| To              | <a href="#">x:Nullable(Vector3D)</a>   |
| (description)   | The animation's ending value.  |

#### 4.973 Vector3DAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > Vector3DAnimationBase

|   |   |
|---|---|
| <a href="#">Vector3DAnimation</a> <a href="#">Vector3DAnimationUsingKeyFrames</a> |   |
| (usage)   | None.   |
| (description)   | A base type that represents an animated Vector3D value. |
| [is default constructible]  | false   |

|   |      |
|---|------|
| <a href="#">Vector3DAnimation</a> <a href="#">Vector3DAnimationUsingKeyFrames</a> |      |
| [name property]   | Name |

#### 4.974 Vector3DAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [Vector3DAnimationBase](#) > Vector3DAnimationUsingKeyFrames

|                    |  |
|--------------------|--|
| (usage)            | <Vector3DAnimationUsingKeyFrames> <a href="#">Vector3DKeyFrame</a> *</Vector3DAnimationUsingKeyFrames>                 |
| (description)      | Animates the value of a Vector3D property along a set of KeyFrames.  |
| [content property] | KeyFrames  |
| [name property]    | Name   |
| (properties)       |  |
| IsAdditive         | <a href="#">x:Boolean</a>  |
| (description)      | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| IsCumulative       | <a href="#">x:Boolean</a>  |
| (description)      | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| KeyFrames          | <a href="#">Vector3DKeyFrameCollection</a>   |
| (description)      | The collection of Vector3DKeyFrame objects that define the animation.  |

#### 4.975 Vector3DCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Vector3DCollection

|                 |   |
|-----------------|---|
| (usage)         | <Vector3DCollection> string </Vector3DCollection> |
| (description)   | Collection of Vector3D objects.                   |
| (used by)       | <a href="#">MeshGeometry3D</a>                    |
| [text syntax]   | <a href="#">Vector3DCollectionSyntax</a>          |
| [is list]       | true  |
| [allowed types] | <a href="#">Vector3D</a>                          |

## 4.976 Vector3DKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Vector3DKeyFrame

|  |  |
|--|--|
| <a href="#">DiscreteVector3DKeyFrame</a> <a href="#">EasingVector3DKeyFrame</a> <a href="#">LinearVector3DKeyFrame</a><br><a href="#">SplineVector3DKeyFrame</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | A base type that defines an animation segment with its own target value and interpolation technique for a Vector3DAnimationUsingKeyFrames. |
| <b>(used by)</b>   | <a href="#">Vector3DKeyFrameCollection</a>   |
| <b>[is default constructible]</b>  | false  |
| <b>(properties)</b>  |  |
| <b>KeyTime</b>   | <a href="#">KeyTime</a>  |
| <b>(description)</b>   | The time at which the key frame's target Value should be reached.  |
| <b>Value</b>   | <a href="#">Vector3D</a>   |
| <b>(description)</b>   | The key frame's target value.  |

## 4.977 Vector3DKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > Vector3DKeyFrameCollection

|                            |  |
|----------------------------|--|
| <b>(usage)</b>             | <Vector3DKeyFrameCollection> <a href="#">Vector3DKeyFrame</a> *</Vector3DKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of Vector3DKeyFrame objects.   |
| <b>(used by)</b>           | <a href="#">Vector3DAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">Vector3DKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | Vector3DKeyFrameCollection   |
| <b>(description)</b>       | An empty Vector3DKeyFrameCollection.   |

## 4.978 VectorAnimation

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [VectorAnimationBase](#) > VectorAnimation

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <VectorAnimation />   |
| <b>(description)</b> | Animates the value of a Vector property between two target values using linear interpolation over a specified Duration. |

|                        |  |
|------------------------|--|
| (usage)                | <VectorAnimation />  |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>By</b>              | <a href="#">x:Nullable(Vector)</a>   |
| <b>(description)</b>   | The total amount by which the animation changes its starting value.  |
| <b>EasingFunction</b>  | <a href="#">IEasingFunction</a>  |
| <b>(description)</b>   | The easing function applied to this animation.   |
| <b>From</b>            | <a href="#">x:Nullable(Vector)</a>   |
| <b>(description)</b>   | The animation's starting value.  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that indicates whether the target property's current value should be added to this animation's starting value. |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>To</b>              | <a href="#">x:Nullable(Vector)</a>   |
| <b>(description)</b>   | The animation's ending value.  |

#### 4.979 VectorAnimationBase

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > VectorAnimationBase

|   |   |
|---|---|
| <a href="#">VectorAnimation</a> <a href="#">VectorAnimationUsingKeyFrames</a> |   |
| <b>(usage)</b>  | None.                                     |
| <b>(description)</b>  | A base type that animates a Vector value. |
| <b>[is default constructible]</b>   | false                                     |
| <b>[name property]</b>  | Name                                      |

#### 4.980 VectorAnimationUsingKeyFrames

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Timeline](#) > [AnimationTimeline](#) > [VectorAnimationBase](#) > VectorAnimationUsingKeyFrames

|                      |  |
|----------------------|--|
| (usage)              | <VectorAnimationUsingKeyFrames> <a href="#">VectorKeyFrame</a> *</VectorAnimationUsingKeyFrames> |
| <b>(description)</b> | Animates the value of a Vector property along a set of KeyFrames.                                |
| <b>[content]</b>     | KeyFrames  |

|                        |  |
|------------------------|--|
| (usage)                | <VectorAnimationUsingKeyFrames> <a href="#">VectorKeyFrame</a> *</VectorAnimationUsingKeyFrames>                       |
| <b>property]</b>       |  |
| <b>[name property]</b> | Name   |
| <b>(properties)</b>    |  |
| <b>IsAdditive</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's output value is added to the base value of the property being animated. |
| <b>IsCumulative</b>    | <a href="#">x:Boolean</a>  |
| <b>(description)</b>   | A value that specifies whether the animation's value accumulates when it repeats.                                      |
| <b>KeyFrames</b>       | <a href="#">VectorKeyFrameCollection</a>   |
| <b>(description)</b>   | The collection of VectorKeyFrame objects that define the animation.  |

#### 4.981 VectorCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > VectorCollection

|                        |  |
|------------------------|--|
| (usage)                | <VectorCollection> string </VectorCollection>      |
| <b>(description)</b>   | Represents an ordered collection of Vector values. |
| <b>[text syntax]</b>   | <a href="#">VectorCollectionSyntax</a>             |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">Vector</a>                             |

#### 4.982 VectorKeyFrame

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > VectorKeyFrame

|   |  |
|---|--|
| <a href="#">DiscreteVectorKeyFrame</a> <a href="#">EasingVectorKeyFrame</a> <a href="#">LinearVectorKeyFrame</a> <a href="#">SplineVectorKeyFrame</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | A base type that defines an animation segment with its own target value and interpolation technique for a VectorAnimationUsingKeyFrames. |
| <b>(used by)</b>  | <a href="#">VectorKeyFrameCollection</a>   |
| <b>[is default constructible]</b>   | false  |
| <b>(properties)</b>   |  |
| <b>KeyTime</b>  | <a href="#">KeyTime</a>  |
| <b>(description)</b>  | The time at which the key frame's target Value should be reached.  |

|   |                               |
|---|-------------------------------|
| <a href="#">DiscreteVectorKeyFrame</a> <a href="#">EasingVectorKeyFrame</a> <a href="#">LinearVectorKeyFrame</a> <a href="#">SplineVectorKeyFrame</a> |                               |
| <b>Value</b>  | <a href="#">Vector</a>        |
| <b>(description)</b>  | The key frame's target value. |

#### 4.983 VectorKeyFrameCollection

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > VectorKeyFrameCollection

|                            |  |
|----------------------------|--|
| <b>(usage)</b>             | <VectorKeyFrameCollection> <a href="#">VectorKeyFrame</a> *</VectorKeyFrameCollection> |
| <b>(description)</b>       | Represents a collection of VectorKeyFrame objects.                                     |
| <b>(used by)</b>           | <a href="#">VectorAnimationUsingKeyFrames</a>  |
| <b>[is list]</b>           | true   |
| <b>[allowed types]</b>     | <a href="#">VectorKeyFrame</a>   |
| <b>(static properties)</b> |  |
| <b>Empty</b>               | VectorKeyFrameCollection   |
| <b>(description)</b>       | An empty VectorKeyFrameCollection.   |

#### 4.984 VerticalAlignment

[x:Object](#) > VerticalAlignment

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | <b>Top</b>   <b>Center</b>   <b>Bottom</b>   <a href="#">Stretch</a>                               |
| <b>(description)</b> | Describes how a child element is vertically positioned or stretched within a parent's layout slot. |
| <b>(used by)</b>     | <a href="#">Control FrameworkElement</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">VerticalAlignmentSyntax</a>  |

#### 4.985 VideoDrawing

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Drawing](#) > VideoDrawing

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <VideoDrawing />  |
| <b>(description)</b> | Plays a media file. If the media is a video file, the VideoDrawing draws it to the specified rectangle. |
| <b>(properties)</b>  |   |
| <b>Player</b>        | <a href="#">MediaPlayer</a>   |
| <b>(description)</b> | The media player associated with the drawing.   |



|                      |   |
|----------------------|---|
| (usage)              | <VideoDrawing />                                  |
| <b>Rect</b>          | <a href="#">Rect</a>                              |
| <b>(description)</b> | The rectangular area in which the video is drawn. |

#### 4.986 ViewBase

[x:Object](#) > [DependencyObject](#) > ViewBase

|                                   |  |
|-----------------------------------|--|
| <a href="#">GridView</a>          |  |
| <b>(usage)</b>                    | None.  |
| <b>(description)</b>              | Represents the base type for views that define the appearance of data in a ListView control. |
| <b>(used by)</b>                  | <a href="#">ListView</a>   |
| <b>[is default constructible]</b> | false  |

#### 4.987 Viewbox

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Decorator](#) > Viewbox, [InputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <Viewbox> <a href="#">UIElement</a> </Viewbox>   |
| <b>(description)</b>       | Defines a content decorator that can stretch and scale a single child to fill the available space. |
| <b>[content property]</b>  | Child  |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |
| <b>Child</b>               | <a href="#">UIElement</a>  |
| <b>(description)</b>       | The single child of a Viewbox element.   |
| <b>Stretch</b>             | <a href="#">Stretch</a>  |
| <b>(description)</b>       | The Viewbox Stretch mode, which determines how content fits into the available space.              |
| <b>StretchDirection</b>    | <a href="#">StretchDirection</a>   |
| <b>(description)</b>       | The StretchDirection, which determines how scaling is applied to the contents of a Viewbox.        |

## 4.988 Viewport2DVisual3D

[x:Object](#) > [DependencyObject](#) > [Visual3D](#) > Viewport2DVisual3D

|  |  |
|--|--|
| (usage)  | <Viewport2DVisual3D> <a href="#">Visual</a> </Viewport2DVisual3D>  |
| <b>(description)</b>                           | Renders the 2-D children within the specified 3-D viewport bounds. |
| <b>[content property]</b>                      | <a href="#">Visual</a>   |
| <b>(properties)</b>                            |  |
| <b>CacheMode</b>                               | <a href="#">CacheMode</a>  |
| <b>(description)</b>                           | A cached representation of the Viewport2DVisual3D.                 |
| <b>Geometry</b>                                | <a href="#">Geometry3D</a>   |
| <b>(description)</b>                           | The 3-D geometry for this Viewport2DVisual3D.                      |
| <b>Material</b>                                | <a href="#">Material</a>   |
| <b>(description)</b>                           | The material that describes the appearance of the 3-D object.      |
| <b>Visual</b>                                  | <a href="#">Visual</a>   |
| <b>(description)</b>                           | The 2-D visual to be placed on the 3-D object.                     |
| <b>(attachable properties)</b>                 |  |
| <b>Viewport2DVisual3D.IsVisualHostMaterial</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>                           | A value that specifies whether a material should be interactive.   |
| <b>[target type]</b>                           | <a href="#">Material</a>   |

## 4.989 Viewport3D

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > Viewport3D, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <Viewport3D> <a href="#">Visual3D</a> *</Viewport3D>                                      |
| <b>(description)</b>       | Renders the contained 3-D content within the 2-D layout bounds of the Viewport3D element. |
| <b>[content property]</b>  | Children  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |

|                      |  |
|----------------------|--|
| (usage)              | <Viewport3D> <a href="#">Visual3D</a> *</Viewport3D>   |
| <b>Camera</b>        | <a href="#">Camera</a>   |
| <b>(description)</b> | A camera object that projects the 3-D contents of the Viewport3D to the 2-D surface of the Viewport3D. |
| <b>Children</b>      | <a href="#">Visual3DCollection</a>   |
| <b>(description)</b> | A collection of the Visual3D children of the Viewport3D.   |
| <b>[read only]</b>   | true   |

#### 4.990 Viewport3DVisual

[x:Object](#) > [DependencyObject](#) > [Visual](#) > Viewport3DVisual

|                           |  |
|---------------------------|--|
| (usage)                   | <Viewport3DVisual> <a href="#">Visual3D</a> *</Viewport3DVisual>       |
| <b>(description)</b>      | Renders the Visual3D children within the specified 2D viewport bounds. |
| <b>[content property]</b> | Children   |
| <b>(properties)</b>       |  |
| <b>Camera</b>             | <a href="#">Camera</a>   |
| <b>(description)</b>      | The Camera used by the Viewport3DVisual.                               |
| <b>Children</b>           | <a href="#">Visual3DCollection</a>                                     |
| <b>(description)</b>      | A collection of Visual3D objects contained by Viewport3DVisual.        |
| <b>[read only]</b>        | true   |
| <b>Clip</b>               | <a href="#">Geometry</a>   |
| <b>(description)</b>      | The clipping region of the Viewport3DVisual.                           |
| <b>Offset</b>             | <a href="#">Vector</a>   |
| <b>(description)</b>      | The offset value of the Viewport3DVisual.                              |
| <b>Opacity</b>            | <a href="#">x:Double</a>   |
| <b>(description)</b>      | The opacity of the Viewport3DVisual.                                   |
| <b>OpacityMask</b>        | <a href="#">Brush</a>  |
| <b>(description)</b>      | The opacity mask value of the Viewport3DVisual.                        |
| <b>Transform</b>          | <a href="#">Transform</a>  |
| <b>(description)</b>      | The transform value of the Viewport3DVisual.                           |
| <b>Viewport</b>           | <a href="#">Rect</a>   |
| <b>(description)</b>      | The rectangle in which the Viewport3DVisual will be rendered.          |

#### 4.991 VirtualizationCacheLength (4.5)

[x:Object](#) > VirtualizationCacheLength

|               |  |
|---------------|--|
| (usage)       | <VirtualizationCacheLength> string </VirtualizationCacheLength>    |
| (description) | Represents the measurements for the CacheLength attached property. |
| (used by)     | <a href="#">VirtualizingPanel</a>                                  |
| [is nullable] | false  |
| [text syntax] | <a href="#">VirtualizationCacheLengthSyntax</a>                    |

#### 4.992 VirtualizationCacheLengthUnit (4.5)

[x:Object](#) > VirtualizationCacheLengthUnit

|               |   |
|---------------|---|
| (usage)       | <b>Pixel  Item  <a href="#">Page</a></b>                                      |
| (description) | Specifies the type of unit that is used by the CacheLength attached property. |
| (used by)     | <a href="#">VirtualizingPanel</a>   |
| [is nullable] | false   |
| [text syntax] | <a href="#">VirtualizationCacheLengthUnitSyntax</a>                           |

#### 4.993 VirtualizationMode

[x:Object](#) > VirtualizationMode

|               |  |
|---------------|--|
| (usage)       | <b>Standard  Recycling</b>   |
| (description) | Specifies the method the VirtualizingStackPanel uses to manage virtualizing its child items. |
| (used by)     | <a href="#">VirtualizingPanel</a>  |
| [is nullable] | false  |
| [text syntax] | <a href="#">VirtualizationModeSyntax</a>   |

#### 4.994 VirtualizingPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > VirtualizingPanel, [InputElement](#)

|   |   |
|---|---|
| <a href="#">DataGridCellsPanel</a> <a href="#">VirtualizingStackPanel</a> |   |
| (usage)   | None.   |
| (description)   | A base type for panels that virtualize their child data collection. |
| [is default constructible]  | false   |

| <a href="#">DataGridCellsPanel</a> <a href="#">VirtualizingStackPanel</a> |  |
|---|--|
| [content property]  | Children   |
| [name property]   | Name   |
| [xml lang property]   | Language   |
| (attachable properties)   |  |
| <b>VirtualizingPanel.CacheLength (4.5)</b>                                | <a href="#">VirtualizationCacheLength</a>  |
| (description)   | The size of the cache before and after the viewport when the VirtualizingPanel is virtualizing.                        |
| [target type]   | <a href="#">DependencyObject</a>   |
| <b>VirtualizingPanel.CacheLengthUnit (4.5)</b>                            | <a href="#">VirtualizationCacheLengthUnit</a>  |
| (description)   | The type of unit that is used by the CacheLength property.   |
| [target type]   | <a href="#">DependencyObject</a>   |
| <b>VirtualizingPanel.IsContainerVirtualizable (4.5)</b>                   | <a href="#">x:Boolean</a>  |
| (description)   | Get or sets a value that indicates whether this VirtualizingPanel should virtualize an item.                           |
| [target type]   | <a href="#">DependencyObject</a>   |
| <b>VirtualizingPanel.IsVirtualizing (4.5)</b>                             | <a href="#">x:Boolean</a>  |
| (description)   | A value that indicates that this VirtualizingPanel is virtualizing its child collection.                               |
| [target type]   | <a href="#">DependencyObject</a>   |
| <b>VirtualizingPanel.IsVirtualizingWhenGrouping (4.5)</b>                 | <a href="#">x:Boolean</a>  |
| (description)   | A value that indicates whether this VirtualizingPanel virtualizes the items in its collection when it displays groups. |
| [target type]   | <a href="#">DependencyObject</a>   |
| <b>VirtualizingPanel.ScrollUnit (4.5)</b>                                 | <a href="#">ScrollUnit</a>   |
| (description)   | A value that indicates whether scrolling is measured as items in the collection or as pixels.                          |
| [target type]   | <a href="#">DependencyObject</a>   |
| <b>VirtualizingPanel.VirtualizationMode (4.5)</b>                         | <a href="#">VirtualizationMode</a>   |
| (description)   | How a panel in an ItemsControl virtualizes its child items.  |

|   |                                  |
|---|----------------------------------|
| <a href="#">DataGridCellsPanel</a> <a href="#">VirtualizingStackPanel</a> |                                  |
| [target type]   | <a href="#">DependencyObject</a> |

#### 4.995 VirtualizingStackPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > [VirtualizingPanel](#) > VirtualizingStackPanel, [InputElement](#)

|  |  |
|--|--|
| <a href="#">DataGridRowsPresenter</a>                |  |
| (usage)  | <VirtualizingStackPanel> <a href="#">UIElement</a> *</VirtualizingStackPanel>  |
| (description)  | Arranges and virtualizes content on a single line that is oriented either horizontally or vertically.                            |
| [content property]                                   | Children   |
| [name property]                                      | Name   |
| [xml lang property]                                  | Language   |
| (properties)   |  |
| <b>CanHorizontallyScroll</b>                         | <a href="#">x:Boolean</a>  |
| (description)  | A value that indicates whether a VirtualizingStackPanel can scroll in the horizontal dimension.                                  |
| <b>CanVerticallyScroll</b>                           | <a href="#">x:Boolean</a>  |
| (description)  | A value that indicates whether content can scroll in the vertical dimension.   |
| <b>Orientation</b>                                   | <a href="#">Orientation</a>  |
| (description)  | A value that describes the horizontal or vertical orientation of stacked content.  |
| <b>ScrollOwner</b>                                   | <a href="#">ScrollViewer</a>   |
| (description)  | A value that identifies the container that controls scrolling behavior in this VirtualizingStackPanel.                           |
| (attachable events)                                  |  |
| <b>VirtualizingStackPanel.CleanUpVirtualizedItem</b> | Occurs when an item is being re-virtualized by the ItemsControl that is associated with this instance of VirtualizingStackPanel. |

#### 4.996 Visibility

[x:Object](#) > Visibility

|         |   |
|---------|---|
| (usage) | <b>Visible</b>   <b>Hidden</b>   <b>Collapsed</b> |
|---------|---|

|               |  |
|---------------|--|
| (usage)       | <b>Visible  Hidden  Collapsed</b>  |
| (description) | Specifies the display state of an element.   |
| (used by)     | <a href="#">DataGridColumn</a> <a href="#">DataGridColumnHeader</a> <a href="#">DataGridRow</a> <a href="#">DataGridRowHeader</a> <a href="#">Ribbon</a> <a href="#">RibbonGalleryCategory</a> <a href="#">ThumbButtonInfo</a> <a href="#">UIElement</a> <a href="#">UIElement3D</a> |
| [is nullable] | false  |
| [text syntax] | <a href="#">VisibilitySyntax</a>   |

#### 4.997 Visual

[x:Object](#) > [DependencyObject](#) > Visual

|  |  |
|--|--|
| <a href="#">ContainerVisual</a> <a href="#">UIElement</a> <a href="#">Viewport3DVisual</a> |  |
| (usage)  | None.  |
| (description)  | Represents a visual object.  |
| (used by)  | <a href="#">BitmapCacheBrush</a> <a href="#">Viewport2DVisual3D</a> <a href="#">VisualBrush</a> <a href="#">VisualCollection</a> |
| [is default constructible]   | false  |

#### 4.998 Visual3D

[x:Object](#) > [DependencyObject](#) > Visual3D

|  |  |
|--|--|
| <a href="#">ModelVisual3D</a> <a href="#">UIElement3D</a> <a href="#">Viewport2DVisual3D</a> |  |
| (usage)  | None.  |
| (description)  | Provides services and properties that are common to visual 3-D objects, including hit-testing, coordinate transformation, and bounding box calculations. |
| (used by)  | <a href="#">Visual3DCollection</a>   |
| [is default constructible]   | false  |
| (properties)   |  |
| Transform  | <a href="#">Transform3D</a>  |
| (description)  | The transformation that is applied to the 3-D object.  |

#### 4.999 Visual3DCollection

[x:Object](#) > Visual3DCollection

|               |   |
|---------------|---|
| (usage)       | None.   |
| (description) | Represents an ordered collection of Visual3D objects. |

|                                   |  |
|-----------------------------------|--|
| (usage)                           | None.  |
| <b>(used by)</b>                  | <a href="#">ContainerUIElement3D</a> <a href="#">ModelVisual3D</a> <a href="#">Viewport3D</a> <a href="#">Viewport3DVisual</a> |
| <b>[is default constructible]</b> | false  |
| <b>[is list]</b>                  | true   |
| <b>[allowed types]</b>            | <a href="#">Visual3D</a>   |

#### 4.1000 VisualBrush

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [Brush](#) > [TileBrush](#) > VisualBrush

|                          |   |
|--------------------------|---|
| (usage)                  | <VisualBrush> string </VisualBrush>   |
| <b>(description)</b>     | Paints an area with a Visual.   |
| <b>[text syntax]</b>     | <a href="#">BrushSyntax</a>   |
| <b>(properties)</b>      |   |
| <b>AutoLayoutContent</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>     | A value that specifies whether this VisualBrush will run layout its Visual. |
| <b>Visual</b>            | <a href="#">Visual</a>  |
| <b>(description)</b>     | The brush's content.  |

#### 4.1001 VisualCollection

[x:Object](#) > VisualCollection

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Represents an ordered collection of Visual objects.           |
| <b>(used by)</b>                  | <a href="#">ContainerVisual</a>                               |
| <b>[is default constructible]</b> | false   |
| <b>[is list]</b>                  | true  |
| <b>[allowed types]</b>            | <a href="#">Visual</a>  |
| <b>(properties)</b>               |   |
| <b>Capacity</b>                   | <a href="#">x:Int32</a>                                       |
| <b>(description)</b>              | The number of elements that the VisualCollection can contain. |

#### 4.1002 VisualState

[x:Object](#) > [DependencyObject](#) > VisualState



|                           |   |
|---------------------------|---|
| (usage)                   |   |
| <b>(description)</b>      | Represents the visual appearance of the control when it is in a specific state.   |
| <b>(used by)</b>          | <a href="#">VisualStateGroup</a>  |
| <b>[content property]</b> | <a href="#">Storyboard</a>  |
| <b>[name property]</b>    | Name  |
| <b>(properties)</b>       |   |
| <b>Name</b>               | <a href="#">x:String</a>  |
| <b>(description)</b>      | The name of the VisualState.  |
| <b>Storyboard</b>         | <a href="#">Storyboard</a>  |
| <b>(description)</b>      | A Storyboard that defines the appearance of the control when it is in the state that is represented by the VisualState. |

#### 4.1003 VisualStateGroup

[x:Object](#) > [DependencyObject](#) > VisualStateGroup

|                           |   |
|---------------------------|---|
| (usage)                   | <VisualStateGroup> <a href="#">x:Object</a> *</VisualStateGroup>  |
| <b>(description)</b>      | Contains mutually exclusive VisualState objects and VisualTransition objects that are used to move from one state to another. |
| <b>[content property]</b> | States  |
| <b>[name property]</b>    | Name  |
| <b>(properties)</b>       |   |
| <b>CurrentState</b>       | <a href="#">VisualState</a>   |
| <b>(description)</b>      | The VisualState that is currently applied to the control.   |
| <b>Name</b>               | <a href="#">x:String</a>  |
| <b>(description)</b>      | The name of the VisualStateGroup.   |
| <b>States</b>             | <a href="#">IList</a>   |
| <b>(description)</b>      | The collection of mutually exclusive VisualState objects.   |
| <b>[read only]</b>        | true  |
| <b>Transitions</b>        | <a href="#">IList</a>   |
| <b>(description)</b>      | The collection of VisualTransition objects.   |
| <b>[read only]</b>        | true  |
| <b>(events)</b>           |   |

|                             |  |
|-----------------------------|--|
| (usage)                     | <VisualStateGroup> <a href="#">x:Object</a> *</VisualStateGroup> |
| <b>CurrentStateChanged</b>  | Occurs after a control transitions to a different state.         |
| <b>CurrentStateChanging</b> | Occurs when a control starts transitioning to a different state. |

#### 4.1004 VisualStateManager

[x:Object](#) > [DependencyObject](#) > VisualStateManager

|  |   |
|--|---|
| (usage)  | <VisualStateManager />  |
| <b>(description)</b>                               | Manages states and the logic for transitioning between states for controls.     |
| <b>(used by)</b>                                   | VisualStateManager  |
| <b>(attachable properties)</b>                     |   |
| <b>VisualStateManager.CustomVisualStateManager</b> | VisualStateManager  |
| <b>(description)</b>                               | The VisualStateManager object that transitions between the states of a control. |
| <b>[target type]</b>                               | <a href="#">FrameworkElement</a>  |
| <b>VisualStateManager.VisualStateGroups</b>        | <a href="#">IList</a>   |
| <b>(description)</b>                               | A collection of VisualStateGroup objects.                                       |
| <b>[target type]</b>                               | <a href="#">FrameworkElement</a>  |
| <b>[read only]</b>                                 | true  |

#### 4.1005 VisualTransition

[x:Object](#) > [DependencyObject](#) > VisualTransition

|                                |  |
|--------------------------------|--|
| (usage)                        | <VisualTransition> <a href="#">Storyboard</a> </VisualTransition>                                |
| <b>(description)</b>           | Represents the visual behavior that occurs when a control transitions from one state to another. |
| <b>[content property]</b>      | <a href="#">Storyboard</a>   |
| <b>(properties)</b>            |  |
| <b>From</b>                    | <a href="#">x:String</a>   |
| <b>(description)</b>           | The name of the VisualState to transition from.  |
| <b>GeneratedDuration</b>       | <a href="#">Duration</a>   |
| <b>(description)</b>           | The time that it takes to move from one state to another.  |
| <b>GeneratedEasingFunction</b> | <a href="#">IEasingFunction</a>  |

|                      |  |
|----------------------|--|
| (usage)              | <VisualTransition> <a href="#">Storyboard</a> </VisualTransition>        |
| <b>(description)</b> | A custom mathematical formula that is used to transition between states. |
| <b>Storyboard</b>    | <a href="#">Storyboard</a>   |
| <b>(description)</b> | The Storyboard that occurs when the transition occurs.                   |
| <b>To</b>            | <a href="#">x:String</a>   |
| <b>(description)</b> | The name of the VisualState to transition to.                            |

#### 4.1006 VisualTreeHelper

[x:Object](#) > VisualTreeHelper

|   |   |
|---|---|
| (usage)                                     | None.   |
| <b>(description)</b>                        | Provides support for performing common tasks that involve nodes in a visual tree. |
| <b>[is default constructible]</b>           | false   |
| <b>(attachable properties)</b>              |   |
| <b>VisualTreeHelper.XSnappingGuidelines</b> | <a href="#">DoubleCollection</a>  |
| <b>(description)</b>                        |   |
| <b>[target type]</b>                        | <a href="#">Visual</a>  |
| <b>[read only]</b>                          | true  |
| <b>VisualTreeHelper.YSnappingGuidelines</b> | <a href="#">DoubleCollection</a>  |
| <b>(description)</b>                        |   |
| <b>[target type]</b>                        | <a href="#">Visual</a>  |
| <b>[read only]</b>                          | true  |

#### 4.1007 WebBrowser

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [ActiveXHost](#) > WebBrowser, [InputElement](#)

|                            |  |
|----------------------------|--|
| (usage)                    | <WebBrowser />   |
| <b>(description)</b>       | Hosts and navigates between HTML documents. Enables interoperability between managed code and HTML script. |
| <b>[name property]</b>     | Name   |
| <b>[xml lang property]</b> | Language   |
| <b>(properties)</b>        |  |

|                           |   |
|---------------------------|---|
| (usage)                   | <WebBrowser />  |
| <b>ObjectForScripting</b> | <a href="#">x:Object</a>  |
| <b>(description)</b>      | An instance of a public type, implemented by the host application, that can be accessed by script from a hosted document. |
| <b>Source</b>             | <a href="#">x:Uri</a>   |
| <b>(description)</b>      | The Uri of the current document hosted in the WebBrowser.   |
| <b>(events)</b>           |   |
| <b>LoadCompleted</b>      | Occurs when the document being navigated to has finished downloading.   |
| <b>Navigated</b>          | Occurs when the document being navigated to is located and has started downloading.                                       |
| <b>Navigating</b>         | Occurs just before navigation to a document.  |

#### 4.1008 Window

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Control](#) > [ContentControl](#) > Window, [InputElement](#)

|   |   |
|---|---|
| <a href="#">NavigationWindow</a> <a href="#">RibbonWindow</a> |   |
| <b>(usage)</b>  | <Window> <a href="#">x:Object</a> </Window>   |
| <b>(description)</b>  | Provides the ability to create, configure, show, and manage the lifetime of windows and dialog boxes. |
| <b>(used by)</b>  | <a href="#">Application</a> Window  |
| <b>[content property]</b>                                     | Content   |
| <b>[name property]</b>  | Name  |
| <b>[xml lang property]</b>                                    | Language  |
| <b>(properties)</b>   |   |
| <b>AllowsTransparency</b>                                     | <a href="#">x:Boolean</a>   |
| <b>(description)</b>  | A value that indicates whether a window's client area supports transparency.                          |
| <b>DialogResult</b>   | <a href="#">x:Nullable(x:Boolean)</a>   |
| <b>(description)</b>  | The dialog result value, which is the value that is returned from the ShowDialog method.              |
| <b>[text syntax]</b>  | DialogResultSyntax  |
| <b>Icon</b>   | <a href="#">ImageSource</a>   |
| <b>(description)</b>  | A window's icon.  |
| <b>Left</b>   | <a href="#">x:Double</a>  |

| <a href="#">NavigationWindow</a> <a href="#">RibbonWindow</a> |  |
|---|--|
| <b>(description)</b>  | The position of the window's left edge, in relation to the desktop.                                    |
| <b>[text syntax]</b>  | <a href="#">LengthSyntax</a>   |
| <b>Owner</b>  | Window   |
| <b>(description)</b>  | The Window that owns this Window.  |
| <b>ResizeMode</b>   | <a href="#">ResizeMode</a>   |
| <b>(description)</b>  | The resize mode.   |
| <b>ShowActivated</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether a window is activated when first shown.                                 |
| <b>ShowInTaskbar</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether the window has a task bar button.                                       |
| <b>SizeToContent</b>  | <a href="#">SizeToContent</a>  |
| <b>(description)</b>  | A value that indicates whether a window will automatically size itself to fit the size of its content. |
| <b>TaskbarItemInfo</b>  | <a href="#">TaskbarItemInfo</a>  |
| <b>(description)</b>  | The Windows 7 taskbar thumbnail for the Window.  |
| <b>Title</b>  | <a href="#">x:String</a>   |
| <b>(description)</b>  | A window's title.  |
| <b>Top</b>  | <a href="#">x:Double</a>   |
| <b>(description)</b>  | The position of the window's top edge, in relation to the desktop.                                     |
| <b>[text syntax]</b>  | <a href="#">LengthSyntax</a>   |
| <b>Topmost</b>  | <a href="#">x:Boolean</a>  |
| <b>(description)</b>  | A value that indicates whether a window appears in the topmost z-order.                                |
| <b>WindowStartupLocation</b>                                  | <a href="#">WindowStartupLocation</a>  |
| <b>(description)</b>  | The position of the window when first shown.   |
| <b>WindowState</b>  | <a href="#">WindowState</a>  |
| <b>(description)</b>  | A value that indicates whether a window is restored, minimized, or maximized.                          |
| <b>WindowStyle</b>  | <a href="#">WindowStyle</a>  |
| <b>(description)</b>  | A window's border style.   |
| <b>(events)</b>   |  |
| <b>Activated</b>  | Occurs when a window becomes the foreground window.  |

| <a href="#">NavigationWindow</a> <a href="#">RibbonWindow</a> |   |
|---|---|
| <b>Closed</b>   | Occurs when the window is about to close.   |
| <b>Closing</b>  | Occurs directly after Close is called, and can be handled to cancel window closure. |
| <b>ContentRendered</b>  | Occurs after a window's content has been rendered.                                  |
| <b>Deactivated</b>  | Occurs when a window becomes a background window.                                   |
| <b>LocationChanged</b>  | Occurs when the window's location changes.  |
| <b>SourceInitialized</b>                                      | This event is raised to support interoperation.                                     |
| <b>StateChanged</b>   | Occurs when the window's WindowState property changes.                              |

#### 4.1009 WindowChrome (4.5)

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > WindowChrome

|                              |  |
|------------------------------|--|
| (usage)                      | <WindowChrome />   |
| <b>(description)</b>         | Represents an object that describes the customizations to the non-client area of a window. |
| <b>(used by)</b>             | WindowChrome   |
| <b>(properties)</b>          |  |
| <b>CaptionHeight</b>         | <a href="#">x:Double</a>   |
| <b>(description)</b>         | The height of the caption area at the top of a window.                                     |
| <b>CornerRadius</b>          | <a href="#">CornerRadius</a>   |
| <b>(description)</b>         | A value that indicates the amount that the corners of a window are rounded.                |
| <b>GlassFrameThickness</b>   | <a href="#">Thickness</a>  |
| <b>(description)</b>         | A value that indicates the width of the glass border around a window.                      |
| <b>NonClientFrameEdges</b>   | <a href="#">NonClientFrameEdges</a>  |
| <b>(description)</b>         | A value that indicates which edges of the window frame are not owned by the client.        |
| <b>ResizeBorderThickness</b> | <a href="#">Thickness</a>  |
| <b>(description)</b>         | A value that indicates the width of the border that is used to resize a window.            |
| <b>UseAeroCaptionButtons</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether hit-testing is enabled on the Windows Aero caption buttons. |

|  |   |
|--|---|
| (usage)                                      | <WindowChrome />  |
| <b>(attachable properties)</b>               |   |
| <b>WindowChrome.IsHitTestVisibleInChrome</b> | <a href="#">x:Boolean</a>   |
| <b>(description)</b>                         | A value that indicates whether hit-testing is enabled on the part of an element that is in the non-client area of a window. |
| <b>[target type]</b>                         | <a href="#">IInputElement</a>   |
| <b>WindowChrome.ResizeGripDirection</b>      | <a href="#">ResizeGripDirection</a>   |
| <b>(description)</b>                         | A value that indicates the direction of the resize grip behavior on an input element.                                       |
| <b>[target type]</b>                         | <a href="#">IInputElement</a>   |
| <b>WindowChrome.WindowChrome</b>             | WindowChrome  |
| <b>(description)</b>                         | The instance of WindowChrome that is attached to a window.  |
| <b>[target type]</b>                         | <a href="#">Window</a>  |
| <b>(static properties)</b>                   |   |
| <b>GlassFrameCompleteThickness</b>           | <a href="#">Thickness</a>   |
| <b>(description)</b>                         | A uniform thickness of -1.  |

#### 4.1010 WindowCollection

[x:Object](#) > WindowCollection

|                      |  |
|----------------------|--|
| (usage)              | <WindowCollection />                       |
| <b>(description)</b> | Represents a collection of Window objects. |

#### 4.1011 WindowStartupLocation

[x:Object](#) > WindowStartupLocation

|                      |  |
|----------------------|--|
| (usage)              | <b>Manual  CenterScreen  CenterOwner</b>   |
| <b>(description)</b> | Specifies the position that a Window will be shown in when it is first opened. Used by the WindowStartupLocation property. |
| <b>(used by)</b>     | <a href="#">Window</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">WindowStartupLocationSyntax</a>  |

## 4.1012 WindowState

[x:Object](#) > WindowState

|                      |  |
|----------------------|--|
| (usage)              | <b>Normal  Minimized  Maximized</b>  |
| <b>(description)</b> | Specifies whether a window is minimized, maximized, or restored. Used by the WindowState property. |
| <b>(used by)</b>     | <a href="#">Window</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">WindowStateSyntax</a>  |

## 4.1013 WindowStyle

[x:Object](#) > WindowStyle

|                      |   |
|----------------------|---|
| (usage)              | <b>None  SingleBorderWindow  ThreeDBorderWindow  ToolWindow</b>                   |
| <b>(description)</b> | Specifies the type of border that a Window has. Used by the WindowStyle property. |
| <b>(used by)</b>     | <a href="#">Window</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | <a href="#">WindowStyleSyntax</a>   |

## 4.1014 WmpBitmapEncoder

[x:Object](#) > [BitmapEncoder](#) > WmpBitmapEncoder

|                                  |  |
|----------------------------------|--|
| (usage)                          | <WmpBitmapEncoder />   |
| <b>(description)</b>             | Defines an encoder that is used to encode Microsoft Windows Media Photo images.  |
| <b>(properties)</b>              |  |
| <b>AlphaDataDiscardLevel</b>     | <a href="#">x:Byte</a>   |
| <b>(description)</b>             | The level of alpha frequency data to discard during a compressed domain transcode.   |
| <b>AlphaQualityLevel</b>         | <a href="#">x:Byte</a>   |
| <b>(description)</b>             | The compression quality for a planar alpha channel.  |
| <b>CompressedDomainTranscode</b> | <a href="#">x:Boolean</a>  |
| <b>(description)</b>             | A value that indicates whether compressed domain operations can be used. Compressed domain operations are transformation operations that are done without decoding the image data. |
| <b>FlipHorizontal</b>            | <a href="#">x:Boolean</a>  |



|                              |  |
|------------------------------|--|
| (usage)                      | <WmpBitmapEncoder />   |
| <b>(description)</b>         | A value indicating whether to flip the image horizontally.   |
| <b>FlipVertical</b>          | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether to flip the image vertically.   |
| <b>FrequencyOrder</b>        | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether to encoding in frequency order.   |
| <b>HorizontalTileSlices</b>  | <a href="#">x:Int16</a>  |
| <b>(description)</b>         | The number of horizontal divisions to use during compression encoding. A single division creates two horizontal regions. |
| <b>IgnoreOverlap</b>         | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether to ignore region overlap pixels in subregion compressed domain encoding.                  |
| <b>ImageDataDiscardLevel</b> | <a href="#">x:Byte</a>   |
| <b>(description)</b>         | The level of image data to discard during a compressed domain transcode.   |
| <b>ImageQualityLevel</b>     | <a href="#">x:Single</a>   |
| <b>(description)</b>         | The image quality level.   |
| <b>InterleavedAlpha</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether to encode the alpha channel data as an additional interleaved channel.                    |
| <b>Lossless</b>              | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates whether to encode using lossless compression.   |
| <b>OverlapLevel</b>          | <a href="#">x:Byte</a>   |
| <b>(description)</b>         | The overlap processing level.  |
| <b>QualityLevel</b>          | <a href="#">x:Byte</a>   |
| <b>(description)</b>         | The compression quality for the main image.  |
| <b>Rotation</b>              | <a href="#">Rotation</a>   |
| <b>(description)</b>         | The Rotation of the image.   |
| <b>SubsamplingLevel</b>      | <a href="#">x:Byte</a>   |
| <b>(description)</b>         | The sub-sampling level for RGB image encoding.   |
| <b>UseCodecOptions</b>       | <a href="#">x:Boolean</a>  |
| <b>(description)</b>         | A value that indicates codec options are to be used.   |

|                           |  |
|---------------------------|--|
| (usage)                   | <WmpBitmapEncoder />   |
| <b>VerticalTileSlices</b> | <a href="#">x:Int16</a>  |
| <b>(description)</b>      | The number of vertical divisions to use during compression encoding. A single division creates two vertical regions. |

#### 4.1015 WrapDirection

[x:Object](#) > WrapDirection

|                      |  |
|----------------------|--|
| (usage)              | <b>None  Left  Right  Both</b>   |
| <b>(description)</b> | Specifies the allowable directions that content can wrap around an object. |
| <b>(used by)</b>     | <a href="#">Block Figure</a>   |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | <a href="#">WrapDirectionSyntax</a>  |

#### 4.1016 WrapPanel

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > [Panel](#) > WrapPanel, [IInputElement](#)

|                            |   |
|----------------------------|---|
| (usage)                    | <WrapPanel> <a href="#">UIElement</a> *</WrapPanel>   |
| <b>(description)</b>       | Positions child elements in sequential position from left to right, breaking content to the next line at the edge of the containing box. Subsequent ordering happens sequentially from top to bottom or from right to left, depending on the value of the Orientation property. |
| <b>[content property]</b>  | Children  |
| <b>[name property]</b>     | Name  |
| <b>[xml lang property]</b> | Language  |
| <b>(properties)</b>        |   |
| <b>ItemHeight</b>          | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that specifies the height of all items that are contained within a WrapPanel.   |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>ItemWidth</b>           | <a href="#">x:Double</a>  |
| <b>(description)</b>       | A value that specifies the width of all items that are contained within a WrapPanel.  |
| <b>[text syntax]</b>       | <a href="#">LengthSyntax</a>  |
| <b>Orientation</b>         | <a href="#">Orientation</a>   |

|                      |  |
|----------------------|--|
| (usage)              | <WrapPanel> <a href="#">UIElement</a> *</WrapPanel>                      |
| <b>(description)</b> | A value that specifies the dimension in which child content is arranged. |

#### 4.1017 WriteableBitmap

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > [ImageSource](#) > [BitmapSource](#) > WriteableBitmap

|                                   |   |
|-----------------------------------|---|
| (usage)                           | <WriteableBitmap> string </WriteableBitmap>                 |
| <b>(description)</b>              | Provides a BitmapSource that can be written to and updated. |
| <b>[is default constructible]</b> | false   |
| <b>[text syntax]</b>              | x:Uri, from <a href="#">[MS-XAML]</a>                       |
| <b>(properties)</b>               |   |
| <b>BackBuffer</b>                 | <a href="#">IntPtr</a>                                      |
| <b>(description)</b>              | A pointer to the back buffer.                               |

#### 4.1018 XmlDataProvider

[x:Object](#) > [DataSourceProvider](#) > XmlDataProvider

|                            |  |
|----------------------------|--|
| (usage)                    | <XmlDataProvider><XData/></XmlDataProvider>  |
| <b>(description)</b>       | Enables declarative access to XML data for data binding.   |
| <b>[content property]</b>  | XmlSerializer  |
| <b>(properties)</b>        |  |
| <b>IsAsynchronous</b>      | <a href="#">x:Boolean</a>  |
| <b>(description)</b>       | A value that indicates whether node collection creation will be performed in a worker thread or in the active context. |
| <b>Source</b>              | <a href="#">x:Uri</a>  |
| <b>(description)</b>       | The Uri of the XML data file to use as the binding source.   |
| <b>XmlNamespaceManager</b> | <a href="#">XmlNamespaceManager</a>  |
| <b>(description)</b>       | The XmlNamespaceManager used to run XPath queries.   |
| <b>XmlSerializer</b>       | <a href="#">IXmlSerializable</a>   |
| <b>(description)</b>       | The inline XML content.  |
| <b>[read only]</b>         | true   |
| <b>[is xdata]</b>          | true   |
| <b>XPath</b>               | <a href="#">x:String</a>   |

|                      |   |
|----------------------|---|
| (usage)              | <XmlDataProvider><XData/></XmlDataProvider>           |
| <b>(description)</b> | The XPath query used to generate the data collection. |

#### 4.1019 XmlNamespaceMapping

[x:Object](#) > XmlNamespaceMapping

|                      |  |
|----------------------|--|
| (usage)              | <XmlNamespaceMapping />  |
| <b>(description)</b> | Declares a mapping between a uniform resource identifier (URI) and a prefix. |
| <b>(used by)</b>     | <a href="#">XmlNamespaceMappingCollection</a>                                |
| <b>(properties)</b>  |  |
| <b>Prefix</b>        | <a href="#">x:String</a>   |
| <b>(description)</b> | The prefix to use in XAML.   |
| <b>Uri</b>           | <a href="#">x:Uri</a>  |
| <b>(description)</b> | The Uri of the namespace for which to create a mapping.                      |

#### 4.1020 XmlNamespaceMappingCollection

[x:Object](#) > [XmlNamespaceManager](#) > XmlNamespaceMappingCollection

|                        |   |
|------------------------|---|
| (usage)                | <XmlNamespaceMappingCollection> <a href="#">XmlNamespaceMapping</a> *</XmlNamespaceMappingCollection> |
| <b>(description)</b>   | Represents a collection of XmlNamespaceMapping objects.   |
| <b>[is list]</b>       | true  |
| <b>[allowed types]</b> | <a href="#">XmlNamespaceMapping</a>   |

#### 4.1021 ZoomPercentageConverter

[x:Object](#) > ZoomPercentageConverter, [IValueConverter](#)

|                      |  |
|----------------------|--|
| (usage)              | <ZoomPercentageConverter />  |
| <b>(description)</b> | Implements a type converter for converting Double (used as the value of Zoom) to and from other types. |

## 5 WPF XamlType Information Items for Assignable Types

### 5.1 ActiveXHost

[x:Object](#) > [DependencyObject](#) > [Visual](#) > [UIElement](#) > [FrameworkElement](#) > ActiveXHost, [IInputElement](#)

|                                   |  |
|-----------------------------------|--|
| <a href="#">WebBrowser</a>        |  |
| <b>(usage)</b>                    | None.  |
| <b>(description)</b>              | Hosts an ActiveX control as an element within content. |
| <b>[is default constructible]</b> | false  |
| <b>[name property]</b>            | Name   |
| <b>[xml lang property]</b>        | Language   |

### 5.2 x:Boolean

[x:Object](#) > x:Boolean

|                                 |   |
|---------------------------------|---|
| link to externally defined type | x:Boolean, from <a href="#">[MS-XAML]</a> |
|---------------------------------|---|

### 5.3 x:Byte

[x:Object](#) > x:Byte

|                                 |  |
|---------------------------------|--|
| link to externally defined type | x:Byte, from <a href="#">[MS-XAML]</a> |
|---------------------------------|--|

### 5.4 x:Char

[x:Object](#) > x:Char

|                                 |  |
|---------------------------------|--|
| link to externally defined type | x:Char, from <a href="#">[MS-XAML]</a> |
|---------------------------------|--|

### 5.5 Collection(T)

[x:Object](#) > Collection(T)

|  |  |
|--|--|
| <a href="#">ConditionCollection</a> <a href="#">SetterBaseCollection</a> <a href="#">StrokeCollection</a> <a href="#">StylusPointCollection</a> <a href="#">TouchPointCollection</a> <a href="#">TriggerCollection</a> |  |
| <b>(usage)</b>   | <Collection x:TypeArguments="T">T* </Collection>   |
| <b>(description)</b>   |  |
| <b>(used by)</b>   | <a href="#">Binding</a> <a href="#">BindingGroup</a> <a href="#">MultiBinding</a> <a href="#">PriorityBinding</a> <a href="#">PropertyPath</a> <a href="#">ResourceDictionary</a> <a href="#">Ribbon</a> <a href="#">ToolBarTray</a> |
| <b>[is list]</b>   | true   |

|  |   |
|--|---|
| <a href="#">ConditionCollection</a> <a href="#">SetterBaseCollection</a> <a href="#">StrokeCollection</a> <a href="#">StylusPointCollection</a> <a href="#">TouchPointCollection</a> <a href="#">TriggerCollection</a> |   |
| [allowed types]  | T |

## 5.6 CollectionBase

[x:Object](#) > CollectionBase

|                                      |   |
|--------------------------------------|---|
| <a href="#">LinkTargetCollection</a> |   |
| (usage)                              | None.   |
| (description)                        | Provides the base type for a strongly typed collection. |
| [is default constructible]           | false   |
| [is list]                            | true  |
| [allowed types]                      | <a href="#">x:Object</a>                                |

## 5.7 CultureInfo

[x:Object](#) > CultureInfo

|                            |  |
|----------------------------|--|
| (usage)                    | <CultureInfo> string </CultureInfo>  |
| (description)              | Provides information about a specific culture. The information includes the names for the culture, the writing system, the calendar used, and formatting for dates and sort strings.             |
| (used by)                  | <a href="#">Binding</a> <a href="#">CollectionView</a> <a href="#">CollectionViewSource</a> <a href="#">InputLanguageManager</a> <a href="#">MultiBinding</a> <a href="#">NumberSubstitution</a> |
| [is default constructible] | false  |
| [text syntax]              | <a href="#">CultureInfoSyntax</a>  |

## 5.8 DataSourceProvider

[x:Object](#) > DataSourceProvider

|  |   |
|--|---|
| <a href="#">ObjectDataProvider</a> <a href="#">XmlDataProvider</a> |   |
| (usage)  | None.   |
| (description)  | Common base type and contract for DataSourceProvider objects, which are factories that execute some queries to produce a single object or a list of objects that you can use as binding source objects. |
| [is default constructible]   | false   |

## 5.9 x:DateTime

[x:Object](#) > x:DateTime

|                                 |  |
|---------------------------------|--|
| link to externally defined type | x:DateTime, from <a href="#">[MS-XAML]</a> |
|---------------------------------|--|

## 5.10 DayOfWeek

[x:Object](#) > DayOfWeek

|               |   |
|---------------|---|
| (usage)       | <b>Sunday  Monday  Tuesday  Wednesday  Thursday  Friday  Saturday</b> |
| (description) | Specifies the day of the week.  |
| (used by)     | <a href="#">Calendar</a> <a href="#">DatePicker</a>                   |
| [is nullable] | false   |
| [text syntax] | <a href="#">DayOfWeekSyntax</a>                                       |

## 5.11 x:Decimal

[x:Object](#) > x:Decimal

|                                 |   |
|---------------------------------|---|
| link to externally defined type | x:Decimal, from <a href="#">[MS-XAML]</a> |
|---------------------------------|---|

## 5.12 Delegate

[x:Object](#) > Delegate

|                            |  |
|----------------------------|--|
| (usage)                    | <Delegate> string </Delegate>  |
| (description)              | Represents a delegate, which is a data structure that refers to a static method or to a type instance and an instance method of that type. |
| (used by)                  | <a href="#">EventSetter</a>  |
| [is default constructible] | false  |
| [text syntax]              | x:XamlEvent, from <a href="#">[MS-XAML]</a>  |

## 5.13 x:Double

[x:Object](#) > x:Double

|                                 |  |
|---------------------------------|--|
| link to externally defined type | x:Double, from <a href="#">[MS-XAML]</a> |
|---------------------------------|--|

## 5.14 FreezableCollection(T)

[x:Object](#) > [DependencyObject](#) > [Freezable](#) > [Animatable](#) > FreezableCollection(T)

|   |  |
|---|--|
| <a href="#">RibbonControlSizeDefinitionCollection</a> <a href="#">RibbonGroupSizeDefinitionBaseCollection</a> <a href="#">ThumbButtonInfoCollection</a> |  |
| <b>(usage)</b>  | <FreezableCollection x:TypeArguments="T">T* </FreezableCollection> |
| <b>(description)</b>  |  |
| <b>[is list]</b>  | true   |
| <b>[allowed types]</b>  | T  |

## 5.15 GroupDescription

[x:Object](#) > GroupDescription

|  |  |
|--|--|
| <a href="#">PropertyGroupDescription</a> |  |
| <b>(usage)</b>                           | None.  |
| <b>(description)</b>                     | A base type that describes how to divide the items in a collection into groups.                    |
| <b>(used by)</b>                         | <a href="#">CollectionView</a> <a href="#">CollectionViewSource</a> <a href="#">ItemCollection</a> |
| <b>[is default constructible]</b>        | false  |

## 5.16 ICollection(T)

ICollection(T)

|   |  |
|---|--|
| <a href="#">BlockCollection</a> <a href="#">CalendarBlackoutDatesCollection</a> <a href="#">CharacterMetricsDictionary</a> <a href="#">ClockCollection</a> <a href="#">ColumnDefinitionCollection</a> <a href="#">ConditionCollection</a> <a href="#">DoubleCollection</a> <a href="#">DrawingCollection</a> <a href="#">FamilyTypefaceCollection</a> <a href="#">FontFamilyMapCollection</a> <a href="#">GeneralTransform3DCollection</a> <a href="#">GeneralTransformCollection</a> <a href="#">GeometryCollection</a> <a href="#">GradientStopCollection</a> <a href="#">GridViewColumnCollection</a> <a href="#">InlineCollection</a> <a href="#">Int32Collection</a> <a href="#">LanguageSpecificStringDictionary</a> <a href="#">ListItemCollection</a> <a href="#">MaterialCollection</a> <a href="#">Model3DCollection</a> <a href="#">PathFigureCollection</a> <a href="#">PathSegmentCollection</a> <a href="#">Point3DCollection</a> <a href="#">PointCollection</a> <a href="#">RibbonControlSizeDefinitionCollection</a> <a href="#">RibbonGroupSizeDefinitionBaseCollection</a> <a href="#">RowDefinitionCollection</a> <a href="#">SelectedDatesCollection</a> <a href="#">SetterBaseCollection</a> <a href="#">StrokeCollection</a> <a href="#">StylusButtonCollection</a> <a href="#">StylusDeviceCollection</a> <a href="#">StylusPointCollection</a> <a href="#">TableCellCollection</a> <a href="#">TableColumnCollection</a> <a href="#">TableRowCollection</a> <a href="#">TableRowGroupCollection</a> <a href="#">TextDecorationCollection</a> <a href="#">TextEffectCollection</a> <a href="#">TextElementCollection</a> ( <a href="#">TextElementCollection</a> + <a href="#">TextElementType</a> ) <a href="#">ThumbButtonInfoCollection</a> <a href="#">TimelineCollection</a> <a href="#">TouchPointCollection</a> <a href="#">Transform3DCollection</a> <a href="#">TransformCollection</a> <a href="#">TriggerActionCollection</a> <a href="#">TriggerCollection</a> <a href="#">Vector3DCollection</a> <a href="#">VectorCollection</a> <a href="#">Visual3DCollection</a> <a href="#">XmlNamespaceMappingCollection</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  |  |
| <b>(used by)</b>  | <a href="#">CharacterMetricsDictionary</a> <a href="#">FontEmbeddingManager</a> <a href="#">Fonts</a> <a href="#">LanguageSpecificStringDictionary</a> |
| <b>[is default constructible]</b>   | false  |
| <b>[is list]</b>  | true   |



|   |   |
|---|---|
| <a href="#">BlockCollection</a> <a href="#">CalendarBlackoutDatesCollection</a> <a href="#">CharacterMetricsDictionary</a> <a href="#">ClockCollection</a> <a href="#">ColumnDefinitionCollection</a> <a href="#">ConditionCollection</a> <a href="#">DoubleCollection</a> <a href="#">DrawingCollection</a> <a href="#">FamilyTypefaceCollection</a> <a href="#">FontFamilyMapCollection</a> <a href="#">GeneralTransform3DCollection</a> <a href="#">GeneralTransformCollection</a> <a href="#">GeometryCollection</a> <a href="#">GradientStopCollection</a> <a href="#">GridViewColumnCollection</a> <a href="#">InlineCollection</a> <a href="#">Int32Collection</a> <a href="#">LanguageSpecificStringDictionary</a> <a href="#">ListItemCollection</a> <a href="#">MaterialCollection</a> <a href="#">Model3DCollection</a> <a href="#">PathFigureCollection</a> <a href="#">PathSegmentCollection</a> <a href="#">Point3DCollection</a> <a href="#">PointCollection</a> <a href="#">RibbonControlSizeDefinitionCollection</a> <a href="#">RibbonGroupSizeDefinitionBaseCollection</a> <a href="#">RowDefinitionCollection</a> <a href="#">SelectedDatesCollection</a> <a href="#">SetterBaseCollection</a> <a href="#">StrokeCollection</a> <a href="#">StylusButtonCollection</a> <a href="#">StylusDeviceCollection</a> <a href="#">StylusPointCollection</a> <a href="#">TableCellCollection</a> <a href="#">TableColumnCollection</a> <a href="#">TableRowCollection</a> <a href="#">TableRowGroupCollection</a> <a href="#">TextDecorationCollection</a> <a href="#">TextEffectCollection</a> <a href="#">TextElementCollection</a> ( <a href="#">TextElementCollection</a> + <a href="#">TextElementType</a> ) <a href="#">ThumbButtonInfoCollection</a> <a href="#">TimelineCollection</a> <a href="#">TouchPointCollection</a> <a href="#">Transform3DCollection</a> <a href="#">TransformCollection</a> <a href="#">TriggerActionCollection</a> <a href="#">TriggerCollection</a> <a href="#">Vector3DCollection</a> <a href="#">VectorCollection</a> <a href="#">Visual3DCollection</a> <a href="#">XmlNamespaceMappingCollection</a> |   |
| [allowed types]   | T |

## 5.17 ICommand (4.5)

ICommand

|   |   |
|---|---|
| <a href="#">RoutedCommand</a> <a href="#">RoutedUICommand</a> |   |
| (usage)   | <ICommand> string </ICommand>   |
| (description)   | Defines a command.  |
| (used by)   | <a href="#">ButtonBase</a> <a href="#">CommandBinding</a> <a href="#">Hyperlink</a> <a href="#">InputBinding</a> <a href="#">MenuItem</a> <a href="#">RibbonGallery</a> <a href="#">RibbonSplitButton</a> <a href="#">RibbonTextBox</a> <a href="#">ThumbButtonInfo</a> |
| [is default constructible]                                    | false   |
| [text syntax]   | <a href="#">CommandSyntax</a>   |

## 5.18 IDictionary

IDictionary

|  |  |
|--|--|
| <a href="#">CharacterMetricsDictionary</a> <a href="#">LanguageSpecificStringDictionary</a> <a href="#">ResourceDictionary</a> |  |
| (usage)  | None.  |
| (description)  | Represents a nongeneric collection of key/value pairs. |
| (used by)  | <a href="#">Application</a>                            |
| [is default constructible]   | false  |
| [is dictionary]  | true   |
| [allowed types]  | <a href="#">x:Object</a>                               |
| [allowed key types]  | <a href="#">x:Object</a>                               |

## 5.19 IDictionary(T,U)

IDictionary(T,U)

|   |  |
|---|--|
| <a href="#">CharacterMetricsDictionary</a> <a href="#">LanguageSpecificStringDictionary</a> |  |
| <b>(usage)</b>  | None.  |
| <b>(description)</b>  | Represents a nongeneric collection of key/value pairs.       |
| <b>(used by)</b>  | <a href="#">FamilyTypeface</a> <a href="#">GlyphTypeface</a> |
| <b>[is default constructible]</b>   | false  |
| <b>[is dictionary]</b>  | true   |
| <b>[allowed types]</b>  | <a href="#">x:String</a>                                     |
| <b>[allowed key types]</b>  | <a href="#">CultureInfo</a>                                  |

## 5.20 IDocumentPaginatorSource

IDocumentPaginatorSource

|  |  |
|--|--|
| <a href="#">FixedDocument</a> <a href="#">FixedDocumentSequence</a> <a href="#">FlowDocument</a> |  |
| <b>(usage)</b>   | None.  |
| <b>(description)</b>   | Defines the source object that performs actual content pagination. |
| <b>(used by)</b>   | <a href="#">DocumentViewerBase</a>                                 |
| <b>[is default constructible]</b>  | false  |

## 5.21 IEnumerable

IEnumerable

|                                   |  |
|-----------------------------------|--|
| <b>(usage)</b>                    | None.  |
| <b>(description)</b>              | Exposes the enumerator, which supports a simple iteration over a non-generic collection. |
| <b>(used by)</b>                  | <a href="#">DataGridComboBoxColumn</a> <a href="#">ItemsControl</a>                      |
| <b>[is default constructible]</b> | false  |

## 5.22 IList

IList

|                      |  |
|----------------------|--|
| <b>(usage)</b>       | None.  |
| <b>(description)</b> | Represents a non-generic collection of objects that can be individually accessed by index. |

|                            |   |
|----------------------------|---|
| (usage)                    | None.   |
| (used by)                  | <a href="#">AlternationConverter</a> <a href="#">BindingGroup</a> <a href="#">IKeyFrameAnimation</a> <a href="#">InputScope</a> <a href="#">ListBox</a> <a href="#">MultiSelector</a> <a href="#">ObjectDataProvider</a> <a href="#">SpellCheck</a> <a href="#">VisualStateManager</a> <a href="#">VisualStateManager</a> |
| [is default constructible] | false   |
| [is list]                  | true  |
| [allowed types]            | <a href="#">x:Object</a>  |

## 5.23 IList(T)

IList(T)

|   |  |
|---|--|
| <a href="#">CalendarBlackoutDatesCollection</a> <a href="#">ColumnDefinitionCollection</a> <a href="#">ConditionCollection</a> <a href="#">DoubleCollection</a> <a href="#">DrawingCollection</a> <a href="#">FamilyTypefaceCollection</a> <a href="#">FontFamilyMapCollection</a> <a href="#">GeneralTransform3DCollection</a> <a href="#">GeneralTransformCollection</a> <a href="#">GeometryCollection</a> <a href="#">GradientStopCollection</a> <a href="#">GridViewColumnCollection</a> <a href="#">Int32Collection</a> <a href="#">MaterialCollection</a> <a href="#">Model3DCollection</a> <a href="#">PathFigureCollection</a> <a href="#">PathSegmentCollection</a> <a href="#">Point3DCollection</a> <a href="#">PointCollection</a> <a href="#">RibbonControlSizeDefinitionCollection</a> <a href="#">RibbonGroupSizeDefinitionBaseCollection</a> <a href="#">RowDefinitionCollection</a> <a href="#">SelectedDatesCollection</a> <a href="#">SetterBaseCollection</a> <a href="#">StrokeCollection</a> <a href="#">StylusButtonCollection</a> <a href="#">StylusDeviceCollection</a> <a href="#">StylusPointCollection</a> <a href="#">TableCellCollection</a> <a href="#">TableColumnCollection</a> <a href="#">TableRowCollection</a> <a href="#">TableRowGroupCollection</a> <a href="#">TextDecorationCollection</a> <a href="#">TextEffectCollection</a> <a href="#">ThumbButtonInfoCollection</a> <a href="#">TimelineCollection</a> <a href="#">TouchPointCollection</a> <a href="#">Transform3DCollection</a> <a href="#">TransformCollection</a> <a href="#">TriggerActionCollection</a> <a href="#">TriggerCollection</a> <a href="#">Vector3DCollection</a> <a href="#">VectorCollection</a> <a href="#">Visual3DCollection</a> |  |
| (usage)   | None.  |
| (description)   |  |
| (used by)   | <a href="#">BitmapEncoder</a> <a href="#">DataGrid</a> <a href="#">GlyphRun</a> <a href="#">PixelFormat</a> <a href="#">PixelFormatChannelMask</a> |
| [is default constructible]  | false  |
| [is list]   | true   |
| [allowed types]   | T  |

## 5.24 x:Int16

[x:Object](#) > x:Int16

|                                 |   |
|---------------------------------|---|
| link to externally defined type | x:Int16, from <a href="#">[MS-XAML]</a> |
|---------------------------------|---|

## 5.25 x:Int32

[x:Object](#) > x:Int32

|                                 |   |
|---------------------------------|---|
| link to externally defined type | x:Int32, from <a href="#">[MS-XAML]</a> |
|---------------------------------|---|

## 5.26 x:Int64

[x:Object](#) > x:Int64

|                                 |   |
|---------------------------------|---|
| link to externally defined type | x:Int64, from <a href="#">[MS-XAML]</a> |
|---------------------------------|---|

## 5.27 IntPtr

[x:Object](#) > IntPtr

|                      |   |
|----------------------|---|
| (usage)              | <IntPtr />  |
| <b>(description)</b> | A platform-specific type that is used to represent a pointer or a handle. |
| <b>(used by)</b>     | <a href="#">WriteableBitmap</a>   |
| <b>[is nullable]</b> | false   |

## 5.28 IXmlSerializable

IXmlSerializable

|                                   |   |
|-----------------------------------|---|
| (usage)                           | None.   |
| <b>(description)</b>              | Provides custom formatting for XML serialization and deserialization. |
| <b>(used by)</b>                  | <a href="#">XmlDataProvider</a>                                       |
| <b>[is default constructible]</b> | false   |
| <b>[is xdata]</b>                 | true  |

## 5.29 List(T)

[x:Object](#) > List(T)

|                        |                                      |
|------------------------|--------------------------------------|
| (usage)                | <List x:TypeArguments="T">T* </List> |
| <b>(description)</b>   |                                      |
| <b>(used by)</b>       | <a href="#">JumpList</a>             |
| <b>[is list]</b>       | true                                 |
| <b>[allowed types]</b> | T                                    |

## 5.30 ManipulationParameters2D (4.5)

[x:Object](#) > ManipulationParameters2D

|                      |  |
|----------------------|--|
| (usage)              | None.  |
| <b>(description)</b> | Base type from which all manipulation parameter types are derived. |

|                            |                              |
|----------------------------|------------------------------|
| (usage)                    | None.                        |
| (used by)                  | <a href="#">Manipulation</a> |
| [is default constructible] | false                        |

### 5.31 x:MarkupExtension

[x:Object](#) > x:MarkupExtension

|   |   |
|---|---|
| <a href="#">BindingBase</a> <a href="#">ColorConvertedBitmapExtension</a> <a href="#">DynamicResourceExtension</a> <a href="#">RelativeSource</a> <a href="#">ResourceKey</a> <a href="#">StaticResourceExtension</a> <a href="#">TemplateBindingExtension</a> <a href="#">ThemeDictionaryExtension</a> |   |
| link to externally defined type   | x:MarkupExtension, from <a href="#">[MS-XAML]</a> |

### 5.32 x:Nullable(T)

[x:Object](#) > x:Nullable(T)

|                                 |   |
|---------------------------------|---|
| link to externally defined type | x:Nullable(T), from <a href="#">[MS-XAML]</a> |
|---------------------------------|---|

### 5.33 x:Object

x:Object

|  |  |
|--|--|
| <a href="#">AlternationConverter</a> <a href="#">ApplicationCommands</a> <a href="#">AutomationProperties</a> <a href="#">BindingOperations</a> <a href="#">BooleanToVisibilityConverter</a> <a href="#">BorderGapMaskConverter</a> <a href="#">Brushes</a> <a href="#">CalendarDateRange</a> <a href="#">CharacterMetrics</a> <a href="#">CharacterMetricsDictionary</a> <a href="#">ClockCollection</a> <a href="#">ColorContext</a> <a href="#">Colors</a> <a href="#">ColumnDefinitionCollection</a> <a href="#">CommandBinding</a> <a href="#">CommandBindingCollection</a> <a href="#">ComponentCommands</a> <a href="#">CompositeCollection</a> <a href="#">Condition</a> <a href="#">ContentOperations</a> <a href="#">ContextMenuService</a> <a href="#">CoreCompatibilityPreferences</a> <a href="#">Cursor</a> <a href="#">Cursors</a> <a href="#">DashStyles</a> <a href="#">DataObject</a> <a href="#">DataTemplateSelector</a> <a href="#">DeferrableContent</a> <a href="#">DependencyProperty</a> <a href="#">DocumentReferenceCollection</a> <a href="#">DrawingAttributes</a> <a href="#">EditingCommands</a> <a href="#">EventPrivateKey</a> <a href="#">FamilyTypeface</a> <a href="#">FamilyTypefaceCollection</a> <a href="#">FocusManager</a> <a href="#">FontEmbeddingManager</a> <a href="#">FontFamily</a> <a href="#">FontFamilyMap</a> <a href="#">FontFamilyMapCollection</a> <a href="#">Fonts</a> <a href="#">FontStretches</a> <a href="#">FontStyles</a> <a href="#">FontWeights</a> <a href="#">FrameworkCompatibilityPreferences</a> <a href="#">GlyphRun</a> <a href="#">GlvphTypeface</a> <a href="#">GroupStyle</a> <a href="#">InertiaExpansionBehavior</a> <a href="#">InertiaRotationBehavior</a> <a href="#">InertiaTranslationBehavior</a> <a href="#">InputBindingCollection</a> <a href="#">InputGesture</a> <a href="#">InputGestureCollection</a> <a href="#">InputScope</a> <a href="#">InputScopeName</a> <a href="#">InputScopePhrase</a> <a href="#">JournalEntryListConverter</a> <a href="#">JournalEntryUnifiedViewConverter</a> <a href="#">JumpItem</a> <a href="#">JumpList</a> <a href="#">Keyboard</a> <a href="#">KeyboardNavigation</a> <a href="#">KeyTipService</a> <a href="#">LanguageSpecificStringDictionary</a> <a href="#">LinkTarget</a> <a href="#">Localization</a> <a href="#">Manipulation</a> <a href="#">ManipulationPivot</a> <a href="#">MediaCommands</a> <a href="#">MenuScrollingVisibilityConverter</a> <a href="#">Mouse</a> <a href="#">NavigationCommands</a> <a href="#">NumberSubstitution</a> <a href="#">PageContentCollection</a> <a href="#">PixelFormats</a> <a href="#">PresentationTraceSources</a> <a href="#">PropertyPath</a> <a href="#">RenderCapability</a> <a href="#">RenderOptions</a> <a href="#">ResourceDictionary</a> <a href="#">RibbonCommands</a> <a href="#">RibbonControlService</a> <a href="#">RoutedCommand</a> <a href="#">RoutedEvent</a> <a href="#">RowDefinitionCollection</a> <a href="#">SetterBase</a> <a href="#">SpellCheck</a> <a href="#">Stroke</a> <a href="#">StyleSelector</a> <a href="#">Stylus</a> <a href="#">StylusButton</a> <a href="#">StylusPointDescription</a> <a href="#">SystemColors</a> <a href="#">SystemCommands</a> <a href="#">SystemFonts</a> <a href="#">SystemParameters</a> <a href="#">TableCellCollection</a> <a href="#">TableColumnCollection</a> <a href="#">TableRowCollection</a> <a href="#">TableRowGroupCollection</a> <a href="#">FrameworkElement</a> <a href="#">TextDecorations</a> <a href="#">TextElementCollection</a> ( <a href="#">TextElementCollection+TextElementType</a> ) <a href="#">TextOptions</a> <a href="#">TextRunCache</a> <a href="#">ToolTipService</a> <a href="#">TouchPoint</a> <a href="#">TriggerActionCollection</a> <a href="#">Typography</a> <a href="#">UIElementCollection</a> <a href="#">Validation</a> <a href="#">ValidationResult</a> <a href="#">ValidationRule</a> <a href="#">Visual3DCollection</a> <a href="#">VisualCollection</a> <a href="#">VisualTreeHelper</a> <a href="#">WindowCollection</a> <a href="#">XmlNamespaceMapping</a> <a href="#">ZoomPercentageConverter</a> |  |
| link to externally defined type  | x:Object, from <a href="#">[MS-XAML]</a> |

## 5.34 ObservableCollection(T)

[x:Object](#) > ObservableCollection(T)

|  |  |
|--|--|
| <a href="#">CalendarBlackoutDatesCollection</a> <a href="#">GridViewColumnCollection</a> <a href="#">SelectedDatesCollection</a> |  |
| <b>(usage)</b>   | <ObservableCollection x:TypeArguments="T">T* </ObservableCollection>   |
| <b>(description)</b>   |  |
| <b>(used by)</b>   | <a href="#">CollectionView</a> <a href="#">CollectionViewSource</a> <a href="#">DataGrid</a> <a href="#">ItemCollection</a> <a href="#">ItemsControl</a> |
| <b>[is list]</b>   | true   |
| <b>[allowed types]</b>   | T  |

## 5.35 Predicate(T)

[x:Object](#) > [Delegate](#) > Predicate(T)

|                                   |   |
|-----------------------------------|---|
| <b>(usage)</b>                    | <Predicate x:TypeArguments="T"> string </Predicate>           |
| <b>(description)</b>              |   |
| <b>(used by)</b>                  | <a href="#">CollectionView</a> <a href="#">ItemCollection</a> |
| <b>[is default constructible]</b> | false   |
| <b>[text syntax]</b>              | x:XamlEvent, from <a href="#">[MS-XAML]</a>                   |

## 5.36 ReadOnlyCollection(T)

[x:Object](#) > ReadOnlyCollection(T)

|   |                               |
|---|-------------------------------|
| <a href="#">StylusButtonCollection</a> <a href="#">StylusDeviceCollection</a> |                               |
| <b>(usage)</b>  | None.                         |
| <b>(description)</b>  |                               |
| <b>(used by)</b>  | <a href="#">BitmapEncoder</a> |
| <b>[is default constructible]</b>   | false                         |
| <b>[is list]</b>  | true                          |
| <b>[allowed types]</b>  | T                             |

## 5.37 RequestCachePolicy

[x:Object](#) > RequestCachePolicy

|                      |   |
|----------------------|---|
| <b>(usage)</b>       | <RequestCachePolicy />  |
| <b>(description)</b> | Defines an application's caching requirements for resources obtained by using WebRequest objects. |

|                  |                             |
|------------------|-----------------------------|
| (usage)          | <RequestCachePolicy />      |
| <b>(used by)</b> | <a href="#">BitmapImage</a> |

### 5.38 x:Single

[x:Object](#) > x:Single

|                                 |  |
|---------------------------------|--|
| link to externally defined type | x:Single, from <a href="#">[MS-XAML]</a> |
|---------------------------------|--|

### 5.39 SortDescriptionCollection

[x:Object](#) > SortDescriptionCollection

|                        |  |
|------------------------|--|
| (usage)                | <SortDescriptionCollection> <b>SortDescription</b> *</SortDescriptionCollection>                   |
| <b>(description)</b>   | Represents a collection of SortDescription objects.  |
| <b>(used by)</b>       | <a href="#">CollectionView</a> <a href="#">CollectionViewSource</a> <a href="#">ItemCollection</a> |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | SortDescription  |

### 5.40 x:String

[x:Object](#) > x:String

|                                 |  |
|---------------------------------|--|
| link to externally defined type | x:String, from <a href="#">[MS-XAML]</a> |
|---------------------------------|--|

### 5.41 StringCollection

[x:Object](#) > StringCollection

|                        |  |
|------------------------|--|
| (usage)                | <StringCollection> <a href="#">x:String</a> *</StringCollection> |
| <b>(description)</b>   | Represents a collection of strings.                              |
| <b>(used by)</b>       | <a href="#">RibbonTab</a>  |
| <b>[is list]</b>       | true   |
| <b>[allowed types]</b> | <a href="#">x:String</a>   |

### 5.42 StringComparison

[x:Object](#) > StringComparison

|                      |   |
|----------------------|---|
| (usage)              | <b>CurrentCulture  CurrentCultureIgnoreCase  InvariantCulture  InvariantCultureIgnoreCase  Ordinal  OrdinalIgnoreCase</b> |
| <b>(description)</b> | Specifies the culture, case, and sort rules to be used by certain overloads of the String) and Object) methods.           |

|                      |   |
|----------------------|---|
| (usage)              | <b>CurrentCulture</b>   <b>CurrentCultureIgnoreCase</b>   <b>InvariantCulture</b>   <b>InvariantCultureIgnoreCase</b>   <b>Ordinal</b>   <b>OrdinalIgnoreCase</b> |
| <b>(used by)</b>     | <a href="#">PropertyGroupDescription</a>  |
| <b>[is nullable]</b> | false   |
| <b>[text syntax]</b> | StringComparisonSyntax  |

### 5.43 x:TimeSpan

[x:Object](#) > x:TimeSpan

|                                 |  |
|---------------------------------|--|
| link to externally defined type | x:TimeSpan, from <a href="#">[MS-XAML]</a> |
|---------------------------------|--|

### 5.44 x:XamlType

[x:Object](#) > x:XamlType

|                                 |  |
|---------------------------------|--|
| link to externally defined type | x:XamlType, from <a href="#">[MS-XAML]</a> |
|---------------------------------|--|

### 5.45 UInt16

[x:Object](#) > UInt16

|                      |  |
|----------------------|--|
| (usage)              | <UInt16> string </UInt16>                              |
| <b>(description)</b> | Represents a 16-bit unsigned integer.                  |
| <b>(used by)</b>     | <a href="#">GlyphRun</a> <a href="#">GlyphTypeface</a> |
| <b>[is nullable]</b> | false  |
| <b>[text syntax]</b> | UInt16Syntax   |

### 5.46 x:Uri

[x:Object](#) > x:Uri

|                                 |                                       |
|---------------------------------|---------------------------------------|
| link to externally defined type | x:Uri, from <a href="#">[MS-XAML]</a> |
|---------------------------------|---------------------------------------|

### 5.47 XmlDocument

[x:Object](#) > XmlDocument

|                      |                                 |
|----------------------|---------------------------------|
| (usage)              | <XmlDocument />                 |
| <b>(description)</b> | Represents an XML document.     |
| <b>(used by)</b>     | <a href="#">XmlDataProvider</a> |



## 5.48 XmlLanguage

[x:Object](#) > XmlLanguage

|                                   |  |
|-----------------------------------|--|
| (usage)                           | <XmlLanguage> string </XmlLanguage>  |
| <b>(description)</b>              | Represents a language tag for use in XAML markup.  |
| <b>(used by)</b>                  | <a href="#">FontFamilyMap</a> <a href="#">FrameworkContentElement</a> <a href="#">FrameworkElement</a> <a href="#">GlyphRun</a> <a href="#">LanguageSpecificStringDictionary</a> |
| <b>[is default constructible]</b> | false  |
| <b>[text syntax]</b>              | <a href="#">XmlLanguageSyntax</a>  |

## 5.49 XmlNamespaceManager

[x:Object](#) > XmlNamespaceManager

|   |  |
|---|--|
| <a href="#">XmlNamespaceMappingCollection</a> |  |
| <b>(usage)</b>                                | None.  |
| <b>(description)</b>                          | Resolves, adds, and removes namespaces to a collection and provides scope management for these namespaces. |
| <b>(used by)</b>                              | <a href="#">Binding</a> <a href="#">XmlDataProvider</a>  |
| <b>[is default constructible]</b>             | false  |

## 6 WPF Xaml Text Syntax Information Sets

### 6.1 AlignmentXSyntax

|               |  |
|---------------|--|
| [values]      |  |
| <b>Center</b> | The contents align toward the center of the container. |
| <b>Left</b>   | The contents align toward the left of the container.   |
| <b>Right</b>  | The contents align toward the right of the container.  |

### 6.2 AlignmentYSyntax

|               |  |
|---------------|--|
| [values]      |  |
| <b>Bottom</b> | The contents align toward the lower edge of the container. |
| <b>Center</b> | The contents align toward the center of the container.     |
| <b>Top</b>    | The contents align toward the upper edge of the container. |

### 6.3 ApplicationGestureSyntax

|                     |   |
|---------------------|---|
| [values]            |   |
| <b>AllGestures</b>  | Recognizes all application-specific gestures.   |
| <b>ArrowDown</b>    | Has no suggested semantic behavior or action. The arrow can be drawn in single stroke or in two strokes where one stroke is the line and the other is the arrow head. Do not use more than two strokes to draw the arrow. |
| <b>ArrowLeft</b>    | Has no suggested semantic behavior or action. The arrow can be drawn in single stroke or in two strokes where one stroke is the line and the other is the arrow head. Do not use more than two strokes to draw the arrow. |
| <b>ArrowRight</b>   | Has no suggested semantic behavior or action. The arrow can be drawn in single stroke or in two strokes where one stroke is the line and the other is the arrow head. Do not use more than two strokes to draw the arrow. |
| <b>ArrowUp</b>      | Has no suggested semantic behavior or action. The arrow can be drawn in single stroke or in two strokes where one stroke is the line and the other is the arrow head. Do not use more than two strokes to draw the arrow. |
| <b>Check</b>        | Has no suggested semantic behavior or action. The upward stroke must be twice as long as the smaller downward stroke.   |
| <b>ChevronDown</b>  | Has no suggested semantic behavior or action. Both sides of the chevron must be drawn as equal as possible. The angle must be sharp and end in a point.   |
| <b>ChevronLeft</b>  | Has no suggested semantic behavior or action. Both sides of the chevron must be drawn as equal as possible. The angle must be sharp and end in a point.   |
| <b>ChevronRight</b> | Has no suggested semantic behavior or action. Both sides of the chevron must be drawn as equal as possible. The angle must be sharp and end in a point.   |

|                       |  |
|-----------------------|--|
| [values]              |  |
| <b>ChevronUp</b>      | Has no suggested semantic behavior or action. Both sides of the chevron must be drawn as equal as possible. The angle must be sharp and end in a point.  |
| <b>Circle</b>         | Has no suggested semantic behavior or action. The circle must be drawn in a single stroke without lifting the pen.   |
| <b>Curlicue</b>       | Has no suggested semantic behavior or action. Start the curlicue on the word you intend to cut.  |
| <b>DoubleCircle</b>   | Has no suggested semantic behavior or action. The two circles must overlap each other and be drawn in a single stroke without lifting the pen.   |
| <b>DoubleCurlicue</b> | Has no suggested semantic behavior or action. Start the double-curlicue on the word you intend to copy.  |
| <b>DoubleTap</b>      | Signifies a mouse double-click. The two taps must be made quickly to result in the least amount of slippage and the least duration between taps. In addition, the taps must be as close to each other as possible.         |
| <b>Down</b>           | Has no suggested semantic behavior or action. This gesture must be drawn as a single fast flick in the downward direction.   |
| <b>DownLeft</b>       | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the down stroke. The two sides must be as equal in length as possible and at a right angle.                      |
| <b>DownLeftLong</b>   | Signifies pressing an ENTER key. This gesture must be drawn in a single stroke starting with the down stroke. The left stroke is about twice as long as the up stroke, and the two strokes must be at a right angle.       |
| <b>DownRight</b>      | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the down stroke. The two sides must be as equal in length as possible and at a right angle.                      |
| <b>DownRightLong</b>  | Signifies pressing the spacebar. This gesture must be drawn in a single stroke starting with the down stroke. The right stroke must be about twice as long as the up stroke, and the two strokes must be at a right angle. |
| <b>DownUp</b>         | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the down stroke. The two strokes must be as close to each other as possible.                                     |
| <b>Exclamation</b>    | Has no suggested semantic behavior or action. The line must be drawn first and then the dot drawn quickly and as close to the line as possible.  |
| <b>Left</b>           | Specifies a backspace. This gesture must be drawn as a single fast flick to the left.  |
| <b>LeftDown</b>       | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the left stroke. The two sides are as equal in length as possible and at a right angle.                          |
| <b>LeftRight</b>      | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the left stroke. The two sides are as equal in length as possible and at a right angle.                          |
| <b>LeftUp</b>         | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the left stroke. The two sides must be as equal in length as possible and at a right angle.                      |

|                        |  |
|------------------------|--|
| [values]               |  |
| <b>NoGesture</b>       | Recognizes no application-specific gestures.   |
| <b>Right</b>           | Signifies a space. This gesture must be drawn as a single fast flick to the right.   |
| <b>RightDown</b>       | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the right stroke. The two sides must be as equal in length as possible and at a right angle.   |
| <b>RightLeft</b>       | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the right stroke. The two strokes must be as close to each other as possible.  |
| <b>RightUp</b>         | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the right stroke. The two sides must be as equal in length as possible and at a right angle.   |
| <b>ScratchOut</b>      | Erases content. This gesture must be drawn as a single stroke that has at least three back-and-forth motions.  |
| <b>SemicircleLeft</b>  | Has no suggested semantic behavior or action. The semicircle must be drawn from left to right. The two ends of the semicircle should be as horizontally even as possible.  |
| <b>SemicircleRight</b> | Has no suggested semantic behavior or action. The semicircle must be drawn from right to left. The two ends of the semicircle should be as horizontally even as possible.  |
| <b>Square</b>          | Has no suggested semantic behavior or action. The square can be drawn in one or two strokes. In one stroke, draw the entire square without lifting the pen. In two strokes, draw three sides of the square and use another stroke to draw the remaining side. Do not use more than two strokes to draw the square. |
| <b>Star</b>            | Has no suggested semantic behavior or action. The star must have exactly five points and be drawn in a single stroke without lifting the pen.  |
| <b>Tap</b>             | Signifies a mouse click. For the least amount of slippage, the tap must be made quickly.   |
| <b>Triangle</b>        | Has no suggested semantic behavior or action. The triangle must be drawn in a single stroke, without lifting the pen.  |
| <b>Up</b>              | Has no suggested semantic behavior or action. This gesture must be drawn as a single fast flick in the upward direction.   |
| <b>UpDown</b>          | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the up stroke. The two strokes must be as close to each other as possible.   |
| <b>UpLeft</b>          | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the up stroke. The two sides must be as equal in length as possible and at a right angle.  |
| <b>UpLeftLong</b>      | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the up stroke. The left stroke must be about twice as long as the up stroke, and the two strokes must be at a right angle.   |
| <b>UpRight</b>         | Has no suggested semantic behavior or action. This gesture must be drawn in a single stroke starting with the up stroke. The two sides must be as equal in length as possible and at a right angle.  |

|                    |   |
|--------------------|---|
| [values]           |   |
| <b>UpRightLong</b> | Signifies pressing a TAB key. This gesture must be drawn in a single stroke starting with the up stroke. The right stroke must be about twice as long as the up stroke, and the two strokes must be at a right angle. |

#### 6.4 AutoToolTipPlacementSyntax

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>BottomRight</b> | For a horizontal Slider show the automatic ToolTip at the bottom edge of the Thumb. For a vertical Slider show the automatic ToolTip at the right edge of the Thumb. |
| <b>None</b>        | No automatic ToolTip   |
| <b>TopLeft</b>     | For a horizontal Slider show the automatic ToolTip at the top edge of the Thumb. For a vertical Slider show the automatic ToolTip at the left edge of the Thumb.     |

#### 6.5 BaselineAlignmentSyntax

|                    |   |
|--------------------|---|
| [values]           |   |
| <b>Baseline</b>    | A baseline that is aligned at the actual baseline of the containing box.      |
| <b>Bottom</b>      | A baseline that is aligned at the lower edge of the containing box.           |
| <b>Center</b>      | A baseline that is aligned to the center of the containing box.               |
| <b>Subscript</b>   | A baseline that is aligned at the subscript position of the containing box.   |
| <b>Superscript</b> | A baseline that is aligned at the superscript position of the containing box. |
| <b>TextBottom</b>  | A baseline that is aligned at the lower edge of the text baseline.            |
| <b>TextTop</b>     | A baseline that is aligned at the upper edge of the text baseline.            |
| <b>Top</b>         | A baseline that is aligned to the upper edge of the containing box.           |

#### 6.6 BaseValueSourceSyntax

|                               |   |
|-------------------------------|---|
| [values]                      |   |
| <b>Default</b>                | Source is the default value, as defined by property metadata.   |
| <b>DefaultStyle</b>           | Source is from a setter in the default style. The default style comes from the current theme.   |
| <b>DefaultStyleTrigger</b>    | Source is from a trigger in the default style. The default style comes from the current theme.  |
| <b>ImplicitStyleReference</b> | Source is an implicit style reference (style was based on detected type or based type). This value is only returned for the Style property itself, not for properties that are set through setters or triggers of such a style. |
| <b>Inherited</b>              | Source is a value through property value inheritance.   |
| <b>Local</b>                  | Source is a locally set value.  |

|                              |  |
|------------------------------|--|
| [values]                     |  |
| <b>ParentTemplate</b>        | Source is based on a parent template being used by an element.                   |
| <b>ParentTemplateTrigger</b> | Source is a trigger-based value from a parent template that created the element. |
| <b>Style</b>                 | Source is from a style setter of a non-theme style.                              |
| <b>StyleTrigger</b>          | Source is a trigger-based value of a non-theme style.                            |
| <b>TemplateTrigger</b>       | Source is a trigger-based value in a template that is from a non-theme style.    |
| <b>Unknown</b>               | Source is not known. This is the default value.                                  |

## 6.7 BindingModeSyntax

|                       |   |
|-----------------------|---|
| [values]              |   |
| <b>Default</b>        | Uses the default Mode value of the binding target. The default value varies for each property. In general, user-editable control properties, such as those of text boxes and check boxes, default to two-way bindings, whereas most other properties default to one-way bindings.   |
| <b>OneTime</b>        | Updates the binding target when the application starts or when the data context changes. This type of binding is appropriate if you are using data where either a snapshot of the current state is appropriate to use or the data is truly static. This type of binding is also useful if you want to initialize your target property with some value from a source property and the data context is not known in advance.                                    |
| <b>OneWay</b>         | Updates the binding target property when the binding source changes. This type of binding is appropriate if the control being bound is implicitly read-only, such as a stock ticker. Or perhaps the target property has no control interface for making changes, such as a data-bound background color of a table. If there is no need to monitor the changes of the target property, the OneWay binding mode can be used instead of the TwoWay binding mode. |
| <b>OneWayToSource</b> | Updates the source property when the target property changes.   |
| <b>TwoWay</b>         | Causes changes to either the source property or the target property to automatically update the other. This type of binding is appropriate for editable forms or other fully-interactive UI scenarios.  |

## 6.8 BindingStatusSyntax

|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>Active</b>              | The binding has been successfully activated. This means that the binding has been attached to its binding target (target) property and has located the binding source (source), resolved the Path and/or XPath, and begun transferring values. |
| <b>AsyncRequestPending</b> | The binding is waiting for an asynchronous operation to complete.  |
| <b>Detached</b>            | The binding has been detached from its target property.  |
| <b>Inactive</b>            | The binding has not been activated.  |

|                          |  |
|--------------------------|--|
| [values]                 |  |
| <b>PathError</b>         | The binding was unable to resolve the source path.   |
| <b>Unattached</b>        | The binding has not yet been attached to its target property.  |
| <b>UpdateSourceError</b> | The binding was unable to send the value to the source property.   |
| <b>UpdateTargetError</b> | The binding could not successfully return a source value to update the target value. For more information, see the remarks on FallbackValue. |

## 6.9 BitmapCacheOptionSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Default</b>  | Caches the entire image into memory. This is the default value.  |
| <b>None</b>     | Do not create a memory store. All requests for the image are filled directly by the image file.  |
| <b>OnDemand</b> | Creates a memory store for requested data only. The first request loads the image directly; subsequent requests are filled from the cache. |
| <b>OnLoad</b>   | Caches the entire image into memory at load time. All requests for image data are filled from the memory store.                            |

## 6.10 BitmapCreateOptionsSyntax

|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>DelayCreation</b>       | Causes a BitmapSource object to delay initialization until it is necessary. This is useful when dealing with collections of images.  |
| <b>IgnoreColorProfile</b>  | Causes a BitmapSource to ignore an embedded color profile.   |
| <b>IgnoreImageCache</b>    | Loads images without using an existing image cache. This option should only be selected when images in a cache need to be refreshed. |
| <b>None</b>                | No BitmapCreateOptions are specified. This is the default value.   |
| <b>PreservePixelFormat</b> | Ensures that the PixelFormat a file is stored in is the same as it is loaded to.   |

## 6.11 BitmapScalingModeSyntax

|                    |   |
|--------------------|---|
| [values]           |   |
| <b>Fant</b>        | Use very high quality Fant bitmap scaling, which is slower than all other bitmap scaling modes, but produces higher quality output.                           |
| <b>HighQuality</b> | Use high quality bitmap scaling, which is slower than LowQuality mode, but produces higher quality output. The HighQuality mode is the same as the Fant mode. |
| <b>Linear</b>      | Use linear bitmap scaling, which is faster than HighQuality mode, but produces lower quality output.  |
| <b>LowQuality</b>  | Use bilinear bitmap scaling, which is faster than HighQuality mode, but produces lower quality output. The LowQuality mode is the same as the Linear mode.    |

|                        |  |
|------------------------|--|
| [values]               |  |
| <b>NearestNeighbor</b> | Use nearest-neighbor bitmap scaling, which provides performance benefits over LowQuality mode when the software rasterizer is used. This mode is often used to magnify a bitmap. |
| <b>Unspecified</b>     | Use the default bitmap scaling mode, which is Linear.  |

## 6.12 BrushMappingModeSyntax

|                              |   |
|------------------------------|---|
| [values]                     |   |
| <b>Absolute</b>              | The coordinate system is not relative to a bounding box. Values are interpreted directly in local space.  |
| <b>RelativeToBoundingBox</b> | The coordinate system is relative to a bounding box: 0 indicates 0 percent of the bounding box, and 1 indicates 100 percent of the bounding box. For example, (0.5, 0.5) describes a point in the middle of the bounding box, and (1, 1) describes a point at the bottom right of the bounding box. |

## 6.13 BrushSyntax

|                       |   |
|-----------------------|---|
| [values]              |   |
| <b>AliceBlue</b>      | The solid fill color that has a hexadecimal value of #FFF0F8FF. |
| <b>AntiqueWhite</b>   | The solid fill color that has a hexadecimal value of #FFFAEBD7. |
| <b>Aqua</b>           | The solid fill color that has a hexadecimal value of #FF00FFFF. |
| <b>Aquamarine</b>     | The solid fill color that has a hexadecimal value of #FF7FFFD4. |
| <b>Azure</b>          | The solid fill color that has a hexadecimal value of #FFF0FFFF. |
| <b>Beige</b>          | The solid fill color that has a hexadecimal value of #FFF5F5DC. |
| <b>Bisque</b>         | The solid fill color that has a hexadecimal value of #FFF4E4C4. |
| <b>Black</b>          | The solid fill color that has a hexadecimal value of #FF000000. |
| <b>BlanchedAlmond</b> | The solid fill color that has a hexadecimal value of #FFFEBECD. |
| <b>Blue</b>           | The solid fill color that has a hexadecimal value of #FF0000FF. |
| <b>BlueViolet</b>     | The solid fill color that has a hexadecimal value of #FF8A2BE2. |
| <b>Brown</b>          | The solid fill color that has a hexadecimal value               |



|                       |  |
|-----------------------|--|
| [values]              |  |
|                       | of #FFA52A2A.  |
| <b>BurlyWood</b>      | The solid fill color that has a hexadecimal value of #FFDEB887.  |
| <b>CadetBlue</b>      | The solid fill color that has a hexadecimal value of #FF5F9EA0.  |
| <b>Chartreuse</b>     | The solid fill color that has a hexadecimal value of #FF7FFF00.  |
| <b>Chocolate</b>      | The solid fill color that has a hexadecimal value of #FFD2691E.  |
| <b>Coral</b>          | The solid fill color that has a hexadecimal value of #FFFF7F50.  |
| <b>CornflowerBlue</b> | The solid fill color that has a hexadecimal value of #FF6495ED.  |
| <b>Cornsilk</b>       | The solid fill color that has a hexadecimal value of #FFFFFF8DC. |
| <b>Crimson</b>        | The solid fill color that has a hexadecimal value of #FFDC143C.  |
| <b>Cyan</b>           | The solid fill color that has a hexadecimal value of #FF00FFFF.  |
| <b>DarkBlue</b>       | The solid fill color that has a hexadecimal value of #FF00008B.  |
| <b>DarkCyan</b>       | The solid fill color that has a hexadecimal value of #FF008B8B.  |
| <b>DarkGoldenrod</b>  | The solid fill color that has a hexadecimal value of #FFB8860B.  |
| <b>DarkGray</b>       | The solid fill color that has a hexadecimal value of #FFA9A9A9.  |
| <b>DarkGreen</b>      | The solid fill color that has a hexadecimal value of #FF006400.  |
| <b>DarkKhaki</b>      | The solid fill color that has a hexadecimal value of #FFBDB76B.  |
| <b>DarkMagenta</b>    | The solid fill color that has a hexadecimal value of #FF8B008B.  |
| <b>DarkOliveGreen</b> | The solid fill color that has a hexadecimal value of #FF556B2F.  |
| <b>DarkOrange</b>     | The solid fill color that has a hexadecimal value of #FFFF8C00.  |
| <b>DarkOrchid</b>     | The solid fill color that has a hexadecimal value of #FF9932CC.  |

|                      |  |
|----------------------|--|
| [values]             |  |
| <b>DarkRed</b>       | The solid fill color that has a hexadecimal value of #FF8B0000.  |
| <b>DarkSalmon</b>    | The solid fill color that has a hexadecimal value of #FFE9967A.  |
| <b>DarkSeaGreen</b>  | The solid fill color that has a hexadecimal value of #FF8FBC8F.  |
| <b>DarkSlateBlue</b> | The solid fill color that has a hexadecimal value of #FF483D8B.  |
| <b>DarkSlateGray</b> | The solid fill color that has a hexadecimal value of #FF2F4F4F.  |
| <b>DarkTurquoise</b> | The solid fill color that has a hexadecimal value of #FF00CED1.  |
| <b>DarkViolet</b>    | The solid fill color that has a hexadecimal value of #FF9400D3.  |
| <b>DeepPink</b>      | The solid fill color that has a hexadecimal value of #FFFF1493.  |
| <b>DeepSkyBlue</b>   | The solid fill color that has a hexadecimal value of #FF00BFFF.  |
| <b>DimGray</b>       | The solid fill color that has a hexadecimal value of #FF696969.  |
| <b>DodgerBlue</b>    | The solid fill color that has a hexadecimal value of #FF1E90FF.  |
| <b>Firebrick</b>     | The solid fill color that has a hexadecimal value of #FFB22222.  |
| <b>FloralWhite</b>   | The solid fill color that has a hexadecimal value of #FFFFFFAF0. |
| <b>ForestGreen</b>   | The solid fill color that has a hexadecimal value of #FF228B22.  |
| <b>Fuchsia</b>       | The solid fill color that has a hexadecimal value of #FFFF00FF.  |
| <b>Gainsboro</b>     | The solid fill color that has a hexadecimal value of #FFDCDCDC.  |
| <b>GhostWhite</b>    | The solid fill color that has a hexadecimal value of #FFF8F8FF.  |
| <b>Gold</b>          | The solid fill color that has a hexadecimal value of #FFFFD700.  |
| <b>Goldenrod</b>     | The solid fill color that has a hexadecimal value of #FFDAA520.  |
| <b>Gray</b>          | The solid fill color that has a hexadecimal value                |

|                             |  |
|-----------------------------|--|
| [values]                    |  |
|                             | of #FF808080.  |
| <b>Green</b>                | The solid fill color that has a hexadecimal value of #FF008000.  |
| <b>GreenYellow</b>          | The solid fill color that has a hexadecimal value of #FFADFF2F.  |
| <b>Honeydew</b>             | The solid fill color that has a hexadecimal value of #FFF0FFF0.  |
| <b>HotPink</b>              | The solid fill color that has a hexadecimal value of #FFF69B4.   |
| <b>IndianRed</b>            | The solid fill color that has a hexadecimal value of #FFCD5C5C.  |
| <b>Indigo</b>               | The solid fill color that has a hexadecimal value of #FF4B0082.  |
| <b>Ivory</b>                | The solid fill color that has a hexadecimal value of #FFFFFFF0.  |
| <b>Khaki</b>                | The solid fill color that has a hexadecimal value of #FFF0E68C.  |
| <b>Lavender</b>             | The solid fill color that has a hexadecimal value of #FFE6E6FA.  |
| <b>LavenderBlush</b>        | The solid fill color that has a hexadecimal value of #FFFFFF0F5. |
| <b>LawnGreen</b>            | The solid fill color that has a hexadecimal value of #FF7CFC00.  |
| <b>LemonChiffon</b>         | The solid fill color that has a hexadecimal value of #FFFFFACD.  |
| <b>LightBlue</b>            | The solid fill color that has a hexadecimal value of #FFADD8E6.  |
| <b>LightCoral</b>           | The solid fill color that has a hexadecimal value of #FFF08080.  |
| <b>LightCyan</b>            | The solid fill color that has a hexadecimal value of #FFE0FFFF.  |
| <b>LightGoldenrodYellow</b> | The solid fill color that has a hexadecimal value of #FFFAFAD2.  |
| <b>LightGray</b>            | The solid fill color that has a hexadecimal value of #FFD3D3D3.  |
| <b>LightGreen</b>           | The solid fill color that has a hexadecimal value of #FF90EE90.  |
| <b>LightPink</b>            | The solid fill color that has a hexadecimal value of #FFFB6C1.   |

|                          |   |
|--------------------------|---|
| [values]                 |   |
| <b>LightSalmon</b>       | The solid fill color that has a hexadecimal value of #FFFA07A.  |
| <b>LightSeaGreen</b>     | The solid fill color that has a hexadecimal value of #FF20B2AA. |
| <b>LightSkyBlue</b>      | The solid fill color that has a hexadecimal value of #FF87CEFA. |
| <b>LightSlateGray</b>    | The solid fill color that has a hexadecimal value of #FF778899. |
| <b>LightSteelBlue</b>    | The solid fill color that has a hexadecimal value of #FFB0C4DE. |
| <b>LightYellow</b>       | The solid fill color that has a hexadecimal value of #FFFFFFE0. |
| <b>Lime</b>              | The solid fill color that has a hexadecimal value of #FF00FF00. |
| <b>LimeGreen</b>         | The solid fill color that has a hexadecimal value of #FF32CD32. |
| <b>Linen</b>             | The solid fill color that has a hexadecimal value of #FFFAF0E6. |
| <b>Magenta</b>           | The solid fill color that has a hexadecimal value of #FFFF00FF. |
| <b>Maroon</b>            | The solid fill color that has a hexadecimal value of #FF800000. |
| <b>MediumAquamarine</b>  | The solid fill color that has a hexadecimal value of #FF66CDAA. |
| <b>MediumBlue</b>        | The solid fill color that has a hexadecimal value of #FF0000CD. |
| <b>MediumOrchid</b>      | The solid fill color that has a hexadecimal value of #FFBA55D3. |
| <b>MediumPurple</b>      | The solid fill color that has a hexadecimal value of #FF9370DB. |
| <b>MediumSeaGreen</b>    | The solid fill color that has a hexadecimal value of #FF3CB371. |
| <b>MediumSlateBlue</b>   | The solid fill color that has a hexadecimal value of #FF7B68EE. |
| <b>MediumSpringGreen</b> | The solid fill color that has a hexadecimal value of #FF00FA9A. |
| <b>MediumTurquoise</b>   | The solid fill color that has a hexadecimal value of #FF48D1CC. |
| <b>MediumVioletRed</b>   | The solid fill color that has a hexadecimal value               |

|                      |   |
|----------------------|---|
| [values]             |   |
|                      | of #FFC71585.   |
| <b>MidnightBlue</b>  | The solid fill color that has a hexadecimal value of #FF191970. |
| <b>MintCream</b>     | The solid fill color that has a hexadecimal value of #FFF5FFFA. |
| <b>MistyRose</b>     | The solid fill color that has a hexadecimal value of #FFF4E1.   |
| <b>Moccasin</b>      | The solid fill color that has a hexadecimal value of #FFF4B5.   |
| <b>NavajoWhite</b>   | The solid fill color that has a hexadecimal value of #FFFDEAD.  |
| <b>Navy</b>          | The solid fill color that has a hexadecimal value of #FF00080.  |
| <b>OldLace</b>       | The solid fill color that has a hexadecimal value of #FFDF5E6.  |
| <b>Olive</b>         | The solid fill color that has a hexadecimal value of #FF80800.  |
| <b>OliveDrab</b>     | The solid fill color that has a hexadecimal value of #FF6B8E23. |
| <b>Orange</b>        | The solid fill color that has a hexadecimal value of #FFFA500.  |
| <b>OrangeRed</b>     | The solid fill color that has a hexadecimal value of #FFF4500.  |
| <b>Orchid</b>        | The solid fill color that has a hexadecimal value of #FFDA70D6. |
| <b>PaleGoldenrod</b> | The solid fill color that has a hexadecimal value of #FFEE8AA.  |
| <b>PaleGreen</b>     | The solid fill color that has a hexadecimal value of #FF98FB98. |
| <b>PaleTurquoise</b> | The solid fill color that has a hexadecimal value of #FFAFEEEE. |
| <b>PaleVioletRed</b> | The solid fill color that has a hexadecimal value of #FFDB7093. |
| <b>PapayaWhip</b>    | The solid fill color that has a hexadecimal value of #FFF5FD5.  |
| <b>PeachPuff</b>     | The solid fill color that has a hexadecimal value of #FFFDAB9.  |
| <b>Peru</b>          | The solid fill color that has a hexadecimal value of #FFCD853F. |

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>Pink</b>        | The solid fill color that has a hexadecimal value of #FFFC0CB.   |
| <b>Plum</b>        | The solid fill color that has a hexadecimal value of #FFDDA0DD.  |
| <b>PowderBlue</b>  | The solid fill color that has a hexadecimal value of #FFB0E0E6.  |
| <b>Purple</b>      | The solid fill color that has a hexadecimal value of #FF800080.  |
| <b>Red</b>         | The solid fill color that has a hexadecimal value of #FFF0000.   |
| <b>RosyBrown</b>   | The solid fill color that has a hexadecimal value of #FFBC8F8F.  |
| <b>RoyalBlue</b>   | The solid fill color that has a hexadecimal value of #FF4169E1.  |
| <b>SaddleBrown</b> | The solid fill color that has a hexadecimal value of #FF8B4513.  |
| <b>Salmon</b>      | The solid fill color that has a hexadecimal value of #FFFA8072.  |
| <b>SandyBrown</b>  | The solid fill color that has a hexadecimal value of #FFF4A460.  |
| <b>SeaGreen</b>    | The solid fill color that has a hexadecimal value of #FF2E8B57.  |
| <b>SeaShell</b>    | The solid fill color that has a hexadecimal value of #FFFFFF5EE. |
| <b>Sienna</b>      | The solid fill color that has a hexadecimal value of #FFA0522D.  |
| <b>Silver</b>      | The solid fill color that has a hexadecimal value of #FFC0C0C0.  |
| <b>SkyBlue</b>     | The solid fill color that has a hexadecimal value of #FF87CEEB.  |
| <b>SlateBlue</b>   | The solid fill color that has a hexadecimal value of #FF6A5ACD.  |
| <b>SlateGray</b>   | The solid fill color that has a hexadecimal value of #FF708090.  |
| <b>Snow</b>        | The solid fill color that has a hexadecimal value of #FFFFFFAFA. |
| <b>SpringGreen</b> | The solid fill color that has a hexadecimal value of #FF00FF7F.  |
| <b>SteelBlue</b>   | The solid fill color that has a hexadecimal value                |

|                    |  |
|--------------------|--|
| [values]           |  |
|                    | of #FF4682B4.  |
| <b>Tan</b>         | The solid fill color that has a hexadecimal value of #FFD2B48C.  |
| <b>Teal</b>        | The solid fill color that has a hexadecimal value of #FF008080.  |
| <b>Thistle</b>     | The solid fill color that has a hexadecimal value of #FFD8BFD8.  |
| <b>Tomato</b>      | The solid fill color that has a hexadecimal value of #FFF6347.   |
| <b>Transparent</b> | The solid fill color that has a hexadecimal value of #00FFFFFF.  |
| <b>Turquoise</b>   | The solid fill color that has a hexadecimal value of #FF40E0D0.  |
| <b>Violet</b>      | The solid fill color that has a hexadecimal value of #FFEE82EE.  |
| <b>Wheat</b>       | The solid fill color that has a hexadecimal value of #FFF5DEB3.  |
| <b>White</b>       | The solid fill color that has a hexadecimal value of #FFFFFFFF.  |
| <b>WhiteSmoke</b>  | The solid fill color that has a hexadecimal value of #FFF5F5F5.  |
| <b>Yellow</b>      | The solid fill color that has a hexadecimal value of #FFFFFF00.  |
| <b>YellowGreen</b> | The solid fill color that has a hexadecimal value of #FF9ACD32.  |
| [patterns]         |  |
| <b>#[\dA-F]{3}</b> | An RGB value in the sRGB color space with one hexadecimal digit per channel. Examples: #F00 Red: 100%, Green 0%, Blue 0% #fb0 Red: 100%, Green 73%, Blue 0% #FFF Red: 100%, Green 100%, Blue 100%                                      |
| <b>#[\dA-F]{4}</b> | An ARGB value in the sRGB color space with one hexadecimal digit per channel. Examples: #FF00 Alpha: 100% Red: 100%, Green 0%, Blue 0% #8fb0 Alpha: 53% Red: 100%, Green 73%, Blue 0% #4FFF Alpha 27% Red: 100%, Green 100%, Blue 100% |
| <b>#[\dA-F]{6}</b> | An RGB value in the sRGB color space with two hexadecimal digits per channel. Examples: #FF0000 Red: 100%, Green 0%, Blue 0% #ff3300 Red: 100%, Green 20%, Blue 0% #FFFFFF Red: 100%, Green 100%, Blue 100%                            |

|   |  |
|---|--|
| [values]  |  |
| <b>#[\dA-F]{8}</b>  | An ARGB value in the sRGB color space with two hexadecimal digits per channel. Examples:<br>#FFFF0000 Alpha: 100% Red: 100%, Green 0%, Blue 0% #80ffbf00 Alpha: 50% Red: 100%, Green 75%, Blue 0% #40FFFFFF Alpha 25% Red: 100%, Green 100%, Blue 100%   |
| <b>sc#\s*(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){2,3}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</b>                         | An RGB or ARGB value in the scRGB color space, with each channel specified as a decimal floating point number, separated by either commas or whitespace. Examples: sc# 1 0 0 Red: 100%, Green 0%, Blue 0% sc# 1 0.75, 0 Red: 100%, Green 75%, Blue 0% sc# 2.5E-1 1 0 0 Alpha: 25%, Red: 100%, Green 0%, Blue 0% sc# 1.5,0,-0.5 Red: 150%, Green 0%, Blue -50%  |
| <b>[is case sensitive]</b>  | true   |
| <b>ContextColor\s+[\s+][^\\s]*\s*(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){3,8}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</b> | A color in a color space identified by a URI; the color space URI is followed by a sequence of decimal floating point values separated by whitespace and/or commas. The first is an alpha value, and it is followed by the color-space-specific channel values (of which there may be from 3 to 8 inclusive). Examples: ContextColor ../color/sRGB.icm 1 1 0 0 |
| <b>[is case sensitive]</b>  | true   |

## 6.14 CacheModeSyntax

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>BitmapCache</b> | Caches the visual content as a bitmap. |

## 6.15 CachingHintSyntax

|                    |   |
|--------------------|---|
| [values]           |   |
| <b>Cache</b>       | Cache the tiled brush objects in an off-screen buffer, using the caching hints specified by the RenderOptions settings. |
| <b>Unspecified</b> | No caching hints are specified.   |

## 6.16 CalendarModeSyntax

|               |   |
|---------------|---|
| [values]      |   |
| <b>Decade</b> | The Calendar displays a decade at a time. |
| <b>Month</b>  | The Calendar displays a month at a time.  |
| <b>Year</b>   | The Calendar displays a year at a time.   |



## 6.17 CalendarSelectionModeSyntax

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>MultipleRange</b> | Multiple non-contiguous ranges of dates can be selected. Use the SelectedDates property to retrieve the selected dates. |
| <b>None</b>          | No selections are allowed.  |
| <b>SingleDate</b>    | A single date can be selected. Use the SelectedDate property to retrieve the selected date.                             |
| <b>SingleRange</b>   | A single range of dates can be selected. Use the SelectedDates property to retrieve the selected dates.                 |

## 6.18 CaptureModeSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Element</b> | Mouse capture is applied to a single element. Mouse input goes to the captured element.  |
| <b>None</b>    | No mouse capture. Mouse input goes to the element under the mouse.   |
| <b>SubTree</b> | Mouse capture is applied to a subtree of elements. If the mouse is over a child of the element with capture, mouse input is sent to the child element. Otherwise, mouse input is sent to the element with mouse capture. |

## 6.19 CharacterCasingSyntax

|               |   |
|---------------|---|
| [values]      |   |
| <b>Lower</b>  | Characters typed into a TextBox are converted to lowercase. |
| <b>Normal</b> | Characters typed into a TextBox are not converted.          |
| <b>Upper</b>  | Characters typed into a TextBox are converted to uppercase. |

## 6.20 ClearTypeHintSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Auto</b>    | The rendering engine uses ClearType when it is possible. If opacity is introduced, ClearType is disabled for that subtree.             |
| <b>Enabled</b> | The rendering engine re-enables ClearType for the current subtree. Where opacity is introduced in this subtree, ClearType is disabled. |

## 6.21 ClickModeSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Hover</b>   | Specifies that the Click event should be raised when the mouse hovers over a control.  |
| <b>Press</b>   | Specifies that the Click event should be raised as soon as a button is pressed.        |
| <b>Release</b> | Specifies that the Click event should be raised when a button is pressed and released. |

## 6.22 ClockStateSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Active</b>  | The current Clock time changes in direct relation to that of its parent. If the timeline is an animation, it is actively affecting targeted properties, so their value may change from tick (a sampling point in time) to tick. If the timeline has children, they may be Active, Filling, or Stopped. |
| <b>Filling</b> | The Clock timing continues, but does not change in relation to that of its parent. If the timeline is an animation, it is actively affecting targeted properties, but its values don't change from tick to tick. If the timeline has children, they may be Active, Filling, or Stopped.                |
| <b>Stopped</b> | The Clock timing is halted, making the clock's current time and progress values undefined. If this timeline is an animation, it no longer affects targeted properties. If this timeline has children, they are also Stopped.   |

## 6.23 ColorInterpolationModeSyntax

|                                 |  |
|---------------------------------|--|
| [values]                        |  |
| <b>ScRgbLinearInterpolation</b> | Colors are interpolated in the scRGB color space |
| <b>SRgbLinearInterpolation</b>  | Colors are interpolated in the sRGB color space  |

## 6.24 ColorSyntax

|                       |   |
|-----------------------|---|
| [values]              |   |
| <b>AliceBlue</b>      | The solid fill color that has a hexadecimal value of #FFF0F8FF. |
| <b>AntiqueWhite</b>   | The solid fill color that has a hexadecimal value of #FFFAEBD7. |
| <b>Aqua</b>           | The solid fill color that has a hexadecimal value of #FF00FFFF. |
| <b>Aquamarine</b>     | The solid fill color that has a hexadecimal value of #FF7FFFD4. |
| <b>Azure</b>          | The solid fill color that has a hexadecimal value of #FFF0FFFF. |
| <b>Beige</b>          | The solid fill color that has a hexadecimal value of #FFF5F5DC. |
| <b>Bisque</b>         | The solid fill color that has a hexadecimal value of #FFF4E4C4. |
| <b>Black</b>          | The solid fill color that has a hexadecimal value of #FF000000. |
| <b>BlanchedAlmond</b> | The solid fill color that has a hexadecimal value of #FFF4EBCD. |
| <b>Blue</b>           | The solid fill color that has a hexadecimal value of #FF0000FF. |

|                       |  |
|-----------------------|--|
| [values]              |  |
| <b>BlueViolet</b>     | The solid fill color that has a hexadecimal value of #FF8A2BE2.  |
| <b>Brown</b>          | The solid fill color that has a hexadecimal value of #FFA52A2A.  |
| <b>BurlyWood</b>      | The solid fill color that has a hexadecimal value of #FFDEB887.  |
| <b>CadetBlue</b>      | The solid fill color that has a hexadecimal value of #FF5F9EA0.  |
| <b>Chartreuse</b>     | The solid fill color that has a hexadecimal value of #FF7FFF00.  |
| <b>Chocolate</b>      | The solid fill color that has a hexadecimal value of #FFD2691E.  |
| <b>Coral</b>          | The solid fill color that has a hexadecimal value of #FFFF7F50.  |
| <b>CornflowerBlue</b> | The solid fill color that has a hexadecimal value of #FF6495ED.  |
| <b>Cornsilk</b>       | The solid fill color that has a hexadecimal value of #FFFFFF8DC. |
| <b>Crimson</b>        | The solid fill color that has a hexadecimal value of #FFDC143C.  |
| <b>Cyan</b>           | The solid fill color that has a hexadecimal value of #FF00FFFF.  |
| <b>DarkBlue</b>       | The solid fill color that has a hexadecimal value of #FF00008B.  |
| <b>DarkCyan</b>       | The solid fill color that has a hexadecimal value of #FF008B8B.  |
| <b>DarkGoldenrod</b>  | The solid fill color that has a hexadecimal value of #FFB8860B.  |
| <b>DarkGray</b>       | The solid fill color that has a hexadecimal value of #FFA9A9A9.  |
| <b>DarkGreen</b>      | The solid fill color that has a hexadecimal value of #FF006400.  |
| <b>DarkKhaki</b>      | The solid fill color that has a hexadecimal value of #FFBDB76B.  |
| <b>DarkMagenta</b>    | The solid fill color that has a hexadecimal value of #FF8B008B.  |
| <b>DarkOliveGreen</b> | The solid fill color that has a hexadecimal value of #FF556B2F.  |
| <b>DarkOrange</b>     | The solid fill color that has a hexadecimal value                |

|                      |  |
|----------------------|--|
| [values]             |  |
|                      | of #FFF8C00.   |
| <b>DarkOrchid</b>    | The solid fill color that has a hexadecimal value of #FF9932CC.  |
| <b>DarkRed</b>       | The solid fill color that has a hexadecimal value of #FF8B0000.  |
| <b>DarkSalmon</b>    | The solid fill color that has a hexadecimal value of #FFE9967A.  |
| <b>DarkSeaGreen</b>  | The solid fill color that has a hexadecimal value of #FF8FBC8F.  |
| <b>DarkSlateBlue</b> | The solid fill color that has a hexadecimal value of #FF483D8B.  |
| <b>DarkSlateGray</b> | The solid fill color that has a hexadecimal value of #FF2F4F4F.  |
| <b>DarkTurquoise</b> | The solid fill color that has a hexadecimal value of #FF00CED1.  |
| <b>DarkViolet</b>    | The solid fill color that has a hexadecimal value of #FF9400D3.  |
| <b>DeepPink</b>      | The solid fill color that has a hexadecimal value of #FFF1493.   |
| <b>DeepSkyBlue</b>   | The solid fill color that has a hexadecimal value of #FF00BFFF.  |
| <b>DimGray</b>       | The solid fill color that has a hexadecimal value of #FF696969.  |
| <b>DodgerBlue</b>    | The solid fill color that has a hexadecimal value of #FF1E90FF.  |
| <b>Firebrick</b>     | The solid fill color that has a hexadecimal value of #FFB22222.  |
| <b>FloralWhite</b>   | The solid fill color that has a hexadecimal value of #FFFFFFAF0. |
| <b>ForestGreen</b>   | The solid fill color that has a hexadecimal value of #FF228B22.  |
| <b>Fuchsia</b>       | The solid fill color that has a hexadecimal value of #FFF00FF.   |
| <b>Gainsboro</b>     | The solid fill color that has a hexadecimal value of #FFDCDCDC.  |
| <b>GhostWhite</b>    | The solid fill color that has a hexadecimal value of #FFF8F8FF.  |
| <b>Gold</b>          | The solid fill color that has a hexadecimal value of #FFFD700.   |

|                             |  |
|-----------------------------|--|
| [values]                    |  |
| <b>Goldenrod</b>            | The solid fill color that has a hexadecimal value of #FFDAA520.  |
| <b>Gray</b>                 | The solid fill color that has a hexadecimal value of #FF808080.  |
| <b>Green</b>                | The solid fill color that has a hexadecimal value of #FF008000.  |
| <b>GreenYellow</b>          | The solid fill color that has a hexadecimal value of #FFADFF2F.  |
| <b>Honeydew</b>             | The solid fill color that has a hexadecimal value of #FFF0FFF0.  |
| <b>HotPink</b>              | The solid fill color that has a hexadecimal value of #FFFF69B4.  |
| <b>IndianRed</b>            | The solid fill color that has a hexadecimal value of #FFCD5C5C.  |
| <b>Indigo</b>               | The solid fill color that has a hexadecimal value of #FF4B0082.  |
| <b>Ivory</b>                | The solid fill color that has a hexadecimal value of #FFFFFFF0.  |
| <b>Khaki</b>                | The solid fill color that has a hexadecimal value of #FFF0E68C.  |
| <b>Lavender</b>             | The solid fill color that has a hexadecimal value of #FFE6E6FA.  |
| <b>LavenderBlush</b>        | The solid fill color that has a hexadecimal value of #FFFFFF0F5. |
| <b>LawnGreen</b>            | The solid fill color that has a hexadecimal value of #FF7CFC00.  |
| <b>LemonChiffon</b>         | The solid fill color that has a hexadecimal value of #FFFFFACD.  |
| <b>LightBlue</b>            | The solid fill color that has a hexadecimal value of #FFADD8E6.  |
| <b>LightCoral</b>           | The solid fill color that has a hexadecimal value of #FFF08080.  |
| <b>LightCyan</b>            | The solid fill color that has a hexadecimal value of #FFE0FFFF.  |
| <b>LightGoldenrodYellow</b> | The solid fill color that has a hexadecimal value of #FFFAFAD2.  |
| <b>LightGray</b>            | The solid fill color that has a hexadecimal value of #FFD3D3D3.  |
| <b>LightGreen</b>           | The solid fill color that has a hexadecimal value                |

|                          |   |
|--------------------------|---|
| [values]                 |   |
|                          | of #FF90EE90.   |
| <b>LightPink</b>         | The solid fill color that has a hexadecimal value of #FFFB6C1.  |
| <b>LightSalmon</b>       | The solid fill color that has a hexadecimal value of #FFFA07A.  |
| <b>LightSeaGreen</b>     | The solid fill color that has a hexadecimal value of #FF20B2AA. |
| <b>LightSkyBlue</b>      | The solid fill color that has a hexadecimal value of #FF87CEFA. |
| <b>LightSlateGray</b>    | The solid fill color that has a hexadecimal value of #FF778899. |
| <b>LightSteelBlue</b>    | The solid fill color that has a hexadecimal value of #FFB0C4DE. |
| <b>LightYellow</b>       | The solid fill color that has a hexadecimal value of #FFFFFFE0. |
| <b>Lime</b>              | The solid fill color that has a hexadecimal value of #FF00FF00. |
| <b>LimeGreen</b>         | The solid fill color that has a hexadecimal value of #FF32CD32. |
| <b>Linen</b>             | The solid fill color that has a hexadecimal value of #FFFAF0E6. |
| <b>Magenta</b>           | The solid fill color that has a hexadecimal value of #FFF00FF.  |
| <b>Maroon</b>            | The solid fill color that has a hexadecimal value of #FF800000. |
| <b>MediumAquamarine</b>  | The solid fill color that has a hexadecimal value of #FF66CDAA. |
| <b>MediumBlue</b>        | The solid fill color that has a hexadecimal value of #FF0000CD. |
| <b>MediumOrchid</b>      | The solid fill color that has a hexadecimal value of #FFBA55D3. |
| <b>MediumPurple</b>      | The solid fill color that has a hexadecimal value of #FF9370DB. |
| <b>MediumSeaGreen</b>    | The solid fill color that has a hexadecimal value of #FF3CB371. |
| <b>MediumSlateBlue</b>   | The solid fill color that has a hexadecimal value of #FF7B68EE. |
| <b>MediumSpringGreen</b> | The solid fill color that has a hexadecimal value of #FF00FA9A. |

|                        |   |
|------------------------|---|
| [values]               |   |
| <b>MediumTurquoise</b> | The solid fill color that has a hexadecimal value of #FF48D1CC. |
| <b>MediumVioletRed</b> | The solid fill color that has a hexadecimal value of #FFC71585. |
| <b>MidnightBlue</b>    | The solid fill color that has a hexadecimal value of #FF191970. |
| <b>MintCream</b>       | The solid fill color that has a hexadecimal value of #FFF5FFFA. |
| <b>MistyRose</b>       | The solid fill color that has a hexadecimal value of #FFF4E1.   |
| <b>Moccasin</b>        | The solid fill color that has a hexadecimal value of #FFF4B5.   |
| <b>NavajoWhite</b>     | The solid fill color that has a hexadecimal value of #FFF4DEAD. |
| <b>Navy</b>            | The solid fill color that has a hexadecimal value of #FF000080. |
| <b>OldLace</b>         | The solid fill color that has a hexadecimal value of #FFF4F5E6. |
| <b>Olive</b>           | The solid fill color that has a hexadecimal value of #FF808000. |
| <b>OliveDrab</b>       | The solid fill color that has a hexadecimal value of #FF6B8E23. |
| <b>Orange</b>          | The solid fill color that has a hexadecimal value of #FFFA500.  |
| <b>OrangeRed</b>       | The solid fill color that has a hexadecimal value of #FFF4500.  |
| <b>Orchid</b>          | The solid fill color that has a hexadecimal value of #FFDA70D6. |
| <b>PaleGoldenrod</b>   | The solid fill color that has a hexadecimal value of #FFEE8AA.  |
| <b>PaleGreen</b>       | The solid fill color that has a hexadecimal value of #FF98FB98. |
| <b>PaleTurquoise</b>   | The solid fill color that has a hexadecimal value of #FFAFEEEE. |
| <b>PaleVioletRed</b>   | The solid fill color that has a hexadecimal value of #FFDB7093. |
| <b>PapayaWhip</b>      | The solid fill color that has a hexadecimal value of #FFF4FD5.  |
| <b>PeachPuff</b>       | The solid fill color that has a hexadecimal value               |

|                    |  |
|--------------------|--|
| [values]           |  |
|                    | of #FFFDAB9.   |
| <b>Peru</b>        | The solid fill color that has a hexadecimal value of #FFCD853F.  |
| <b>Pink</b>        | The solid fill color that has a hexadecimal value of #FFFC0CB.   |
| <b>Plum</b>        | The solid fill color that has a hexadecimal value of #FFDDA0DD.  |
| <b>PowderBlue</b>  | The solid fill color that has a hexadecimal value of #FFB0E0E6.  |
| <b>Purple</b>      | The solid fill color that has a hexadecimal value of #FF800080.  |
| <b>Red</b>         | The solid fill color that has a hexadecimal value of #FFFF0000.  |
| <b>RosyBrown</b>   | The solid fill color that has a hexadecimal value of #FFBC8F8F.  |
| <b>RoyalBlue</b>   | The solid fill color that has a hexadecimal value of #FF4169E1.  |
| <b>SaddleBrown</b> | The solid fill color that has a hexadecimal value of #FF8B4513.  |
| <b>Salmon</b>      | The solid fill color that has a hexadecimal value of #FFFA8072.  |
| <b>SandyBrown</b>  | The solid fill color that has a hexadecimal value of #FFF4A460.  |
| <b>SeaGreen</b>    | The solid fill color that has a hexadecimal value of #FF2E8B57.  |
| <b>SeaShell</b>    | The solid fill color that has a hexadecimal value of #FFFFFF5EE. |
| <b>Sienna</b>      | The solid fill color that has a hexadecimal value of #FFA0522D.  |
| <b>Silver</b>      | The solid fill color that has a hexadecimal value of #FFC0C0C0.  |
| <b>SkyBlue</b>     | The solid fill color that has a hexadecimal value of #FF87CEEB.  |
| <b>SlateBlue</b>   | The solid fill color that has a hexadecimal value of #FF6A5ACD.  |
| <b>SlateGray</b>   | The solid fill color that has a hexadecimal value of #FF708090.  |
| <b>Snow</b>        | The solid fill color that has a hexadecimal value of #FFFFFFAFA. |



|                    |  |
|--------------------|--|
| [values]           |  |
| <b>SpringGreen</b> | The solid fill color that has a hexadecimal value of #FF00FF7F.  |
| <b>SteelBlue</b>   | The solid fill color that has a hexadecimal value of #FF4682B4.  |
| <b>Tan</b>         | The solid fill color that has a hexadecimal value of #FFD2B48C.  |
| <b>Teal</b>        | The solid fill color that has a hexadecimal value of #FF008080.  |
| <b>Thistle</b>     | The solid fill color that has a hexadecimal value of #FFD8BFD8.  |
| <b>Tomato</b>      | The solid fill color that has a hexadecimal value of #FFFF6347.  |
| <b>Transparent</b> | The solid fill color that has a hexadecimal value of #00FFFFFF.  |
| <b>Turquoise</b>   | The solid fill color that has a hexadecimal value of #FF40E0D0.  |
| <b>Violet</b>      | The solid fill color that has a hexadecimal value of #FFEE82EE.  |
| <b>Wheat</b>       | The solid fill color that has a hexadecimal value of #FFF5DEB3.  |
| <b>White</b>       | The solid fill color that has a hexadecimal value of #FFFFFFFF.  |
| <b>WhiteSmoke</b>  | The solid fill color that has a hexadecimal value of #FFF5F5F5.  |
| <b>Yellow</b>      | The solid fill color that has a hexadecimal value of #FFFFFF00.  |
| <b>YellowGreen</b> | The solid fill color that has a hexadecimal value of #FF9ACD32.  |
| [patterns]         |  |
| <b>#[\dA-F]{3}</b> | An RGB value in the sRGB color space with one hexadecimal digit per channel. Examples: #F00 Red: 100%, Green 0%, Blue 0% #fb0 Red: 100%, Green 73%, Blue 0% #FFF Red: 100%, Green 100%, Blue 100%                                      |
| <b>#[\dA-F]{4}</b> | An ARGB value in the sRGB color space with one hexadecimal digit per channel. Examples: #FF00 Alpha: 100% Red: 100%, Green 0%, Blue 0% #8fb0 Alpha: 53% Red: 100%, Green 73%, Blue 0% #4FFF Alpha 27% Red: 100%, Green 100%, Blue 100% |
| <b>#[\dA-F]{6}</b> | An RGB value in the sRGB color space with two  |

|  |  |
|--|--|
| [values]   |  |
|  | hexadecimal digits per channel. Examples:<br>#FF0000 Red: 100%, Green 0%, Blue 0%<br>#ff3300 Red: 100%, Green 20%, Blue 0%<br>#FFFFFF Red: 100%, Green 100%, Blue 100%   |
| <b>#[\dA-F]{8}</b>   | An ARGB value in the sRGB color space with two hexadecimal digits per channel. Examples:<br>#FFFF0000 Alpha: 100% Red: 100%, Green 0%, Blue 0% #80ffbf00 Alpha: 50% Red: 100%, Green 75%, Blue 0% #40FFFFFF Alpha 25% Red: 100%, Green 100%, Blue 100%   |
| <b>sc#\s*(([+-]?(\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){2,3}([+-]?(\d+(\.\d*)?) (\d*\.\d+))([eE][+-]?(\d+)?)</b>                     | An RGB or ARGB value in the scRGB color space, with each channel specified as a decimal floating point number, separated by either commas or whitespace. Examples: sc# 1 0 0 Red: 100%, Green 0%, Blue 0% sc# 1 0.75, 0 Red: 100%, Green 75%, Blue 0% sc# 2.5E-1 1 0 0 Alpha: 25%, Red: 100%, Green 0%, Blue 0% sc# 1.5,0,-0.5 Red: 150%, Green 0%, Blue -50%  |
| <b>[is case sensitive]</b>   | true   |
| <b>ContextColor\s+[\^\\s]*\s*(([+-]?(\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){3,8}([+-]?(\d+(\.\d*)?) (\d*\.\d+))([eE][+-]?(\d+)?)</b> | A color in a color space identified by a URI; the color space URI is followed by a sequence of decimal floating point values separated by whitespace and/or commas. The first is an alpha value, and it is followed by the color-space-specific channel values (of which there may be from 3 to 8 inclusive). Examples: ContextColor ../color/sRGB.icm 1 1 0 0 |
| <b>[is case sensitive]</b>   | true   |

## 6.25 ColumnSpaceDistributionSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Between</b> | Space is distributed evenly between all columns. |
| <b>Left</b>    | Space is distributed before the first column.    |
| <b>Right</b>   | Space is distributed after the last column.      |

## 6.26 CommandSyntax

|                            |                            |
|----------------------------|----------------------------|
| [values]                   |                            |
| <b>BrowseBack</b>          | The Browse Back command    |
| <b>[is case sensitive]</b> | true                       |
| <b>BrowseForward</b>       | The Browse Forward command |

|                            |                           |
|----------------------------|---------------------------|
| [values]                   |                           |
| <b>[is case sensitive]</b> | true                      |
| <b>BrowseHome</b>          | The Browse Home command   |
| <b>[is case sensitive]</b> | true                      |
| <b>BrowseStop</b>          | The Browse Stop command   |
| <b>[is case sensitive]</b> | true                      |
| <b>Refresh</b>             | The Refresh command       |
| <b>[is case sensitive]</b> | true                      |
| <b>Favorites</b>           | The Favorites command     |
| <b>[is case sensitive]</b> | true                      |
| <b>Search</b>              | The Search command        |
| <b>[is case sensitive]</b> | true                      |
| <b>IncreaseZoom</b>        | The Increase Zoom command |
| <b>[is case sensitive]</b> | true                      |
| <b>DecreaseZoom</b>        | The Decrease Zoom command |
| <b>[is case sensitive]</b> | true                      |
| <b>Zoom</b>                | The Zoom command          |
| <b>[is case sensitive]</b> | true                      |
| <b>NextPage</b>            | The Next Page command     |
| <b>[is case sensitive]</b> | true                      |
| <b>PreviousPage</b>        | The Previous Page command |
| <b>[is case sensitive]</b> | true                      |
| <b>FirstPage</b>           | The First Page command    |
| <b>[is case sensitive]</b> | true                      |
| <b>LastPage</b>            | The Last Page command     |

|                            |                              |
|----------------------------|------------------------------|
| [values]                   |                              |
| <b>[is case sensitive]</b> | true                         |
| <b>GoToPage</b>            | The Go To Page command       |
| <b>[is case sensitive]</b> | true                         |
| <b>NavigateJournal</b>     | The Navigate Journal command |
| <b>[is case sensitive]</b> | true                         |
| <b>Cut</b>                 | The Cut command              |
| <b>[is case sensitive]</b> | true                         |
| <b>Copy</b>                | The Copy command             |
| <b>[is case sensitive]</b> | true                         |
| <b>Paste</b>               | The Paste command            |
| <b>[is case sensitive]</b> | true                         |
| <b>Undo</b>                | The Undo command             |
| <b>[is case sensitive]</b> | true                         |
| <b>Redo</b>                | The Redo command             |
| <b>[is case sensitive]</b> | true                         |
| <b>Find</b>                | The Find command             |
| <b>[is case sensitive]</b> | true                         |
| <b>Replace</b>             | The Replace command          |
| <b>[is case sensitive]</b> | true                         |
| <b>Help</b>                | The Help command             |
| <b>[is case sensitive]</b> | true                         |
| <b>New</b>                 | The New command              |
| <b>[is case sensitive]</b> | true                         |
| <b>Open</b>                | The Open command             |
| <b>[is case sensitive]</b> | true                         |
| <b>Save</b>                | The Save command             |
| <b>[is case sensitive]</b> | true                         |
| <b>SaveAs</b>              | The Save As                  |

|                            |                                     |
|----------------------------|-------------------------------------|
| [values]                   |                                     |
|                            | command                             |
| <b>[is case sensitive]</b> | true                                |
| <b>Close</b>               | The Close command                   |
| <b>[is case sensitive]</b> | true                                |
| <b>Print</b>               | The Print command                   |
| <b>[is case sensitive]</b> | true                                |
| <b>PrintPreview</b>        | The Print Preview command           |
| <b>[is case sensitive]</b> | true                                |
| <b>Properties</b>          | The Properties command              |
| <b>[is case sensitive]</b> | true                                |
| <b>ContextMenu</b>         | The Context Menu command            |
| <b>[is case sensitive]</b> | true                                |
| <b>CorrectionList</b>      | The Correction List command         |
| <b>[is case sensitive]</b> | true                                |
| <b>SelectAll</b>           | The Select All command              |
| <b>[is case sensitive]</b> | true                                |
| <b>NotACommand</b>         | Indicates the absence of a command. |
| <b>[is case sensitive]</b> | true                                |
| <b>ScrollPageLeft</b>      | The Scroll Page Left command        |
| <b>[is case sensitive]</b> | true                                |
| <b>ScrollPageRight</b>     | The Scroll Page Right command       |
| <b>[is case sensitive]</b> | true                                |
| <b>ScrollPageUp</b>        | The Scroll Page Up command          |
| <b>[is case sensitive]</b> | true                                |
| <b>ScrollPageDown</b>      | The Scroll Page                     |

|                             |                                    |
|-----------------------------|------------------------------------|
| [values]                    |                                    |
|                             | Down command                       |
| <b>[is case sensitive]</b>  | true                               |
| <b>ScrollByLine</b>         | The Scroll By Line command         |
| <b>[is case sensitive]</b>  | true                               |
| <b>MoveLeft</b>             | The Move Left command              |
| <b>[is case sensitive]</b>  | true                               |
| <b>MoveRight</b>            | The Move Right command             |
| <b>[is case sensitive]</b>  | true                               |
| <b>MoveUp</b>               | The Move Up command                |
| <b>[is case sensitive]</b>  | true                               |
| <b>MoveDown</b>             | The Move Down command              |
| <b>[is case sensitive]</b>  | true                               |
| <b>ExtendSelectionUp</b>    | The Extend Selection Up command    |
| <b>[is case sensitive]</b>  | true                               |
| <b>ExtendSelectionDown</b>  | The Extend Selection Down command  |
| <b>[is case sensitive]</b>  | true                               |
| <b>ExtendSelectionLeft</b>  | The Extend Selection Left command  |
| <b>[is case sensitive]</b>  | true                               |
| <b>ExtendSelectionRight</b> | The Extend Selection Right command |
| <b>[is case sensitive]</b>  | true                               |
| <b>MoveToHome</b>           | The Move To Home command           |
| <b>[is case sensitive]</b>  | true                               |

|                         |                                 |
|-------------------------|---------------------------------|
| [values]                |                                 |
| <b>MoveToEnd</b>        | The Move To End command         |
| [is case sensitive]     | true                            |
| <b>MoveToPageUp</b>     | The Move To Page Up command     |
| [is case sensitive]     | true                            |
| <b>MoveToPageDown</b>   | The Move To Page Down command   |
| [is case sensitive]     | true                            |
| <b>SelectToHome</b>     | The Select To Home command      |
| [is case sensitive]     | true                            |
| <b>SelectToEnd</b>      | The Select To End command       |
| [is case sensitive]     | true                            |
| <b>SelectToPageDown</b> | The Select To Page Down command |
| [is case sensitive]     | true                            |
| <b>SelectToPageUp</b>   | The Select To Page Up command   |
| [is case sensitive]     | true                            |
| <b>MoveFocusUp</b>      | The Move Focus Up command       |
| [is case sensitive]     | true                            |
| <b>MoveFocusDown</b>    | The Move Focus Down command     |
| [is case sensitive]     | true                            |
| <b>MoveFocusBack</b>    | The Move Focus Back command     |
| [is case sensitive]     | true                            |
| <b>MoveFocusForward</b> | The Move Focus Forward command  |
| [is case sensitive]     | true                            |
| <b>MoveFocusPageUp</b>  | The Move Focus Page Up command  |

|                             |                                     |
|-----------------------------|-------------------------------------|
| [values]                    |                                     |
| <b>[is case sensitive]</b>  | true                                |
| <b>MoveFocusPageDown</b>    | The Move Focus Page Down command    |
| <b>[is case sensitive]</b>  | true                                |
| <b>ToggleInsert</b>         | The Toggle Insert command           |
| <b>[is case sensitive]</b>  | true                                |
| <b>Delete</b>               | The Delete command                  |
| <b>[is case sensitive]</b>  | true                                |
| <b>Backspace</b>            | The Backspace command               |
| <b>[is case sensitive]</b>  | true                                |
| <b>DeleteNextWord</b>       | The Delete Next Word command        |
| <b>[is case sensitive]</b>  | true                                |
| <b>DeletePreviousWord</b>   | The Delete Previous Word command    |
| <b>[is case sensitive]</b>  | true                                |
| <b>EnterParagraphBreak</b>  | The Enter Paragraph Break command   |
| <b>[is case sensitive]</b>  | true                                |
| <b>EnterLineBreak</b>       | The Enter Line Break command        |
| <b>[is case sensitive]</b>  | true                                |
| <b>TabForward</b>           | The Tab Forward command             |
| <b>[is case sensitive]</b>  | true                                |
| <b>TabBackward</b>          | The Tab Backward command            |
| <b>[is case sensitive]</b>  | true                                |
| <b>MoveRightByCharacter</b> | The Move Right By Character command |
| <b>[is case sensitive]</b>  | true                                |



|                            |                                    |
|----------------------------|------------------------------------|
| [values]                   |                                    |
| <b>MoveLeftByCharacter</b> | The Move Left By Character command |
| [is case sensitive]        | true                               |
| <b>MoveRightByWord</b>     | The Move Right By Word command     |
| [is case sensitive]        | true                               |
| <b>MoveLeftByWord</b>      | The Move Left By Word command      |
| [is case sensitive]        | true                               |
| <b>MoveDownByLine</b>      | The Move Down By Line command      |
| [is case sensitive]        | true                               |
| <b>MoveUpByLine</b>        | The Move Up By Line command        |
| [is case sensitive]        | true                               |
| <b>MoveDownByParagraph</b> | The Move Down By Paragraph command |
| [is case sensitive]        | true                               |
| <b>MoveUpByParagraph</b>   | The Move Up By Paragraph command   |
| [is case sensitive]        | true                               |
| <b>MoveDownByPage</b>      | The Move Down By Page command      |
| [is case sensitive]        | true                               |
| <b>MoveUpByPage</b>        | The Move Up By Page command        |
| [is case sensitive]        | true                               |
| <b>MoveToLineStart</b>     | The Move To Line Start command     |
| [is case sensitive]        | true                               |
| <b>MoveToLineEnd</b>       | The Move To Line End command       |
| [is case sensitive]        | true                               |
| <b>MoveToDocumentStart</b> | The Move To Document Start command |

|                               |                                       |
|-------------------------------|---------------------------------------|
| [values]                      |                                       |
| <b>[is case sensitive]</b>    | true                                  |
| <b>MoveToDocumentEnd</b>      | The Move To Document End command      |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectRightByCharacter</b> | The Select Right By Character command |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectLeftByCharacter</b>  | The Select Left By Character command  |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectRightByWord</b>      | The Select Right By Word command      |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectLeftByWord</b>       | The Select Left By Word command       |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectDownByLine</b>       | The Select Down By Line command       |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectUpByLine</b>         | The Select Up By Line command         |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectDownByParagraph</b>  | The Select Down By Paragraph command  |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectUpByParagraph</b>    | The Select Up By Paragraph command    |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectDownByPage</b>       | The Select Down By Page command       |
| <b>[is case sensitive]</b>    | true                                  |
| <b>SelectUpByPage</b>         | The Select Up By Page command         |
| <b>[is case sensitive]</b>    | true                                  |

|                              |                                      |
|------------------------------|--------------------------------------|
| [values]                     |                                      |
| <b>SelectToLineStart</b>     | The Select To Line Start command     |
| [is case sensitive]          | true                                 |
| <b>SelectToLineEnd</b>       | The Select To Line End command       |
| [is case sensitive]          | true                                 |
| <b>SelectToDocumentStart</b> | The Select To Document Start command |
| [is case sensitive]          | true                                 |
| <b>SelectToDocumentEnd</b>   | The Select To Document End command   |
| [is case sensitive]          | true                                 |
| <b>ToggleBold</b>            | The Toggle Bold command              |
| [is case sensitive]          | true                                 |
| <b>ToggleItalic</b>          | The Toggle Italic command            |
| [is case sensitive]          | true                                 |
| <b>ToggleUnderline</b>       | The Toggle Underline command         |
| [is case sensitive]          | true                                 |
| <b>ToggleSubscript</b>       | The Toggle Subscript command         |
| [is case sensitive]          | true                                 |
| <b>ToggleSuperscript</b>     | The Toggle Superscript command       |
| [is case sensitive]          | true                                 |
| <b>IncreaseFontSize</b>      | The Increase Font Size command       |
| [is case sensitive]          | true                                 |
| <b>DecreaseFontSize</b>      | The Decrease Font Size command       |
| [is case sensitive]          | true                                 |

|                            |                                  |
|----------------------------|----------------------------------|
| [values]                   |                                  |
| <b>ApplyFontSize</b>       | The Apply Font Size command      |
| [is case sensitive]        | true                             |
| <b>ApplyFontFamily</b>     | The Apply Font Family command    |
| [is case sensitive]        | true                             |
| <b>ApplyForeground</b>     | The Apply Foreground command     |
| [is case sensitive]        | true                             |
| <b>ApplyBackground</b>     | The Apply Background command     |
| [is case sensitive]        | true                             |
| <b>AlignLeft</b>           | The Align Left command           |
| [is case sensitive]        | true                             |
| <b>AlignCenter</b>         | The Align Center command         |
| [is case sensitive]        | true                             |
| <b>AlignRight</b>          | The Align Right command          |
| [is case sensitive]        | true                             |
| <b>AlignJustify</b>        | The Align Justify command        |
| [is case sensitive]        | true                             |
| <b>ToggleBullets</b>       | The Toggle Bullets command       |
| [is case sensitive]        | true                             |
| <b>ToggleNumbering</b>     | The Toggle Numbering command     |
| [is case sensitive]        | true                             |
| <b>IncreaseIndentation</b> | The Increase Indentation command |
| [is case sensitive]        | true                             |

|                            |                                  |
|----------------------------|----------------------------------|
| [values]                   |                                  |
| <b>DecreaseIndentation</b> | The Decrease Indentation command |
| <b>[is case sensitive]</b> | true                             |
| <b>Play</b>                | The Play command                 |
| <b>[is case sensitive]</b> | true                             |
| <b>Pause</b>               | The Pause command                |
| <b>[is case sensitive]</b> | true                             |
| <b>Stop</b>                | The Stop command                 |
| <b>[is case sensitive]</b> | true                             |
| <b>Record</b>              | The Record command               |
| <b>[is case sensitive]</b> | true                             |
| <b>NextTrack</b>           | The Next Track command           |
| <b>[is case sensitive]</b> | true                             |
| <b>PreviousTrack</b>       | The Previous Track command       |
| <b>[is case sensitive]</b> | true                             |
| <b>FastForward</b>         | The Fast Forward command         |
| <b>[is case sensitive]</b> | true                             |
| <b>Rewind</b>              | The Rewind command               |
| <b>[is case sensitive]</b> | true                             |
| <b>ChannelUp</b>           | The Channel Up command           |
| <b>[is case sensitive]</b> | true                             |
| <b>ChannelDown</b>         | The Channel Down command         |
| <b>[is case sensitive]</b> | true                             |
| <b>TogglePlayPause</b>     | The Toggle Play Pause command    |
| <b>[is case sensitive]</b> | true                             |

|                                 |  |
|---------------------------------|--|
| [values]                        |  |
| <b>IncreaseVolume</b>           | The Increase Volume command            |
| <b>[is case sensitive]</b>      | true                                   |
| <b>DecreaseVolume</b>           | The Decrease Volume command            |
| <b>[is case sensitive]</b>      | true                                   |
| <b>MuteVolume</b>               | The Mute Volume command                |
| <b>[is case sensitive]</b>      | true                                   |
| <b>IncreaseTreble</b>           | The Increase Treble command            |
| <b>[is case sensitive]</b>      | true                                   |
| <b>DecreaseTreble</b>           | The Decrease Treble command            |
| <b>[is case sensitive]</b>      | true                                   |
| <b>IncreaseBass</b>             | The Increase Bass command              |
| <b>[is case sensitive]</b>      | true                                   |
| <b>DecreaseBass</b>             | The Decrease Bass command              |
| <b>[is case sensitive]</b>      | true                                   |
| <b>BoostBass</b>                | The Boost Bass command                 |
| <b>[is case sensitive]</b>      | true                                   |
| <b>IncreaseMicrophoneVolume</b> | The Increase Microphone Volume command |
| <b>[is case sensitive]</b>      | true                                   |
| <b>DecreaseMicrophoneVolume</b> | The Decrease Microphone Volume command |
| <b>[is case sensitive]</b>      | true                                   |
| <b>MuteMicrophoneVolume</b>     | The Mute Microphone Volume command     |
| <b>[is case sensitive]</b>      | true                                   |

|  |   |
|--|---|
| [values]   |   |
| <b>ToggleMicrophoneOnOff</b>   | The Toggle Microphone On Off command  |
| [is case sensitive]  | true  |
| <b>Select</b>  | The Select command  |
| [is case sensitive]  | true  |
| [patterns]   |   |
| ([_\p{L}][-\w]*:?([_\p{Lu}\p{Li}\p{Lo}\p{Lt}\p{NI}][_\p{L}\p{Mn}\p{Mc}\p{Nd}]\p{NI}]*\.)?[_\p{Lu}\p{Li}\p{Lo}\p{Lt}\p{NI}][_\p{L}\p{Mn}\p{Mc}\p{Nd}\p{NI}]*) | Either just a command name, or a string of the form TypeName.CommandName, or a string of the form namespacePrefix:TypeName.CommandName. |
| [is case sensitive]  | true  |

## 6.27 CornerRadiusSyntax

|  |  |
|--|--|
| [patterns]   |  |
| (([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){3}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?) | Four whitespace and/or comma separated decimal floating point values specifying the radius of curvature for the top left, top right, bottom right, and bottom left corners of a shape. |
| [is case sensitive]  | true   |
| ([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)   | A single decimal floating point value indicating the radius of curvature for a corner or some corners.   |
| [is case sensitive]  | true   |

## 6.28 CultureInfoIetfLanguageTagSyntax

|                        |   |
|------------------------|---|
| [patterns]             |   |
| [A-Z]{2}(-[0-9A-Z]{2}) | A two letter language code identifier optionally followed by a dash then a two-letter country or region code. |

## 6.29 CultureInfoSyntax

|                       |  |
|-----------------------|--|
| [values]              |  |
| <b>CurrentCulture</b> | The CultureInfo object that represents the culture used by the |

|                                      |   |
|--------------------------------------|---|
| [values]                             |   |
|                                      | current thread.   |
| <b>CurrentUICulture</b>              | The CultureInfo object that represents the current user interface culture used by the Resource Manager to look up culture-specific resources at run time. |
| <b>DefaultThreadCurrentCulture</b>   | The default culture for threads in the current application domain.  |
| <b>DefaultThreadCurrentUICulture</b> | The default UI culture for threads in the current application domain.   |
| <b>InstalledUICulture</b>            | The CultureInfo that represents the culture installed with the operating system.  |
| <b>InvariantCulture</b>              | The CultureInfo that is culture-independent (invariant).  |

### 6.30 CursorSyntax

|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>AppStarting</b>         | The Cursor that appears when an application is starting.   |
| <b>[is case sensitive]</b> | true   |
| <b>Arrow</b>               | The Arrow Cursor.  |
| <b>[is case sensitive]</b> | true   |
| <b>ArrowCD</b>             | The arrow with a compact disk Cursor.  |
| <b>[is case sensitive]</b> | true   |
| <b>Cross</b>               | The crosshair Cursor.  |
| <b>[is case sensitive]</b> | true   |
| <b>Hand</b>                | A hand Cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>Help</b>                | A help Cursor which is a combination of an arrow and a question mark.                            |
| <b>[is case sensitive]</b> | true   |
| <b>IBeam</b>               | An I-beam Cursor, which is used to show where the text cursor appears when the mouse is clicked. |
| <b>[is case sensitive]</b> | true   |
| <b>No</b>                  | A Cursor with which indicates that a particular region is invalid for a given operation.         |
| <b>[is case sensitive]</b> | true   |
| <b>None</b>                | A special cursor that is invisible.  |
| <b>[is case sensitive]</b> | true   |
| <b>Pen</b>                 | A pen Cursor.  |



|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollAll</b>           | The scroll all Cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollE</b>             | The scroll east Cursor.  |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollN</b>             | The scroll north Cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollNE</b>            | The scroll northeast cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollNS</b>            | The scroll north/south cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollNW</b>            | A scroll northwest cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollS</b>             | The scroll south Cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollSE</b>            | A south/east scrolling Cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollSW</b>            | The scroll southwest Cursor.   |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollW</b>             | The scroll west Cursor.  |
| <b>[is case sensitive]</b> | true   |
| <b>ScrollWE</b>            | A west/east scrolling Cursor.  |
| <b>[is case sensitive]</b> | true   |
| <b>SizeAll</b>             | A four-headed sizing Cursor, which consists of four joined arrows that point north, south, east, and west. |
| <b>[is case sensitive]</b> | true   |
| <b>SizeNESW</b>            | A two-headed northeast/southwest sizing Cursor.  |
| <b>[is case sensitive]</b> | true   |
| <b>SizeNS</b>              | A two-headed north/south sizing Cursor.  |
| <b>[is case sensitive]</b> | true   |

|                            |   |
|----------------------------|---|
| [values]                   |   |
| <b>SizeNWSE</b>            | A two-headed northwest/southeast sizing Cursor.                             |
| <b>[is case sensitive]</b> | true  |
| <b>SizeWE</b>              | A two-headed west/east sizing Cursor.                                       |
| <b>[is case sensitive]</b> | true  |
| <b>UpArrow</b>             | An up arrow Cursor, which is typically used to identify an insertion point. |
| <b>[is case sensitive]</b> | true  |
| <b>Wait</b>                | Specifies a wait (or hourglass) Cursor.                                     |
| <b>[is case sensitive]</b> | true  |
| <b>[patterns]</b>          |   |
| <b>.*\.\((CUR) (ANI))</b>  | Any string ending in either ".cur" or ".ani"                                |

### 6.31 CursorTypeSyntax

|                    |   |
|--------------------|---|
| [values]           |   |
| <b>AppStarting</b> | A standard arrow with small hourglass cursor.                         |
| <b>Arrow</b>       | A standard arrow cursor.  |
| <b>ArrowCD</b>     | An arrow cd cursor.   |
| <b>Cross</b>       | A crosshair cursor.   |
| <b>Hand</b>        | A hand cursor.  |
| <b>Help</b>        | A help cursor.  |
| <b>IBeam</b>       | A text I-Beam cursor.   |
| <b>No</b>          | No cursor.  |
| <b>None</b>        | A value indicating that no cursor should be displayed.                |
| <b>Pen</b>         | A pen cursor.   |
| <b>ScrollAll</b>   | A scrolling cursor with arrows pointing north, south, east, and west. |
| <b>ScrollE</b>     | A scrolling cursor with an arrow pointing east.                       |
| <b>ScrollIN</b>    | A scrolling cursor with an arrow pointing north.                      |
| <b>ScrollINE</b>   | A scrolling cursor with arrows pointing north and east.               |
| <b>ScrollINS</b>   | A scrolling cursor with arrows pointing north and south.              |
| <b>ScrollINW</b>   | A scrolling cursor with arrows pointing north and west.               |
| <b>ScrollS</b>     | A scrolling cursor with an arrow pointing south.                      |

|                  |   |
|------------------|---|
| [values]         |   |
| <b>ScrollISE</b> | A scrolling cursor with arrows pointing south and east.     |
| <b>ScrollISW</b> | A scrolling cursor with arrows pointing south and west.     |
| <b>ScrollIW</b>  | A scrolling cursor with an arrow pointing west.             |
| <b>ScrollIWE</b> | A scrolling cursor with arrows pointing west and east.      |
| <b>SizeAll</b>   | A cursor with arrows pointing north, south, east, and west. |
| <b>SizeNESW</b>  | A cursor with arrows pointing northeast and southwest.      |
| <b>SizeNS</b>    | A cursor with arrows pointing north and south.              |
| <b>SizeNWSE</b>  | A cursor with arrows pointing northwest and southeast.      |
| <b>SizeWE</b>    | A cursor with arrows pointing west and east.                |
| <b>UpArrow</b>   | A vertical arrow cursor.                                    |
| <b>Wait</b>      | An hourglass cursor.  |

### 6.32 DataGridClipboardCopyModeSyntax

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>ExcludeHeader</b> | Users can copy the text values of selected cells to the Clipboard, and column header values are not included. |
| <b>IncludeHeader</b> | Users can copy the text values of selected cells to the Clipboard, and column header values are included.     |
| <b>None</b>          | Clipboard support is disabled.  |

### 6.33 DataGridEditActionSyntax

|               |                              |
|---------------|------------------------------|
| [values]      |                              |
| <b>Cancel</b> | The edit is being canceled.  |
| <b>Commit</b> | The edit is being committed. |

### 6.34 DataGridEditingUnitSyntax

|             |                          |
|-------------|--------------------------|
| [values]    |                          |
| <b>Cell</b> | Cell editing is enabled. |
| <b>Row</b>  | Row editing is enabled.  |

### 6.35 DataGridGridLinesVisibilitySyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                   |  |
|-------------------|--|
| [values]          |  |
| <b>All</b>        | Both horizontal and vertical grid lines are visible. |
| <b>Horizontal</b> | Only horizontal grid lines are visible.              |
| <b>None</b>       | No grid lines are visible.                           |
| <b>Vertical</b>   | Only vertical grid lines are visible.                |

### 6.36 DataGridHeadersVisibilitySyntax

|               |  |
|---------------|--|
| [values]      |  |
| <b>All</b>    | Both row and column headers are visible. |
| <b>Column</b> | Only column headers are visible.         |
| <b>None</b>   | No headers are visible.                  |
| <b>Row</b>    | Only row headers are visible.            |

### 6.37 DataGridLengthSyntax

|                     |  |
|---------------------|--|
| [values]            |  |
| <b>Auto</b>         | A DataGridLength structure that represents the standard automatic sizing mode.     |
| <b>SizeToCells</b>  | A DataGridLength structure that represents the cell-based automatic sizing mode.   |
| <b>SizeToHeader</b> | A DataGridLength structure that represents the header-based automatic sizing mode. |

### 6.38 DataGridLengthUnitTypeSyntax

|                     |  |
|---------------------|--|
| [values]            |  |
| <b>Auto</b>         | The size is based on the contents of both the cells and the column header. |
| <b>Pixel</b>        | The size is a fixed value expressed in pixels.                             |
| <b>SizeToCells</b>  | The size is based on the contents of the cells.                            |
| <b>SizeToHeader</b> | The size is based on the contents of the column header.                    |
| <b>Star</b>         | The size is a weighted proportion of available space.                      |

### 6.39 DataGridRowDetailsVisibilityModeSyntax

|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>Collapsed</b>           | The row details section is not displayed for any rows.       |
| <b>Visible</b>             | The row details section is displayed for all rows.           |
| <b>VisibleWhenSelected</b> | The row details section is displayed only for selected rows. |

## 6.40 DataGridSelectionModeSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Extended</b> | Multiple items in the DataGrid can be selected at the same time. |
| <b>Single</b>   | Only one item in the DataGrid can be selected at a time.         |

## 6.41 DataGridSelectionUnitSyntax

|                        |   |
|------------------------|---|
| [values]               |   |
| <b>Cell</b>            | Only cells are selectable. Clicking a cell selects the cell. Clicking a row or column header does nothing.        |
| <b>CellOrRowHeader</b> | Cells and rows are selectable. Clicking a cell selects only the cell. Clicking a row header selects the full row. |
| <b>FullRow</b>         | Only full rows are selectable. Clicking a cell or a row header selects the full row.                              |

## 6.42 DatePickerFormatSyntax

|              |  |
|--------------|--|
| [values]     |  |
| <b>Long</b>  | Specifies that the date should be displayed by using unabbreviated days of the week and month names. This value displays a string that is equal to the string that is returned by the ToLongDateString method. |
| <b>Short</b> | Specifies that the date should be displayed by using abbreviated days of the week and month names. This value displays a string that is equal to the string that is returned by the ToShortDateString method.  |

## 6.43 DayOfWeekSyntax

|                  |                      |
|------------------|----------------------|
| [values]         |                      |
| <b>Friday</b>    | Indicates Friday.    |
| <b>Monday</b>    | Indicates Monday.    |
| <b>Saturday</b>  | Indicates Saturday.  |
| <b>Sunday</b>    | Indicates Sunday.    |
| <b>Thursday</b>  | Indicates Thursday.  |
| <b>Tuesday</b>   | Indicates Tuesday.   |
| <b>Wednesday</b> | Indicates Wednesday. |

## 6.44 DependencyPropertySyntax

|  |                                 |
|--|---------------------------------|
| [patterns]   |                                 |
| <code>([_\p{L}][-\p{W}]*)?([_\p{Lu}\p{LI}\p{Lo}\p{Lt}\p{NI}][_\p{L}\p{Mn}\p{Mc}\p{N</code> | Either just a property name, or |

|   |   |
|---|---|
| [patterns]  |   |
| <b>d}</b> \p{NI}*\.\.)?[_\p{Lu}\p{LI}\p{Lo}\p{Lt}\p{NI}][_\p{L}\p{Mn}\p{Mc}\p{Nd}\p{NI}]* | a string of the form<br>TypeName.PropertyName, or a string of the form<br>namespacePrefix:TypeName.PropertyName, or a string of the form<br>namespacePrefix:PropertyName. |
| <b>[is case sensitive]</b>  | true  |

## 6.45 DockSyntax

|               |  |
|---------------|--|
| [values]      |  |
| <b>Bottom</b> | A child element that is positioned at the bottom of the DockPanel.     |
| <b>Left</b>   | A child element that is positioned on the left side of the DockPanel.  |
| <b>Right</b>  | A child element that is positioned on the right side of the DockPanel. |
| <b>Top</b>    | A child element that is positioned at the top of the DockPanel.        |

## 6.46 DoubleCollectionSyntax

|  |  |
|--|--|
| [patterns]   |  |
| <b>([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?))*</b> | One or more whitespace and/or comma separated decimal floating point values. |
| <b>[is case sensitive]</b>   | true   |

## 6.47 DragActionSyntax

|                 |   |
|-----------------|---|
| [values]        |   |
| <b>Cancel</b>   | The operation is canceled with no drop message. |
| <b>Continue</b> | The operation will continue.                    |
| <b>Drop</b>     | The operation will stop with a drop.            |

## 6.48 DragDropEffectsSyntax

|             |  |
|-------------|--|
| [values]    |  |
| <b>All</b>  | The data is copied, removed from the drag source, and scrolled in the drop target. |
| <b>Copy</b> | The data is copied to the drop target.   |
| <b>Link</b> | The data from the drag source is linked to the drop target.                        |

|               |   |
|---------------|---|
| [values]      |   |
| <b>Move</b>   | The data from the drag source is moved to the drop target.                |
| <b>None</b>   | The drop target does not accept the data.                                 |
| <b>Scroll</b> | Scrolling is about to start or is currently occurring in the drop target. |

#### 6.49 DragDropKeyStatesSyntax

|                          |  |
|--------------------------|--|
| [values]                 |  |
| <b>AltKey</b>            | The ALT key is pressed.                        |
| <b>ControlKey</b>        | The control (CTRL) key is pressed.             |
| <b>LeftMouseButton</b>   | The left mouse button is pressed.              |
| <b>MiddleMouseButton</b> | The middle mouse button is pressed.            |
| <b>None</b>              | No modifier keys or mouse buttons are pressed. |
| <b>RightMouseButton</b>  | The right mouse button is pressed.             |
| <b>ShiftKey</b>          | The shift (SHIFT) key is pressed.              |

#### 6.50 DurationSyntax

|   |   |
|---|---|
| [values]  |   |
| <b>Automatic</b>                                    |   |
| <b>[is case sensitive]</b>                          | true  |
| <b>Forever</b>                                      |   |
| <b>[is case sensitive]</b>                          | true  |
| <b>[patterns]</b>                                   |   |
| <b>(\d+\.)?\d\d?:\d\d?:((\d\d?) (\d?\d?\.?\d*))</b> | The string may optionally begin with a decimal number and a dot. When present, this optional part indicates the number of days. The string always contains three parts separated by colons. The first two of these are one or two digit numbers specifying hours and minutes. The third part indicates the number of seconds and can be a two-digit integer, or a floating point number with 0, 1, or 2 digits before the point, and any number of digits after the point. Examples: 0:0:1 One second 1.0:0:0 One day 0:0:0.5 Half a second 0:0:.5 Half a second 2.5:2:22 Two days, five hours, two minutes, 22 seconds |
| <b>[is case sensitive]</b>                          | true  |
| <b>\d+</b>  | A decimal number specifying the number of days. Examples: 1 One day 10 Ten days   |

|                            |      |
|----------------------------|------|
| [values]                   |      |
| <b>[is case sensitive]</b> | true |

### 6.51 EasingModeSyntax

|                  |   |
|------------------|---|
| [values]         |   |
| <b>EaseIn</b>    | Interpolation follows the mathematical formula associated with the easing function.                           |
| <b>EaseInOut</b> | Interpolation uses EaseIn for the first half of the animation and EaseOut for the second half.                |
| <b>EaseOut</b>   | Interpolation follows 100% interpolation minus the output of the formula associated with the easing function. |

### 6.52 EdgeModeSyntax

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>Aliased</b>     | Render the edges of non-text drawing primitives as aliased edges.  |
| <b>Unspecified</b> | No edge mode is specified. Do not alter the current edge mode of non-text drawing primitives. This is the default value. |

### 6.53 EdgeProfileSyntax

|                  |   |
|------------------|---|
| [values]         |   |
| <b>BulgedUp</b>  | An edge that curves up and then down, like a ridge. |
| <b>CurvedIn</b>  | A concave edge that curves in.                      |
| <b>CurvedOut</b> | A convex edge that curves out.                      |
| <b>Linear</b>    | An edge that is a straight line.                    |

### 6.54 ExpandDirectionSyntax

|              |                                   |
|--------------|-----------------------------------|
| [values]     |                                   |
| <b>Down</b>  | The Expander control opens down.  |
| <b>Left</b>  | The Expander control opens left.  |
| <b>Right</b> | The Expander control opens right. |
| <b>Up</b>    | The Expander control opens up.    |

### 6.55 FigureHorizontalAnchorSyntax

|                     |   |
|---------------------|---|
| [values]            |   |
| <b>ColumnCenter</b> | Anchor the figure in the center of the column content area. |
| <b>ColumnLeft</b>   | Anchor the figure to the left of the column content area.   |



|                      |  |
|----------------------|--|
| [values]             |  |
| <b>ColumnRight</b>   | Anchor the figure to the right of the column content area. |
| <b>ContentCenter</b> | Anchor the figure in the center of the page content area.  |
| <b>ContentLeft</b>   | Anchor the figure to the left of the page content area.    |
| <b>ContentRight</b>  | Anchor the figure to the right of the page content area.   |
| <b>PageCenter</b>    | Anchor the figure in the center of the page area.          |
| <b>PageLeft</b>      | Anchor the figure to the left of the page area.            |
| <b>PageRight</b>     | Anchor the figure to the right of the page area.           |

## 6.56 FigureLengthSyntax

|   |  |
|---|--|
| [values]  |  |
| <b>Auto</b>   | Indicates that automatic sizing should be used   |
| [patterns]  |  |
| <b>([+-]?((\d[\d,]*(\.\d*)?) ((\d[\d,]*)?\.\d+)))([eE][+-]? \d+)?\s*((COLUMN(S)? CONTENT PAGE))</b> | An optional decimal floating point number, followed by either 'column', 'columns', 'content' or 'page' |
| <b>[+-]?((\d[\d,]*(\.\d*)?) ((\d[\d,]*)?\.\d+))([eE][+-]? \d+)? (\s*(px in cm pt))?</b>             | A decimal floating point number, optionally followed by either 'in', 'cm', 'pt', or 'px'               |

## 6.57 FigureUnitTypeSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>Auto</b>    | Default value when the FigureLength is not specified which creates a value for the width or height of the Figure that is calculated without constraints. Note: When FigureUnitType is set to Auto, the Value property of FigureLength is set to 1.                                    |
| <b>Column</b>  | The value of the width or height of the Figure is expressed as a fraction (including fractions greater than 1) of the width of the column the Figure is in.   |
| <b>Content</b> | The value of the width or height of the Figure is expressed as a fraction (including fractions greater than 1) of the content width of the Figure. Note: Note: When FigureUnitType is set to Content, the Value property of FigureLength must be set to a value between 0 and 1.      |
| <b>Page</b>    | The value of the width or height of the Figure is expressed as a fraction (including fractions greater than 1) of the page width of that the Figure is in. Note: Note: When FigureUnitType is set to Page, the Value property of FigureLength must be set to a value between 0 and 1. |
| <b>Pixel</b>   | The value of the width or height of the Figure is expressed in pixels (96 pixels-per-inch).   |

## 6.58 FigureVerticalAnchorSyntax

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>ContentBottom</b> | Anchor the figure to the bottom of the page content area. |
| <b>ContentCenter</b> | Anchor the figure to the center of the page content area. |
| <b>ContentTop</b>    | Anchor the figure to the top of the page content area.    |
| <b>PageBottom</b>    | Anchor the figure to the bottom of the page area.         |
| <b>PageCenter</b>    | Anchor the figure to the center of the page area.         |
| <b>PageTop</b>       | Anchor the figure to the top of the page area.            |
| <b>ParagraphTop</b>  | Anchor the figure to the top of the current paragraph.    |

## 6.59 FillBehaviorSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>HoldEnd</b> | After it reaches the end of its active period, the timeline holds its progress until the end of its parent's active and hold periods. |
| <b>Stop</b>    | The timeline stops if it is outside its active period while its parent is inside its active period.                                   |

## 6.60 FillRuleSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>EvenOdd</b> | Rule that determines whether a point is in the fill region by drawing a ray from that point to infinity in any direction and counting the number of path segments within the given shape that the ray crosses. If this number is odd, the point is inside; if even, the point is outside.   |
| <b>Nonzero</b> | Rule that determines whether a point is in the fill region of the path by drawing a ray from that point to infinity in any direction and then examining the places where a segment of the shape crosses the ray. Starting with a count of zero, add one each time a segment crosses the ray from left to right and subtract one each time a path segment crosses the ray from right to left. After counting the crossings, if the result is zero then the point is outside the path. Otherwise, it is inside. |

## 6.61 FlowDirectionSyntax

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>LeftToRight</b> | Indicates that content should flow from left to right. |
| <b>RightToLeft</b> | Indicates that content should flow from right to left. |

## 6.62 FlowDocumentReaderViewingModeSyntax

|             |   |
|-------------|---|
| [values]    |   |
| <b>Page</b> | Indicates that the FlowDocumentReader should show content one page at a time. |

|                |   |
|----------------|---|
| [values]       |   |
| <b>Scroll</b>  | Indicates that the FlowDocumentReader should show content in continuous scrolling mode.                 |
| <b>TwoPage</b> | Indicates that the FlowDocumentReader should show content two pages at a time, similar to an open book. |

### 6.63 FocusNavigationDirectionSyntax

|                 |   |
|-----------------|---|
| [values]        |   |
| <b>Down</b>     | Move focus to another focusable element downwards from the currently focused element.                   |
| <b>First</b>    | Move focus to the first focusable element in tab order. Not supported for FocusNavigationDirection).    |
| <b>Last</b>     | Move focus to the last focusable element in tab order. Not supported for FocusNavigationDirection).     |
| <b>Left</b>     | Move focus to another focusable element to the left of the currently focused element.                   |
| <b>Next</b>     | Move focus to the next focusable element in tab order. Not supported for FocusNavigationDirection).     |
| <b>Previous</b> | Move focus to the previous focusable element in tab order. Not supported for FocusNavigationDirection). |
| <b>Right</b>    | Move focus to another focusable element to the right of the currently focused element.                  |
| <b>Up</b>       | Move focus to another focusable element upwards from the currently focused element.                     |

### 6.64 FontCapitalsSyntax

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>AllPetiteCaps</b> | Both capital and lowercase letters are replaced with a glyph form of an uppercase letter with the same approximate height. Petite capitals are smaller than small capitals. |
| <b>AllSmallCaps</b>  | Both capital and lowercase letters are replaced with a glyph form of an uppercase letter with the same approximate height.  |
| <b>Normal</b>        | Capital letters render normally.  |
| <b>PetiteCaps</b>    | Lowercase letters are replaced with a glyph form of an uppercase letter with the same approximate height. Petite capitals are smaller than small capitals.                  |
| <b>SmallCaps</b>     | Lowercase letters are replaced with a glyph form of an uppercase letter with the same approximate height.   |
| <b>Titling</b>       | Glyph forms are substituted with a typographic form specifically designed for titles.   |
| <b>Unicase</b>       | Capital letters display in unicase. Unicase fonts render both upper and lowercase letters in a mixture of upper and lowercase glyphs determined by the type designer.       |

### 6.65 FontEastAsianLanguageSyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                         |  |
|-------------------------|--|
| [values]                |  |
| <b>HojoKanji</b>        | Replaces default glyphs with the corresponding forms from the Hojo Kanji specification.  |
| <b>Jis04</b>            | Replaces default Japanese glyphs with the corresponding forms from the JIS04 specification.  |
| <b>Jis78</b>            | Replaces default Japanese glyphs with the corresponding forms from the JIS78 specification.  |
| <b>Jis83</b>            | Replaces default Japanese glyphs with the corresponding forms from the JIS83 specification.  |
| <b>Jis90</b>            | Replaces default Japanese glyphs with the corresponding forms from the JIS90 specification.  |
| <b>Nlckanji</b>         | Replaces default glyphs with the corresponding forms from the NLC Kanji specification.   |
| <b>Normal</b>           | No font-specific glyph versions are applied.   |
| <b>Simplified</b>       | Replaces traditional Chinese or Japanese forms with their corresponding simplified forms.  |
| <b>Traditional</b>      | Replaces simplified Chinese or Japanese forms with their corresponding traditional forms.  |
| <b>TraditionalNames</b> | Replaces simplified Kanji forms with their corresponding traditional forms. This glyph set is explicitly limited to the traditional forms considered proper for use in personal names. |

## 6.66 FontEastAsianWidthsSyntax

|                     |   |
|---------------------|---|
| [values]            |   |
| <b>Full</b>         | Replaces uniform width glyphs with full width (usually em) glyphs.            |
| <b>Half</b>         | Replaces uniform width glyphs with half width (half em) glyphs.               |
| <b>Normal</b>       | Default width style.  |
| <b>Proportional</b> | Replaces uniform width glyphs with proportionally spaced glyphs.              |
| <b>Quarter</b>      | Replaces uniform width glyphs with one-quarter width (one-quarter em) glyphs. |
| <b>Third</b>        | Replaces uniform width glyphs with one-third width (one-third em) glyphs.     |

## 6.67 FontEmbeddingRightSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Editable</b> | The font may be embedded but must only be installed temporarily on other systems. In contrast to the PreviewAndPrint setting, documents containing Editable fonts may be opened, edited, or saved. |

|   |  |
|---|--|
| [values]  |  |
| <b>EditableButNoSubsetting</b>                      | The font may be embedded but must only be installed temporarily on other systems. Documents containing the font may be opened, edited, or saved. The font may not be subsetted prior to embedding.   |
| <b>EditableButNoSubsettingAndWithBitmapsOnly</b>    | The font may be embedded but must only be installed temporarily on other systems. Documents containing the font may be opened, edited, or saved. The font may not be subsetted prior to embedding. Only bitmaps contained in the font may be embedded. No outline data may be embedded.  |
| <b>EditableButWithBitmapsOnly</b>                   | The font may be embedded but must only be installed temporarily on other systems. Documents containing the font may be opened, edited, or saved. Only bitmaps contained in the font may be embedded. No outline data may be embedded.  |
| <b>Installable</b>                                  | Fonts with this setting indicate that they may be embedded and permanently installed on the remote system by an application. The user of the remote system acquires the identical rights, obligations and licenses for that font as the original purchaser of the font, and is subject to the same end-user license agreement, copyright, design patent, and/or trademark as was the original purchaser. |
| <b>InstallableButNoSubsetting</b>                   | Fonts with this setting indicate that they may be embedded and permanently installed on the remote system by an application. They may not be subsetted prior to embedding.   |
| <b>InstallableButNoSubsettingAndWithBitmapsOnly</b> | Fonts with this setting indicate that they may be embedded and permanently installed on the remote system by an application. They may not be subsetted prior to embedding. Only bitmaps contained in the fonts may be embedded. No outline data may be embedded.   |
| <b>InstallableButWithBitmapsOnly</b>                | Fonts with this setting indicate that they may be embedded and permanently installed on the remote system by an application. Only bitmaps contained in the fonts may be embedded. No outline data may be embedded.   |
| <b>PreviewAndPrint</b>                              | The font may be embedded and temporarily loaded on the remote system. Documents containing the font must be  |

|   |  |
|---|--|
| [values]  |  |
|   | opened in a read-only mode.  |
| <b>PreviewAndPrintButNoSubsetting</b>                   | The font may be embedded and temporarily loaded on the remote system. Documents containing the font must be opened in a read-only mode. The font may not be subsetted prior to embedding.  |
| <b>PreviewAndPrintButNoSubsettingAndWithBitmapsOnly</b> | The font may be embedded and temporarily loaded on the remote system. Documents containing the font must be opened in a read-only mode. The font may not be subsetted prior to embedding. Only bitmaps contained in the font may be embedded. No outline data may be embedded. |
| <b>PreviewAndPrintButWithBitmapsOnly</b>                | The font may be embedded and temporarily loaded on the remote system. Documents containing the font must be opened in a read-only mode. Only bitmaps contained in the font may be embedded. No outline data may be embedded.   |
| <b>RestrictedLicense</b>                                | Fonts with this setting must not be modified, embedded or exchanged in any manner without first obtaining permission of the legal owner.   |

## 6.68 FontFamilySyntax

|                            |  |
|----------------------------|--|
| [patterns]                 |  |
| .*                         | A sequence of comma-separated font family names. Each name can optionally start with a string indicating the location of the font file. This optional location specifier is indicated by a # symbol - the part before the hash is the location and the part after the hash is the family name. The absence of a # indicates that only the family name is specified. (The regular expression does not reflect this, because there are no restrictions on what text appears as the font name other than that it must not contain a '#' or a ',' and since those are both allowed as delimiters, there are no syntactic limits on the string. Of course whether the string is meaningful in practice depends on whether the specified font is available.) |
| <b>[is case sensitive]</b> | true   |

## 6.69 FontFractionSyntax

|                |                                 |
|----------------|---------------------------------|
| [values]       |                                 |
| <b>Normal</b>  | Default style is used.          |
| <b>Slashed</b> | Slashed fraction style is used. |
| <b>Stacked</b> | Stacked fraction style is used. |

## 6.70 FontNumeralAlignmentSyntax

|                     |                                       |
|---------------------|---------------------------------------|
| [values]            |                                       |
| <b>Normal</b>       | Default numeral alignment is used.    |
| <b>Proportional</b> | Proportional width alignment is used. |
| <b>Tabular</b>      | Tabular alignment is used.            |

## 6.71 FontNumeralStyleSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Lining</b>   | Lining numeral style is used. Replaces default glyphs with numeric forms of even height.   |
| <b>Normal</b>   | Default numeral style is used.   |
| <b>OldStyle</b> | Old style numeral style is used. Replaces default glyphs with a figure style that matches lowercase letters in height and color. |

## 6.72 FontSizeSyntax

|  |  |
|--|--|
| [patterns]   |  |
| <code>[+-]?((\d[\d,]* \.\d*)? ((\d[\d,]*)?\.\d+))([eE][+-]? \d+)? (\s*(PX IN CM PT))?</code> | A decimal floating point number, optionally followed by either 'in', 'cm', 'pt', or 'px' |

## 6.73 FontStretchSyntax

|                          |   |
|--------------------------|---|
| [values]                 |   |
| <b>Condensed</b>         | Specifies a condensed FontStretch.        |
| <b>[trim whitespace]</b> | false                                     |
| <b>Expanded</b>          | Specifies an expanded FontStretch.        |
| <b>[trim whitespace]</b> | false                                     |
| <b>ExtraCondensed</b>    | Specifies an extra-condensed FontStretch. |
| <b>[trim whitespace]</b> | false                                     |
| <b>ExtraExpanded</b>     | Specifies an extra-expanded FontStretch.  |
| <b>[trim whitespace]</b> | false                                     |
| <b>Medium</b>            | Specifies a medium FontStretch.           |
| <b>[trim whitespace]</b> | false                                     |

|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>Normal</b>              | Specifies a normal FontStretch.  |
| <b>[trim whitespace]</b>   | false  |
| <b>SemiCondensed</b>       | Specifies a semi-condensed FontStretch.  |
| <b>[trim whitespace]</b>   | false  |
| <b>SemiExpanded</b>        | Specifies a semi-expanded FontStretch.   |
| <b>[trim whitespace]</b>   | false  |
| <b>UltraCondensed</b>      | Specifies an ultra-condensed FontStretch.  |
| <b>[trim whitespace]</b>   | false  |
| <b>UltraExpanded</b>       | Specifies an ultra-expanded FontStretch.   |
| <b>[trim whitespace]</b>   | false  |
| <b>[patterns]</b>          |  |
| <b>\+?0*[1-9]</b>          | A single digit in the range 1-9, optionally preceded by a + sign and/or any number of leading zeros. |
| <b>[is case sensitive]</b> | true   |

#### 6.74 FontStyleSyntax

|                |                                 |
|----------------|---------------------------------|
| [values]       |                                 |
| <b>Italic</b>  | Specifies an italic FontStyle.  |
| <b>Normal</b>  | Specifies a normal FontStyle.   |
| <b>Oblique</b> | Specifies an oblique FontStyle. |

#### 6.75 FontVariantsSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Inferior</b> | Replaces a default glyph with an inferior glyph, or it may combine glyph substitution with positioning adjustments for proper placement. Inferior forms are typically used in chemical formulas or mathematical notation.                          |
| <b>Normal</b>   | Default font behavior. Font scaling and positioning is normal.   |
| <b>Ordinal</b>  | Replaces a default glyph with an ordinal glyph, or it may combine glyph substitution with positioning adjustments for proper placement. Ordinal forms are normally associated with numeric notation of an ordinal word, such as "1st" for "first." |



|                    |   |
|--------------------|---|
| [values]           |   |
| <b>Ruby</b>        | Replaces a default glyph with a smaller Japanese Kana glyph. This is used to clarify the meaning of Kanji, which may be unfamiliar to the reader. |
| <b>Subscript</b>   | Replaces a default glyph with a subscript glyph.  |
| <b>Superscript</b> | Replaces a default glyph with a superscript glyph. Superscript is commonly used for footnotes.  |

## 6.76 FontWeightSyntax

|                          |   |
|--------------------------|---|
| [values]                 |   |
| <b>Black</b>             | Specifies a "Black" font weight.        |
| <b>[trim whitespace]</b> | false                                   |
| <b>Bold</b>              | Specifies a "Bold" font weight.         |
| <b>[trim whitespace]</b> | false                                   |
| <b>DemiBold</b>          | Specifies a "Demi-bold" font weight.    |
| <b>[trim whitespace]</b> | false                                   |
| <b>ExtraBlack</b>        | Specifies an "Extra-black" font weight. |
| <b>[trim whitespace]</b> | false                                   |
| <b>ExtraBold</b>         | Specifies an "Extra-bold" font weight.  |
| <b>[trim whitespace]</b> | false                                   |
| <b>ExtraLight</b>        | Specifies an "Extra-light" font weight. |
| <b>[trim whitespace]</b> | false                                   |
| <b>Heavy</b>             | Specifies a "Heavy" font weight.        |
| <b>[trim whitespace]</b> | false                                   |
| <b>Light</b>             | Specifies a "Light" font weight.        |
| <b>[trim whitespace]</b> | false                                   |
| <b>Medium</b>            | Specifies a "Medium" font weight.       |
| <b>[trim whitespace]</b> | false                                   |
| <b>Normal</b>            | Specifies a "Normal" font weight.       |
| <b>[trim whitespace]</b> | false                                   |
| <b>Regular</b>           | Specifies a "Regular" font weight.      |
| <b>[trim whitespace]</b> | false                                   |
| <b>SemiBold</b>          | Specifies a "Semi-bold" font weight.    |

|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>[trim whitespace]</b>   | false  |
| <b>Thin</b>                | Specifies a "Thin" font weight.                                |
| <b>[trim whitespace]</b>   | false  |
| <b>UltraBlack</b>          | Specifies an "Ultra-black" font weight.                        |
| <b>[trim whitespace]</b>   | false  |
| <b>UltraBold</b>           | Specifies an "Ultra-bold" font weight.                         |
| <b>[trim whitespace]</b>   | false  |
| <b>UltraLight</b>          | Specifies an "Ultra-light" font weight.                        |
| <b>[trim whitespace]</b>   | false  |
| <b>[patterns]</b>          |  |
| <b>\+?\d*</b>              | An integer numeric value. (This should be in the range 1-999.) |
| <b>[is case sensitive]</b> | true   |

## 6.77 FrameworkPropertyMetadataOptionsSyntax

|                             |   |
|-----------------------------|---|
| [values]                    |   |
| <b>AffectsArrange</b>       | The arrange pass of layout composition is affected by value changes to this property.   |
| <b>AffectsMeasure</b>       | The measure pass of layout compositions is affected by value changes to this property.  |
| <b>AffectsParentArrange</b> | The arrange pass on the parent element is affected by value changes to this property.   |
| <b>AffectsParentMeasure</b> | The measure pass on the parent element is affected by value changes to this property.   |
| <b>AffectsRender</b>        | Some aspect of rendering or layout composition (other than measure or arrange) is affected by value changes to this property.               |
| <b>BindsTwoWayByDefault</b> | The BindingMode for data bindings on this property defaults to TwoWay.  |
| <b>Inherits</b>             | The values of this property are inherited by child elements.  |
| <b>Journal</b>              | The values of this property should be saved or restored by journaling processes, or when navigating by Uniform resource identifiers (URIs). |
| <b>None</b>                 | No options are specified; the property uses the default behavior of the property system.  |
| <b>NotDataBindable</b>      | Data binding to this property is not allowed.   |

|                                       |  |
|---------------------------------------|--|
| [values]                              |  |
| <b>OverridesInheritanceBehavior</b>   | The values of this property span separated trees for purposes of property value inheritance. |
| <b>SubPropertiesDoNotAffectRender</b> | The subproperties on the value of this property do not affect any aspect of rendering.       |

### 6.78 GeneratorDirectionSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Backward</b> | Specifies to generate items in a backward direction. |
| <b>Forward</b>  | Specifies to generate items in a forward direction.  |

### 6.79 GeneratorStatusSyntax

|                             |   |
|-----------------------------|---|
| [values]                    |   |
| <b>ContainersGenerated</b>  | The generator has finished generating containers.                                     |
| <b>Error</b>                | The generator has finished generating containers, but encountered one or more errors. |
| <b>GeneratingContainers</b> | The generator is generating containers.   |
| <b>NotStarted</b>           | The generator has not tried to generate content.                                      |

### 6.80 GeometryCombineModeSyntax

|                  |   |
|------------------|---|
| [values]         |   |
| <b>Exclude</b>   | The second region is excluded from the first.   |
| <b>Intersect</b> | The two regions are combined by taking their intersection. The new area consists of the overlapping region between the two geometries.                              |
| <b>Union</b>     | The two regions are combined by taking the union.   |
| <b>Xor</b>       | The two regions are combined by taking the area that exists in the first region but not the second and the area that exists in the second region but not the first. |

### 6.81 GeometrySyntax

|   |  |
|---|--|
| [patterns]  |  |
| <b>(F\s*[01])?(\s*[mMILhHvVcCsSqQtTaAZZ]\s*((( [+ ]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?)((\s*,\s*) \s+))*([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?))?)*</b> | Optionally begins with a fill rule specifier: an uppercase F followed by a 0 or a 1, with optional whitespace between the F and the digit. Remainder of string consists of a sequence of single letter commands, each followed by a sequence of comma and/or whitespace-separated floating |

|                            |                       |
|----------------------------|-----------------------|
| [patterns]                 |                       |
|                            | point decimal values. |
| <b>[is case sensitive]</b> | true                  |

## 6.82 GradientSpreadMethodSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Pad</b>     | Default value. The color values at the ends of the gradient vector fill the remaining space. |
| <b>Reflect</b> | The gradient is repeated in the reverse direction until the space is filled.                 |
| <b>Repeat</b>  | The gradient is repeated in the original direction until the space is filled.                |

## 6.83 GridLengthSyntax

|   |   |
|---|---|
| [values]  |   |
| <b>auto</b>   | Indicates that automatic sizing should be used  |
| *   | Equivalent to a value of "1*"   |
| <b>[patterns]</b>   |   |
| <b>[+-]?((\d[\d,]* \.\d*)? ((\d[\d,]*)?\.\d+))([eE][+-]? \d+)? (\s*(\* PX IN CM PT))?</b> | A decimal floating point number, optionally followed by either '*', 'in', 'cm', 'pt', or 'px' |

## 6.84 GridResizeBehaviorSyntax

|                           |  |
|---------------------------|--|
| [values]                  |  |
| <b>BasedOnAlignment</b>   | Space is redistributed based on the value of the HorizontalAlignment and VerticalAlignment properties.   |
| <b>CurrentAndNext</b>     | For a horizontal GridSplitter, space is redistributed between the row that is specified for the GridSplitter and the next row that is below it. For a vertical GridSplitter, space is redistributed between the column that is specified for the GridSplitter and the next column that is to the right.      |
| <b>PreviousAndCurrent</b> | For a horizontal GridSplitter, space is redistributed between the row that is specified for the GridSplitter and the next row that is above it. For a vertical GridSplitter, space is redistributed between the column that is specified for the GridSplitter and the next column that is to the left.       |
| <b>PreviousAndNext</b>    | For a horizontal GridSplitter, space is redistributed between the rows that are above and below the row that is specified for the GridSplitter. For a vertical GridSplitter, space is redistributed between the columns that are to the left and right of the column that is specified for the GridSplitter. |

## 6.85 GridResizeDirectionSyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                |   |
|----------------|---|
| [values]       |   |
| <b>Auto</b>    | Space is redistributed based on the values of the HorizontalAlignment, VerticalAlignment, ActualWidth, and ActualHeight properties of the GridSplitter. |
| <b>Columns</b> | Space is redistributed between columns.   |
| <b>Rows</b>    | Space is redistributed between rows.  |

### 6.86 GridUnitTypeSyntax

|              |  |
|--------------|--|
| [values]     |  |
| <b>Auto</b>  | The size is determined by the size properties of the content object. |
| <b>Pixel</b> | The value is expressed as a pixel.                                   |
| <b>Star</b>  | The value is expressed as a weighted proportion of available space.  |

### 6.87 GridViewColumnHeaderRoleSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Floating</b> | The column header is the object of a drag-and-drop operation to move a column.             |
| <b>Normal</b>   | The column header displays above its associated column.                                    |
| <b>Padding</b>  | The column header is the last header in the row of column headers and is used for padding. |

### 6.88 HandoffBehaviorSyntax

|                           |   |
|---------------------------|---|
| [values]                  |   |
| <b>Compose</b>            | New animations are combined with existing animations by appending the new animations to the end of the composition chain. |
| <b>SnapshotAndReplace</b> | New animations replace any existing animations on the properties to which they are applied.                               |

### 6.89 HitTestFilterBehaviorSyntax

|                                    |   |
|------------------------------------|---|
| [values]                           |   |
| <b>Continue</b>                    | Hit test against the current Visual and its descendants.                          |
| <b>ContinueSkipChildren</b>        | Hit test against the current Visual, but not its descendants.                     |
| <b>ContinueSkipSelf</b>            | Do not hit test against the current Visual, but hit test against its descendants. |
| <b>ContinueSkipSelfAndChildren</b> | Do not hit test against the current Visual or its descendants.                    |
| <b>Stop</b>                        | Stop hit testing at the current Visual.   |

## 6.90 HitTestResultBehaviorSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Continue</b> | Continue hit testing against the next visual in the visual tree hierarchy. |
| <b>Stop</b>     | Stop any further hit testing and return from the callback.                 |

## 6.91 HorizontalAlignmentSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>Center</b>  | An element aligned to the center of the layout slot for the parent element. |
| <b>Left</b>    | An element aligned to the left of the layout slot for the parent element.   |
| <b>Right</b>   | An element aligned to the right of the layout slot for the parent element.  |
| <b>Stretch</b> | An element stretched to fill the entire layout slot of the parent element.  |

## 6.92 ImeConversionModeValuesSyntax

|                     |   |
|---------------------|---|
| [values]            |   |
| <b>Alphanumeric</b> | The input method uses alphanumeric conversion mode.   |
| <b>CharCode</b>     | The input method uses character code conversion mode.   |
| <b>DoNotCare</b>    | The input method does not care what input conversion method is used; the actual conversion method is indeterminate. |
| <b>Eudc</b>         | The input method uses EUDC (end user defined character) conversion mode.  |
| <b>Fixed</b>        | The input method uses fixed conversion mode.  |
| <b>FullShape</b>    | The input method uses full-shape conversion mode.   |
| <b>Katakana</b>     | The input method uses Katakana conversion mode.   |
| <b>Native</b>       | The input method uses a native character (Hiragana, Hangul, Chinese) conversion mode.                               |
| <b>NoConversion</b> | The input method will not perform any input conversion.   |
| <b>Roman</b>        | The input method uses Roman character conversion mode.  |
| <b>Symbol</b>       | The input method uses symbol conversion mode.   |

## 6.93 ImeSentenceModeValuesSyntax

|                     |   |
|---------------------|---|
| [values]            |   |
| <b>Automatic</b>    | The input method uses the sentence conversion method automatically.         |
| <b>Conversation</b> | The input method uses conversation-style sentence conversion.               |
| <b>DoNotCare</b>    | The input method does not care what sentence conversion method is used; the |

|                         |   |
|-------------------------|---|
| [values]                |   |
|                         | actual sentence conversion mode is indeterminate.             |
| <b>None</b>             | The input method does not perform any sentence conversion.    |
| <b>PhrasePrediction</b> | The input method uses phrase prediction sentence conversion.  |
| <b>PluralClause</b>     | The input method uses plural clause sentence conversion.      |
| <b>SingleConversion</b> | The input method uses single Kanji/Hanja sentence conversion. |

#### 6.94 InheritanceBehaviorSyntax

|                        |   |
|------------------------|---|
| [values]               |   |
| <b>Default</b>         | Property value inheritance lookup will query the current element and continue walking up the element tree to the page root. |
| <b>SkipAllNext</b>     | Property value inheritance lookup will query the current element but not any further.                                       |
| <b>SkipAllNow</b>      | Property value inheritance lookup will not query the current element or any further.  |
| <b>SkipToAppNext</b>   | Property value inheritance lookup will query the current element but not any further.                                       |
| <b>SkipToAppNow</b>    | Property value inheritance lookup will not query the current element or any further.  |
| <b>SkipToThemeNext</b> | Property value inheritance lookup will query the current element but not any further.                                       |
| <b>SkipToThemeNow</b>  | Property value inheritance lookup will not query the current element or any further.  |

#### 6.95 InkCanvasClipboardFormatSyntax

|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>InkSerializedFormat</b> | Indicates that the InkCanvas accepts Ink Serialized Format (ISF).                            |
| <b>Text</b>                | Indicates that the InkCanvas accepts text.   |
| <b>Xaml</b>                | Indicates that the InkCanvas accepts "Extensible Application Markup Language" (XAML) format. |

#### 6.96 InkCanvasEditingModeSyntax

|                      |  |
|----------------------|--|
| [values]             |  |
| <b>EraseByPoint</b>  | Indicates that the pen erases part of a stroke when the pen intersects the stroke. |
| <b>EraseByStroke</b> | Indicates that the pen erases an entire stroke when the pen intersects the stroke. |
| <b>GestureOnly</b>   | Indicates that the InkCanvas responds to gestures, and does not receive ink.       |
| <b>Ink</b>           | Indicates that ink appears on the InkCanvas when the pen sends data to it.         |

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>InkAndGesture</b> | Indicates that the InkCanvas responds to gestures, and receives ink.        |
| <b>None</b>          | Indicates that no action is taken when the pen sends data to the InkCanvas. |
| <b>Select</b>        | Indicates that the pen selects strokes and elements on the InkCanvas.       |

### 6.97 InkCanvasSelectionHitResultSyntax

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>Bottom</b>      | The lower middle handle of the selection adorer.             |
| <b>BottomLeft</b>  | The lower left handle of the selection adorer.               |
| <b>BottomRight</b> | The lower right handle of the selection adorer.              |
| <b>Left</b>        | The middle handle on the left edge of the selection adorer.  |
| <b>None</b>        | No part of the selection adorer.                             |
| <b>Right</b>       | The middle handle on the right edge of the selection adorer. |
| <b>Selection</b>   | The area within the bounds of the selection adorer.          |
| <b>Top</b>         | The upper middle handle of the selection adorer.             |
| <b>TopLeft</b>     | The upper left handle of the selection adorer.               |
| <b>TopRight</b>    | The upper right handle of the selection adorer.              |

### 6.98 InputMethodStateSyntax

|                  |  |
|------------------|--|
| [values]         |  |
| <b>DoNotCare</b> | The input method is in an indeterminate state. |
| <b>Off</b>       | The input method is off.                       |
| <b>On</b>        | The input method is on.                        |

### 6.99 InputModeSyntax

|                   |  |
|-------------------|--|
| [values]          |  |
| <b>Foreground</b> | The input was provided when the application was in the foreground.     |
| <b>Sink</b>       | The input was provided when the application was not in the foreground. |

### 6.100 InputScopeNameValueSyntax

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>AddressCity</b> | The text input pattern for a city address. |



|                                |   |
|--------------------------------|---|
| [values]                       |   |
| <b>AddressCountryName</b>      | The text input pattern for the name of a country.                                       |
| <b>AddressCountryShortName</b> | The text input pattern for the abbreviated name of a country.                           |
| <b>AddressStateOrProvince</b>  | The text input pattern for a state or province.   |
| <b>AddressStreet</b>           | The text input pattern for a street address.  |
| <b>AlphanumericFullWidth</b>   | The text input pattern for alphanumeric full-width characters.                          |
| <b>AlphanumericHalfWidth</b>   | The text input pattern for alphanumeric half-width characters.                          |
| <b>Bopomofo</b>                | The text input pattern for the Bopomofo Mandarin Chinese phonetic transcription system. |
| <b>CurrencyAmount</b>          | The text input pattern for amount of currency.  |
| <b>CurrencyAmountAndSymbol</b> | The text input pattern for amount and symbol of currency.                               |
| <b>CurrencyChinese</b>         | The text input pattern for Chinese currency.  |
| <b>Date</b>                    | The text input pattern for a calendar date.   |
| <b>DateDay</b>                 | The text input pattern for the numeric day in a calendar date.                          |
| <b>DateDayName</b>             | The text input pattern for the name of the day in a calendar date.                      |
| <b>DateMonth</b>               | The text input pattern for the numeric month in a calendar date.                        |
| <b>DateMonthName</b>           | The text input pattern for the name of the month in a calendar date.                    |
| <b>DateYear</b>                | The text input pattern for the year in a calendar date.                                 |
| <b>Default</b>                 | The default handling of input commands.   |
| <b>Digits</b>                  | The text input pattern for digits.  |
| <b>EmailSmtAddress</b>         | The text input pattern for a Simple Mail Transfer Protocol (SMTP) email address.        |
| <b>EmailUserName</b>           | The text input pattern for an email user name.  |
| <b>FileName</b>                | The text input pattern for a file name.   |
| <b>FullFilePath</b>            | The text input pattern for the full path of a file.                                     |
| <b>Hanja</b>                   | The text input pattern for Hanja characters.  |
| <b>Hiragana</b>                | The text input pattern for the Hiragana writing system.                                 |
| <b>KatakanaFullWidth</b>       | The text input pattern for full-width Katakana characters.                              |
| <b>KatakanaHalfWidth</b>       | The text input pattern for half-width Katakana characters.                              |
| <b>LogOnName</b>               | The text input pattern for a log on name.   |
| <b>Number</b>                  | The text input pattern for a number.  |
| <b>NumberFullWidth</b>         | The text input pattern for a full-width number.   |

|                             |   |
|-----------------------------|---|
| [values]                    |   |
| <b>OneChar</b>              | The text input pattern for one character.                                       |
| <b>Password</b>             | The text input pattern for a password.  |
| <b>PersonalFullName</b>     | The text input pattern for a person's full name.                                |
| <b>PersonalGivenName</b>    | The text input pattern for a person's given name.                               |
| <b>PersonalMiddleName</b>   | The text input pattern for a person's middle name.                              |
| <b>PersonalNamePrefix</b>   | The text input pattern for the prefix of a person's name.                       |
| <b>PersonalNameSuffix</b>   | The text input pattern for the suffix of a person's name.                       |
| <b>PersonalSurname</b>      | The text input pattern for a person's surname.                                  |
| <b>PhraseList</b>           | The text input pattern for a phrase list.                                       |
| <b>PostalAddress</b>        | The text input pattern for a postal address.                                    |
| <b>PostalCode</b>           | The text input pattern for a postal code.                                       |
| <b>RegularExpression</b>    | The text input pattern for a regular expression.                                |
| <b>Srgs</b>                 | The text input pattern for the Speech Recognition Grammar Specification (SRGS). |
| <b>TelephoneAreaCode</b>    | The text input pattern for a telephone area code.                               |
| <b>TelephoneCountryCode</b> | The text input pattern for a telephone country code.                            |
| <b>TelephoneLocalNumber</b> | The text input pattern for a telephone local number.                            |
| <b>TelephoneNumber</b>      | The text input pattern for a telephone number.                                  |
| <b>Time</b>                 | The text input pattern for the time.  |
| <b>TimeHour</b>             | The text input pattern for the hour of the time.                                |
| <b>TimeMinorSec</b>         | The text input pattern for the minutes or seconds of time.                      |
| <b>Url</b>                  | The text input pattern for a Uniform Resource Locator (URL).                    |
| <b>Xml</b>                  | The text input pattern for XML.   |

### 6.101 InputScopeSyntax

|   |  |
|---|--|
| [patterns]  |  |
| <pre> (([_\p{Lu}\p{LI}\p{Lo}\p{Lt}\p{NI}][_\p{L}\p{Mn}\p{Mc}\p{Nd}\p{NI}]*)\.) ?[_\p{Lu}\p{LI}\p{Lo}\p{Lt}\p{NI}][_\p{L}\p{Mn}\p{Mc}\p{Nd}\p{NI}]* </pre> | <p>Either a string of the form<br/>         TypeName.<br/>         ScopeName<br/>         , or a string of the form<br/>         ScopeName</p> |

|                     |      |
|---------------------|------|
| [patterns]          |      |
|                     | .    |
| [is case sensitive] | true |

### 6.102 InputTypeSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Command</b>  | Input was provided by a command.   |
| <b>Hid</b>      | Input was provided a Human Interface Device that was not a keyboard, a mouse, or a stylus. |
| <b>Keyboard</b> | Input was provided by a keyboard.  |
| <b>Mouse</b>    | Input was provided by a mouse.   |
| <b>Stylus</b>   | Input was provided by a stylus.  |
| <b>Text</b>     | Input was provided by text.  |

### 6.103 Int32CollectionSyntax

|   |  |
|---|--|
| [patterns]  |  |
| $\backslash d + (((\backslash s *, \backslash s *)   \backslash s +) \backslash d +) *$ | A sequence of decimal integers separated by either a comma or whitespace |
| [is case sensitive]   | true   |

### 6.104 Int32RectSyntax

|   |  |
|---|--|
| [values]  |  |
| <b>Empty</b>  | Equivalent to a value of "0,0,0,0"                               |
| [is case sensitive]   | true   |
| [patterns]  |  |
| $(\backslash d + ((\backslash s *, \backslash s *)   \backslash s +)) \{ 3 \} \backslash d +$ | Four decimal integers separated by either a comma or whitespace. |
| [is case sensitive]   | true   |

### 6.105 IntersectionDetailSyntax

|                      |  |
|----------------------|--|
| [values]             |  |
| <b>Empty</b>         | The Geometry hit test parameter and the target visual, or geometry, do not intersect.                    |
| <b>FullyContains</b> | The Geometry hit test parameter is fully contained within the boundary of the target visual or geometry. |
| <b>FullyInside</b>   | The target visual, or geometry, is fully inside the Geometry hit test parameter.                         |

|                      |  |
|----------------------|--|
| [values]             |  |
| <b>Intersects</b>    | The Geometry hit test parameter and the target visual, or geometry, intersect. This means that the two elements overlap, but neither element contains the other. |
| <b>NotCalculated</b> | The IntersectionDetail value is not calculated.  |

### 6.106 InvertAxesSyntax

|                   |   |
|-------------------|---|
| [values]          |   |
| <b>Both</b>       | Drawing surface is inverted in both axes.           |
| <b>Horizontal</b> | Drawing surface is inverted in the horizontal axis. |
| <b>None</b>       | Drawing surface is not inverted in either axis.     |
| <b>Vertical</b>   | Drawing surface is inverted in the vertical axis.   |

### 6.107 IsOffscreenBehaviorSyntax

|                        |  |
|------------------------|--|
| [values]               |  |
| <b>Default (4.5)</b>   |  |
| <b>FromClip (4.5)</b>  |  |
| <b>Offscreen (4.5)</b> |  |
| <b>Onscreen (4.5)</b>  |  |

### 6.108 JournalEntryPositionSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>Back</b>    | Content is in back navigation history relative to current content.        |
| <b>Current</b> | Content is the current content.   |
| <b>Forward</b> | Content is in forward navigation history with respect to current content. |

### 6.109 JournalOwnershipSyntax

|                          |  |
|--------------------------|--|
| [values]                 |  |
| <b>Automatic</b>         | Whether or not this Frame will create and use its own journal depends on its parent.   |
| <b>OwnsJournal</b>       | The Frame maintains its own journal.   |
| <b>UsesParentJournal</b> | The Frame uses the journal of the next available navigation host up the content tree, if available. Otherwise, navigation history is not maintained for the Frame. |

## 6.110 JumpItemRejectionReasonSyntax

|                            |  |
|----------------------------|--|
| [values]                   |  |
| <b>InvalidItem</b>         | The JumpItem references an invalid file path, or the operating system does not support Jump Lists. |
| <b>None</b>                | The reason is not specified.   |
| <b>NoRegisteredHandler</b> | The application is not registered to handle the file name extension of the JumpItem.               |
| <b>RemovedByUser</b>       | The item was previously in the Jump List but was removed by the user.                              |

## 6.111 KernelTypeSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Box</b>      | A simple blur created with a square distribution curve.            |
| <b>Gaussian</b> | A distributed curve that creates a smooth distribution for a blur. |

## 6.112 KeyboardNavigationModeSyntax

|                  |   |
|------------------|---|
| [values]         |   |
| <b>Contained</b> | Depending on the direction of the navigation, focus returns to the first or the last item when the end or the beginning of the container is reached, but does not move past the beginning or end of the container.  |
| <b>Continue</b>  | Each element receives keyboard focus, as long as it is a navigation stop. Navigation leaves the containing element when an edge is reached.   |
| <b>Cycle</b>     | Depending on the direction of the navigation, the focus returns to the first or the last item when the end or the beginning of the container is reached. Focus cannot leave the container using logical navigation. |
| <b>Local</b>     | Tab Indexes are considered on local subtree only inside this container and behave like Continue after that.   |
| <b>None</b>      | No keyboard navigation is allowed inside this container.  |
| <b>Once</b>      | The container and all of its child elements as a whole receive focus only once. Either the first tree child or the or the last focused element in the group receives focus  |

## 6.113 KeyGestureSyntax

|  |   |
|--|---|
| [patterns]   |   |
| <b>((CONTROL CTRL SHIFT ALT WINDOWS WIN)\s*\+\s*)+\w+(,.)?</b> | A sequence of one or more key modifiers delimited by '+', followed by a key name (which follows the final '+' in the list of modifiers). This may be followed by a comma which, if present, |

|            |   |
|------------|---|
| [patterns] |   |
|            | must be followed by a string representing the display text for the key gesture. Note that although this regular expression does not enforce it, the key name should be a valid KeySyntax. |

### 6.114 KeySplineSyntax

|   |  |
|---|--|
| [patterns]  |  |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){3}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code> | Four decimal floating point values, separated by either a comma or whitespace. |
| [is case sensitive]   | true   |

### 6.115 KeyStatesSyntax

|                |                         |
|----------------|-------------------------|
| [values]       |                         |
| <b>Down</b>    | The key is pressed.     |
| <b>None</b>    | The key is not pressed. |
| <b>Toggled</b> | The key is toggled.     |

### 6.116 KeySyntax

|                         |   |
|-------------------------|---|
| [values]                |   |
| <b>A</b>                | The A key.  |
| <b>AbntC1</b>           | The ABNT_C1 (Brazilian) key.                      |
| <b>AbntC2</b>           | The ABNT_C2 (Brazilian) key.                      |
| <b>Add</b>              | The Add key.                                      |
| <b>Apps</b>             | The Application key (Microsoft Natural Keyboard). |
| <b>Attn</b>             | The ATTN key.                                     |
| <b>B</b>                | The B key.  |
| <b>Back</b>             | The Backspace key.                                |
| <b>BrowserBack</b>      | The Browser Back key.                             |
| <b>BrowserFavorites</b> | The Browser Favorites key.                        |
| <b>BrowserForward</b>   | The Browser Forward key.                          |

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| [values]                            |                                     |
| <b>BrowserHome</b>                  | The Browser Home key.               |
| <b>BrowserRefresh</b>               | The Browser Refresh key.            |
| <b>BrowserSearch</b>                | The Browser Search key.             |
| <b>BrowserStop</b>                  | The Browser Stop key.               |
| <b>C</b>                            | The C key.                          |
| <b>Cancel</b>                       | The Cancel key.                     |
| <b>Capital</b>                      | The Caps Lock key.                  |
| <b>CapsLock</b>                     | The Caps Lock key.                  |
| <b>Clear</b>                        | The Clear key.                      |
| <b>CrSel</b>                        | The CRSEL key.                      |
| <b>D</b>                            | The D key.                          |
| <b>D0</b>                           | The 0 (zero) key.                   |
| <b>D1</b>                           | The 1 (one) key.                    |
| <b>D2</b>                           | The 2 key.                          |
| <b>D3</b>                           | The 3 key.                          |
| <b>D4</b>                           | The 4 key.                          |
| <b>D5</b>                           | The 5 key.                          |
| <b>D6</b>                           | The 6 key.                          |
| <b>D7</b>                           | The 7 key.                          |
| <b>D8</b>                           | The 8 key.                          |
| <b>D9</b>                           | The 9 key.                          |
| <b>DbeAlphanumeric</b>              | The DBE_ALPHANUMERIC key.           |
| <b>DbeCodeInput</b>                 | The DBE_CODEINPUT key.              |
| <b>DbeDbcsChar</b>                  | The DBE_DBCSCHAR key.               |
| <b>DbeDetermineString</b>           | The DBE_DETERMINESTRING key.        |
| <b>DbeEnterDialogConversionMode</b> | The DBE_ENTERDLGCONVERSIONMODE key. |
| <b>DbeEnterImeConfigureMode</b>     | The DBE_ENTERIMECONFIGMODE key.     |
| <b>DbeEnterWordRegisterMode</b>     | The DBE_ENTERWORDREGISTERMODE key.  |
| <b>DbeFlushString</b>               | The DBE_FLUSHSTRING key.            |
| <b>DbeHiragana</b>                  | The DBE_HIRAGANA key.               |

|                          |   |
|--------------------------|---|
| [values]                 |   |
| <b>DbeKatakana</b>       | The DBE_KATAKANA key.   |
| <b>DbeNoCodeInput</b>    | The DBE_NOCODEINPUT key.  |
| <b>DbeNoRoman</b>        | The DBE_NOROMAN key.  |
| <b>DbeRoman</b>          | The DBE_ROMAN key.  |
| <b>DbeSbcsChar</b>       | The DBE_SBCSCHAR key.   |
| <b>DeadCharProcessed</b> | The key is used with another key to create a single combined character. |
| <b>Decimal</b>           | The Decimal key.  |
| <b>Delete</b>            | The Delete key.   |
| <b>Divide</b>            | The Divide key.   |
| <b>Down</b>              | The Down Arrow key.   |
| <b>E</b>                 | The E key.  |
| <b>End</b>               | The End key.  |
| <b>Enter</b>             | The Enter key.  |
| <b>EraseEof</b>          | The ERASE EOF key.  |
| <b>Escape</b>            | The ESC key.  |
| <b>Execute</b>           | The Execute key.  |
| <b>ExSel</b>             | The EXSEL key.  |
| <b>F</b>                 | The F key.  |
| <b>F1</b>                | The F1 key.   |
| <b>F10</b>               | The F10 key.  |
| <b>F11</b>               | The F11 key.  |
| <b>F12</b>               | The F12 key.  |
| <b>F13</b>               | The F13 key.  |
| <b>F14</b>               | The F14 key.  |
| <b>F15</b>               | The F15 key.  |
| <b>F16</b>               | The F16 key.  |
| <b>F17</b>               | The F17 key.  |
| <b>F18</b>               | The F18 key.  |
| <b>F19</b>               | The F19 key.  |



|                      |   |
|----------------------|---|
| [values]             |   |
| <b>F2</b>            | The F2 key.   |
| <b>F20</b>           | The F20 key.  |
| <b>F21</b>           | The F21 key.  |
| <b>F22</b>           | The F22 key.  |
| <b>F23</b>           | The F23 key.  |
| <b>F24</b>           | The F24 key.  |
| <b>F3</b>            | The F3 key.   |
| <b>F4</b>            | The F4 key.   |
| <b>F5</b>            | The F5 key.   |
| <b>F6</b>            | The F6 key.   |
| <b>F7</b>            | The F7 key.   |
| <b>F8</b>            | The F8 key.   |
| <b>F9</b>            | The F9 key.   |
| <b>FinalMode</b>     | The IME Final mode key.                                       |
| <b>G</b>             | The G key.  |
| <b>H</b>             | The H key.  |
| <b>HangulMode</b>    | The IME Hangul mode key.                                      |
| <b>HanjaMode</b>     | The IME Hanja mode key.                                       |
| <b>Help</b>          | The Help key.   |
| <b>Home</b>          | The Home key.   |
| <b>I</b>             | The I key.  |
| <b>ImeAccept</b>     | The IME Accept key.   |
| <b>ImeConvert</b>    | The IME Convert key.  |
| <b>ImeModeChange</b> | The IME Mode change request.                                  |
| <b>ImeNonConvert</b> | The IME NonConvert key.                                       |
| <b>ImeProcessed</b>  | A special key masking the real key being processed by an IME. |
| <b>Insert</b>        | The Insert key.   |
| <b>J</b>             | The J key.  |
| <b>JunjaMode</b>     | The IME Junja mode key.                                       |
| <b>K</b>             | The K key.  |

|                           |   |
|---------------------------|---|
| [values]                  |   |
| <b>KanaMode</b>           | The IME Kana mode key.                                  |
| <b>KanjiMode</b>          | The IME Kanji mode key.                                 |
| <b>L</b>                  | The L key.  |
| <b>LaunchApplication1</b> | The Launch Application1 key.                            |
| <b>LaunchApplication2</b> | The Launch Application2 key.                            |
| <b>LaunchMail</b>         | The Launch Mail key.                                    |
| <b>Left</b>               | The Left Arrow key.                                     |
| <b>LeftAlt</b>            | The left ALT key.                                       |
| <b>LeftCtrl</b>           | The left CTRL key.                                      |
| <b>LeftShift</b>          | The left Shift key.                                     |
| <b>LineFeed</b>           | The Linefeed key.                                       |
| <b>LWin</b>               | The left Windows logo key (Microsoft Natural Keyboard). |
| <b>M</b>                  | The M key.  |
| <b>MediaNextTrack</b>     | The Media Next Track key.                               |
| <b>MediaPlayPause</b>     | The Media Play Pause key.                               |
| <b>MediaPreviousTrack</b> | The Media Previous Track key.                           |
| <b>MediaStop</b>          | The Media Stop key.                                     |
| <b>Multiply</b>           | The Multiply key.                                       |
| <b>N</b>                  | The N key.  |
| <b>Next</b>               | The Page Down key.                                      |
| <b>NoName</b>             | A constant reserved for future use.                     |
| <b>None</b>               | No key pressed.   |
| <b>NumLock</b>            | The Num Lock key.                                       |
| <b>NumPad0</b>            | The 0 key on the numeric keypad.                        |
| <b>NumPad1</b>            | The 1 key on the numeric keypad.                        |
| <b>NumPad2</b>            | The 2 key on the numeric keypad.                        |
| <b>NumPad3</b>            | The 3 key on the numeric keypad.                        |
| <b>NumPad4</b>            | The 4 key on the numeric keypad.                        |
| <b>NumPad5</b>            | The 5 key on the numeric keypad.                        |
| <b>NumPad6</b>            | The 6 key on the numeric keypad.                        |

|                         |                                  |
|-------------------------|----------------------------------|
| [values]                |                                  |
| <b>NumPad7</b>          | The 7 key on the numeric keypad. |
| <b>NumPad8</b>          | The 8 key on the numeric keypad. |
| <b>NumPad9</b>          | The 9 key on the numeric keypad. |
| <b>O</b>                | The O key.                       |
| <b>Oem1</b>             | The OEM 1 key.                   |
| <b>Oem102</b>           | The OEM 102 key.                 |
| <b>Oem2</b>             | The OEM 2 key.                   |
| <b>Oem3</b>             | The OEM 3 key.                   |
| <b>Oem4</b>             | The OEM 4 key.                   |
| <b>Oem5</b>             | The OEM 5 key.                   |
| <b>Oem6</b>             | The OEM 6 key.                   |
| <b>Oem7</b>             | The OEM 7 key.                   |
| <b>Oem8</b>             | The OEM 8 key.                   |
| <b>OemAttn</b>          | The OEM ATTN key.                |
| <b>OemAuto</b>          | The OEM AUTO key.                |
| <b>OemBackslash</b>     | The OEM Backslash key.           |
| <b>OemBackTab</b>       | The OEM BACKTAB key.             |
| <b>OemClear</b>         | The OEM Clear key.               |
| <b>OemCloseBrackets</b> | The OEM Close Brackets key.      |
| <b>OemComma</b>         | The OEM Comma key.               |
| <b>OemCopy</b>          | The OEM COPY key.                |
| <b>OemEnlw</b>          | The OEM ENLW key.                |
| <b>OemFinish</b>        | The OEM FINISH key.              |
| <b>OemMinus</b>         | The OEM Minus key.               |
| <b>OemOpenBrackets</b>  | The OEM Open Brackets key.       |
| <b>OemPeriod</b>        | The OEM Period key.              |
| <b>OemPipe</b>          | The OEM Pipe key.                |
| <b>OemPlus</b>          | The OEM Addition key.            |
| <b>OemQuestion</b>      | The OEM Question key.            |
| <b>OemQuotes</b>        | The OEM Quotes key.              |

|                     |   |
|---------------------|---|
| [values]            |   |
| <b>OemSemicolon</b> | The OEM Semicolon key.  |
| <b>OemTilde</b>     | The OEM Tilde key.  |
| <b>P</b>            | The P key.  |
| <b>Pa1</b>          | The PA1 key.  |
| <b>PageDown</b>     | The Page Down key.  |
| <b>PageUp</b>       | The Page Up key.  |
| <b>Pause</b>        | The Pause key.  |
| <b>Play</b>         | The PLAY key.   |
| <b>Print</b>        | The Print key.  |
| <b>PrintScreen</b>  | The Print Screen key.   |
| <b>Prior</b>        | The Page Up key.  |
| <b>Q</b>            | The Q key.  |
| <b>R</b>            | The R key.  |
| <b>Return</b>       | The Return key.   |
| <b>Right</b>        | The Right Arrow key.  |
| <b>RightAlt</b>     | The right ALT key.  |
| <b>RightCtrl</b>    | The right CTRL key.   |
| <b>RightShift</b>   | The right Shift key.  |
| <b>RWin</b>         | The right Windows logo key (Microsoft Natural Keyboard).            |
| <b>S</b>            | The S key.  |
| <b>Scroll</b>       | The Scroll Lock key.  |
| <b>Select</b>       | The Select key.   |
| <b>SelectMedia</b>  | The Select Media key.   |
| <b>Separator</b>    | The Separator key.  |
| <b>Sleep</b>        | The Computer Sleep key.   |
| <b>Snapshot</b>     | The Print Screen key.   |
| <b>Space</b>        | The Spacebar key.   |
| <b>Subtract</b>     | The Subtract key.   |
| <b>System</b>       | A special key masking the real key being processed as a system key. |

|                   |                      |
|-------------------|----------------------|
| [values]          |                      |
| <b>T</b>          | The T key.           |
| <b>Tab</b>        | The Tab key.         |
| <b>U</b>          | The U key.           |
| <b>Up</b>         | The Up Arrow key.    |
| <b>V</b>          | The V key.           |
| <b>VolumeDown</b> | The Volume Down key. |
| <b>VolumeMute</b> | The Volume Mute key. |
| <b>VolumeUp</b>   | The Volume Up key.   |
| <b>W</b>          | The W key.           |
| <b>X</b>          | The X key.           |
| <b>Y</b>          | The Y key.           |
| <b>Z</b>          | The Z key.           |
| <b>Zoom</b>       | The ZOOM key.        |

### 6.117 KeyTimeSyntax

|  |  |
|--|--|
| [values]   |  |
| <b>Uniform</b>                                     | Key frames will be uniformly spaced throughout the animation if they are all set to a key time of Uniform  |
| <b>[is case sensitive]</b>                         | true   |
| <b>Paced</b>                                       | Indicates that a key frame's duration should be calculated so as to keep a constant rate of change over the entire animation's duration.   |
| <b>[is case sensitive]</b>                         | true   |
| <b>[patterns]</b>                                  |  |
| <b>(\d+\.)?\d\d?:\d\d?:((\d\d?)(\d?\d?\.?\d*))</b> | The string may optionally begin with a decimal number and a dot. When present, this optional part indicates the number of days. The string always contains three parts separated by colons. The first two of these are one or two digit numbers specifying hours and minutes. The third part indicates the number of seconds and can be a two-digit integer, or a floating point number with 0, 1, or 2 digits before the point, and any number of digits after the point. Examples:<br>0:0:1 One second 1.0:0:0 One day 0:0:0.5 Half a second 0:0:.5 Half a second 2.5:2:22 Two days, five hours, two minutes, 22 seconds |

|   |  |
|---|--|
| [values]  |  |
| <b>[is case sensitive]</b>                              | true   |
| <b>\d+</b>  | A decimal number specifying the number of days.<br>Examples: 1 One day 10 Ten days   |
| <b>[is case sensitive]</b>                              | true   |
| <b>\+?((\d+(\.\d*)?) (\d*\.\d+))([eE][+-]?\d+)?\s*%</b> | Decimal floating point number followed by a '%' symbol. (This is a percentage representing a proportion of the total duration of the animation, so it should have a value in the range from 0 to 100.) |
| <b>[is case sensitive]</b>                              | true   |

### 6.118 KeyTimeTypeSyntax

|                 |   |
|-----------------|---|
| [values]        |   |
| <b>Paced</b>    | Specifies that adjacent KeyFrames are each allotted a slice of time proportional to their length, respectively. The overall goal is to produce a length value that keeps the pace of the animation sequence constant. |
| <b>Percent</b>  | Specifies that each KeyTime value is expressed as a percentage of the total time allotted for a given animation sequence.   |
| <b>TimeSpan</b> | Specifies that each KeyTime is expressed as a TimeSpan value relative to the BeginTime of an animation sequence.  |
| <b>Uniform</b>  | Specifies that the allotted total time for an animation sequence is divided evenly amongst each of the key frames.  |

### 6.119 KeyTipHorizontalPlacementSyntax (4.5)

|                                   |  |
|-----------------------------------|--|
| [values]                          |  |
| <b>KeyTipCenterAtTargetCenter</b> | The center of the KeyTip is aligned with the center of the target element. |
| <b>KeyTipCenterAtTargetLeft</b>   | The center of the KeyTip is aligned with the left of the target element.   |
| <b>KeyTipCenterAtTargetRight</b>  | The center of the KeyTip is aligned with the right of the target element.  |
| <b>KeyTipLeftAtTargetCenter</b>   | The left of the KeyTip is aligned with the center of the target element.   |
| <b>KeyTipLeftAtTargetLeft</b>     | The left of the KeyTip is aligned with the left of the target element.     |
| <b>KeyTipLeftAtTargetRight</b>    | The left of the KeyTip is aligned with the right of the target element.    |
| <b>KeyTipRightAtTargetCenter</b>  | The right of the KeyTip is aligned with the center of the target element.  |
| <b>KeyTipRightAtTargetLeft</b>    | The right of the KeyTip is aligned with the left of the target element.    |
| <b>KeyTipRightAtTargetRight</b>   | The right of the KeyTip is aligned with the right of the target element.   |

## 6.120 KeyTipVerticalPlacementSyntax (4.5)

|                                   |  |
|-----------------------------------|--|
| [values]                          |  |
| <b>KeyTipBottomAtTargetBottom</b> | The bottom of the KeyTip is aligned with the bottom of the target element. |
| <b>KeyTipBottomAtTargetCenter</b> | The bottom of the KeyTip is aligned with the center of the target element. |
| <b>KeyTipBottomAtTargetTop</b>    | The bottom of the KeyTip is aligned with the top of the target element.    |
| <b>KeyTipCenterAtTargetBottom</b> | The center of the KeyTip is aligned with the bottom of the target element. |
| <b>KeyTipCenterAtTargetCenter</b> | The center of the KeyTip is aligned with the center of the target element. |
| <b>KeyTipCenterAtTargetTop</b>    | The center of the KeyTip is aligned with the top of the target element.    |
| <b>KeyTipTopAtTargetBottom</b>    | The top of the KeyTip is aligned with the bottom of the target element.    |
| <b>KeyTipTopAtTargetCenter</b>    | The top of the KeyTip is aligned with the center of the target element.    |
| <b>KeyTipTopAtTargetTop</b>       | The top of the KeyTip is aligned with the top of the target element.       |

## 6.121 LengthSyntax

|  |  |
|--|--|
| [values]   |  |
| <b>Auto</b>  | Indicates that automatic sizing should be used   |
| [patterns]   |  |
| <code>[+-]?((\d[\d,]* \.\d*)? ((\d[\d,]*)?\.\d+))([eE][+-]? \d+)? (\s*(PX IN CM PT))?</code> | A decimal floating point number, optionally followed by either 'in', 'cm', 'pt', or 'px' |

## 6.122 LineBreakConditionSyntax

|                        |  |
|------------------------|--|
| [values]               |  |
| <b>BreakAlways</b>     | Break is always allowed.   |
| <b>BreakDesired</b>    | Break if not prohibited by another object.                             |
| <b>BreakPossible</b>   | Break if allowed by another object.                                    |
| <b>BreakRestrained</b> | Break always prohibited unless the other object is set to BreakAlways. |

## 6.123 LineStackingStrategySyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                        |   |
|------------------------|---|
| [values]               |   |
| <b>BlockLineHeight</b> | The stack height is determined by the block element line-height property value.   |
| <b>MaxHeight</b>       | The stack height is the smallest value that containing all the inline elements on that line when those elements are properly aligned. |

### 6.124 LocalizationCategorySyntax

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>Button</b>        | A Button or related control.  |
| <b>CheckBox</b>      | A CheckBox or related control.  |
| <b>ComboBox</b>      | A ComboBox or related control such as ComboBoxItem.                                     |
| <b>Font</b>          | Font-related data such as font name, style, or size.                                    |
| <b>Hyperlink</b>     | A Hyperlink or related control.   |
| <b>Ignore</b>        | Do not localize this resource. This does not apply to any child nodes that might exist. |
| <b>Inherit</b>       | Inherits its category from a parent node.   |
| <b>Label</b>         | A Label or related control.   |
| <b>ListBox</b>       | A ListBox or related control such as ListBoxItem.                                       |
| <b>Menu</b>          | A Menu or related control such as MenuItem.   |
| <b>NeverLocalize</b> | Do not localize this resource, or any child nodes whose category is set to Inherit.     |
| <b>None</b>          | Resource does not belong to a standard category.  |
| <b>RadioButton</b>   | A RadioButton or related control.   |
| <b>Text</b>          | For a lengthy piece of text.  |
| <b>TextFlow</b>      | For panels that can contain text.   |
| <b>Title</b>         | For a single line of text, such as text used for a title.                               |
| <b>ToolTip</b>       | A ToolTip or related control.   |
| <b>XmlData</b>       | XML data.   |

### 6.125 LogicalDirectionSyntax

|                 |                                  |
|-----------------|----------------------------------|
| [values]        |                                  |
| <b>Backward</b> | Backward, or from right to left. |
| <b>Forward</b>  | Forward, or from left to right.  |



## 6.126 ManipulationModesSyntax

|                   |   |
|-------------------|---|
| [values]          |   |
| <b>All</b>        | A manipulation can scale, translate, or rotate an object and can occur with one point of input. |
| <b>None</b>       | Manipulation events do not occur.   |
| <b>Rotate</b>     | A manipulation can rotate an object.  |
| <b>Scale</b>      | A manipulation can scale an object.   |
| <b>Translate</b>  | A manipulation can translate an object.   |
| <b>TranslateX</b> | A manipulation can translate an object horizontally.  |
| <b>TranslateY</b> | A manipulation can translate an object vertically.  |

## 6.127 Matrix3DSyntax

|   |   |
|---|---|
| [values]  |   |
| <b>Identity</b>   | The identity matrix.  |
| <b>[is case sensitive]</b>  | true  |
| <b>[patterns]</b>   |   |
| <code>((([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){15}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code> | Sixteen decimal floating point values, separated by either a comma or whitespace. |
| <b>[is case sensitive]</b>  | true  |

## 6.128 MatrixSyntax

|  |   |
|--|---|
| [values]   |   |
| <b>Identity</b>  | The identity matrix.  |
| <b>[is case sensitive]</b>   | true  |
| <b>[patterns]</b>  |   |
| <code>((([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){5}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code> | Six decimal floating point values, separated by either a comma or whitespace. |
| <b>[is case sensitive]</b>   | true  |

## 6.129 MediaStateSyntax

|              |   |
|--------------|---|
| [values]     |   |
| <b>Close</b> | The state used to close the media. All media resources are released (including video memory). |

|               |   |
|---------------|---|
| [values]      |   |
| <b>Manual</b> | The state used to control a MediaElement manually. Interactive methods like Play and Pause can be used. Media will preroll but not play when the MediaElement is assigned a valid media source. |
| <b>Pause</b>  | The state used to pause the media. Media will preroll but remains paused when the MediaElement is assigned a valid media source.  |
| <b>Play</b>   | The state used to play the media. Media will preroll automatically when the MediaElement is assigned a valid media source.  |
| <b>Stop</b>   | The state used to stop the media. Media will preroll but not play when the MediaElement is assigned a valid media source. Media resources are not released.                                     |

### 6.130 MenuItemRoleSyntax

|                       |  |
|-----------------------|--|
| [values]              |  |
| <b>SubmenuHeader</b>  | Header for a submenu.                            |
| <b>SubmenuItem</b>    | Menu item in a submenu that can invoke commands. |
| <b>TopLevelHeader</b> | Header for top-level menus.                      |
| <b>TopLevelItem</b>   | Top-level menu item that can invoke commands.    |

### 6.131 MessageBoxButtonSyntax

|                    |   |
|--------------------|---|
| [values]           |   |
| <b>OK</b>          | The message box displays an OK button.                |
| <b>OKCancel</b>    | The message box displays OK and Cancel buttons.       |
| <b>YesNo</b>       | The message box displays Yes and No buttons.          |
| <b>YesNoCancel</b> | The message box displays Yes, No, and Cancel buttons. |

### 6.132 MessageBoxImageSyntax

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>Asterisk</b>    | The message box contains a symbol consisting of a lowercase letter i in a circle.                            |
| <b>Error</b>       | The message box contains a symbol consisting of white X in a circle with a red background.                   |
| <b>Exclamation</b> | The message box contains a symbol consisting of an exclamation point in a triangle with a yellow background. |
| <b>Hand</b>        | The message box contains a symbol consisting of a white X in a circle with a red background.                 |
| <b>Information</b> | The message box contains a symbol consisting of a lowercase letter i in a circle.                            |
| <b>None</b>        | No icon is displayed.  |

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Question</b> | The message box contains a symbol consisting of a question mark in a circle.                                 |
| <b>Stop</b>     | The message box contains a symbol consisting of white X in a circle with a red background.                   |
| <b>Warning</b>  | The message box contains a symbol consisting of an exclamation point in a triangle with a yellow background. |

### 6.133 MessageBoxOptionsSyntax

|                            |   |
|----------------------------|---|
| [values]                   |   |
| <b>DefaultDesktopOnly</b>  | The message box is displayed on the default desktop of the interactive window station. Specifies that the message box is displayed from a windows service application in order to notify the user of an event.                        |
| <b>None</b>                | No options are set.   |
| <b>RightAlign</b>          | The message box text and title bar caption are right-aligned.   |
| <b>RtlReading</b>          | All text, buttons, icons, and title bars are displayed right-to-left.   |
| <b>ServiceNotification</b> | The message box is displayed on the currently active desktop even if a user is not logged on to the computer. Specifies that the message box is displayed from a windows service application in order to notify the user of an event. |

### 6.134 MessageBoxResultSyntax

|               |  |
|---------------|--|
| [values]      |  |
| <b>Cancel</b> | The result value of the message box is Cancel. |
| <b>No</b>     | The result value of the message box is No.     |
| <b>None</b>   | The message box returns no result.             |
| <b>OK</b>     | The result value of the message box is OK.     |
| <b>Yes</b>    | The result value of the message box is Yes.    |

### 6.135 ModifiabilitySyntax

|                     |   |
|---------------------|---|
| [values]            |   |
| <b>Inherit</b>      | Targeted value modifiability is inherited from its parent node. |
| <b>Modifiable</b>   | Targeted value is modifiable by localizers.                     |
| <b>Unmodifiable</b> | Targeted value is not modifiable by localizers.                 |

### 6.136 ModifierKeysSyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                |                           |
|----------------|---------------------------|
| [values]       |                           |
| <b>Alt</b>     | The ALT key.              |
| <b>Control</b> | The CTRL key.             |
| <b>None</b>    | No modifiers are pressed. |
| <b>Shift</b>   | The SHIFT key.            |
| <b>Windows</b> | The Windows logo key.     |

### 6.137 MouseActionSyntax

|                          |                                     |
|--------------------------|-------------------------------------|
| [values]                 |                                     |
| <b>LeftClick</b>         | A left mouse button click.          |
| <b>LeftDoubleClick</b>   | A left mouse button double-click.   |
| <b>MiddleClick</b>       | A middle mouse button click.        |
| <b>MiddleDoubleClick</b> | A middle mouse button double-click. |
| <b>None</b>              | No action.                          |
| <b>RightClick</b>        | A right mouse button click.         |
| <b>RightDoubleClick</b>  | A right mouse button double-click.  |
| <b>WheelClick</b>        | A mouse wheel rotation.             |

### 6.138 MouseButtonStateSyntax

|                 |                         |
|-----------------|-------------------------|
| [values]        |                         |
| <b>Pressed</b>  | The button is pressed.  |
| <b>Released</b> | The button is released. |

### 6.139 MouseButtonSyntax

|                 |                                   |
|-----------------|-----------------------------------|
| [values]        |                                   |
| <b>Left</b>     | The left mouse button.            |
| <b>Middle</b>   | The middle mouse button.          |
| <b>Right</b>    | The right mouse button.           |
| <b>XButton1</b> | The first extended mouse button.  |
| <b>XButton2</b> | The second extended mouse button. |

## 6.140 MouseGestureSyntax

|  |   |
|--|---|
| [patterns]   |   |
| ((CONTROL CTRL SHIFT ALT WINDOWS WIN)\s*\+\s*)*(LEFTCLICK RIGHTCLICK MIDDLECLICK WHEELCLICK LEFTDOUBLECLICK RIGHTDOUBLECLICK MIDDLEDUBLECLICK) | One of the MouseActionSyntax values, optionally preceded by a '+'-delimited sequence from the ModifierKeysSyntax. |

## 6.141 NavigationModeSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>Back</b>    | Navigating back to the most recent content in back navigation history. This occurs when the GoBack method is called.  |
| <b>Forward</b> | Navigating to the most recent content on forward navigation history. This occurs when the GoForward method is called. |
| <b>New</b>     | Navigating to new content. This occurs when the Navigate method is called, or when Source property is set.            |
| <b>Refresh</b> | Reloading the current content. This occurs when the Refresh method is called.   |

## 6.142 NavigationUIVisibilitySyntax

|                  |  |
|------------------|--|
| [values]         |  |
| <b>Automatic</b> | The navigation chrome is visible when a Frame uses its own journal (see JournalOwnership). |
| <b>Hidden</b>    | The navigation chrome is not visible.  |
| <b>Visible</b>   | The navigation chrome is visible.  |

## 6.143 NonClientFrameEdgesSyntax (4.5)

|               |   |
|---------------|---|
| [values]      |   |
| <b>Bottom</b> | The bottom edge is not owned by the client (value = 8). |
| <b>Left</b>   | The left edge is not owned by the client (value = 1).   |
| <b>None</b>   | All edges are owned by the client (value = 0).          |
| <b>Right</b>  | The right edge is not owned by the client (value = 4).  |
| <b>Top</b>    | The top edge is not owned by the client (value = 2).    |

#### 6.144 NumberCultureSourceSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Override</b> | Number culture is derived from the CultureOverride property.   |
| <b>Text</b>     | Default. Number culture is derived from the value of the CultureInfo property, which is the culture of the text run. In markup, this is represented by the xml:lang attribute. |
| <b>User</b>     | Number culture is derived from the culture value of the current thread, which by default is the user default culture.  |

#### 6.145 NumberSubstitutionMethodSyntax

|                       |  |
|-----------------------|--|
| [values]              |  |
| <b>AsCulture</b>      | Default. Specifies that the substitution method should be determined based on the number culture's DigitSubstitution property value.   |
| <b>Context</b>        | If the number culture is an Arabic or Farsi culture, specifies that the digits depend on the context. Either traditional or Latin digits are used depending on the nearest preceding strong character, or, if there is none, the text direction of the paragraph.  |
| <b>European</b>       | Specifies that code points 0x30-0x39 are always rendered as European digits, in which case, no number substitution is performed.   |
| <b>NativeNational</b> | Specifies that numbers are rendered using the national digits for the number culture, as specified by the culture's NativeDigits property value.   |
| <b>Traditional</b>    | Specifies that numbers are rendered using the traditional digits for the number culture. For most cultures, this is the same as the NativeNational enumeration value. However, using NativeNational can result in Latin digits for some Arabic cultures, whereas using Traditional results in Arabic digits for all Arabic cultures. |

#### 6.146 OrientationSyntax

|                   |  |
|-------------------|--|
| [values]          |  |
| <b>Horizontal</b> | Control or layout should be horizontally oriented. |
| <b>Vertical</b>   | Control or layout should be vertically oriented.   |

#### 6.147 OverflowModeSyntax

|                 |   |
|-----------------|---|
| [values]        |   |
| <b>Always</b>   | Item is permanently placed in the overflow panel.                                       |
| <b>AsNeeded</b> | Item moves between the main panel and overflow panel, depending on the available space. |
| <b>Never</b>    | Item is never allowed to overflow.  |

#### 6.148 PageRangeSelectionSyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                            |                                  |
|----------------------------|----------------------------------|
| [values]                   |                                  |
| <b>AllPages</b>            | All pages.                       |
| <b>CurrentPage (4.5)</b>   | The current page.                |
| <b>SelectedPages (4.5)</b> | The selected pages.              |
| <b>UserPages</b>           | A user-specified range of pages. |

### 6.149 PanningModeSyntax

|                        |   |
|------------------------|---|
| [values]               |   |
| <b>Both</b>            | The ScrollViewer scrolls horizontally and vertically.   |
| <b>HorizontalFirst</b> | The ScrollViewer scrolls when the user moves a finger horizontally first. If the user moves the vertically first, the movement is treated as mouse events. After the ScrollViewer begins to scroll, it will scroll horizontally and vertically. |
| <b>HorizontalOnly</b>  | The ScrollViewer scrolls horizontally only.   |
| <b>None</b>            | The ScrollViewer does not respond to touch input.   |
| <b>VerticalFirst</b>   | The ScrollViewer scrolls when the user moves a finger vertically first. If the user moves the horizontally first, the movement is treated as mouse events. After the ScrollViewer begins to scroll, it will scroll horizontally and vertically. |
| <b>VerticalOnly</b>    | The ScrollViewer scrolls vertically only.   |

### 6.150 PathAnimationSourceSyntax

|              |  |
|--------------|--|
| [values]     |  |
| <b>Angle</b> | Specifies the tangent angle of rotation during the progression along an animation sequence path. |
| <b>X</b>     | Specifies the x-coordinate offset during the progression along an animation sequence path.       |
| <b>Y</b>     | Specifies the y-coordinate offset during the progression along an animation sequence path.       |

### 6.151 PathFigureCollectionSyntax

|   |   |
|---|---|
| [patterns]  |   |
| <b>(\s*[mMILhHvVcCsSqQtTaAzZ]\s*((( [+ - ]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][ + - ]?\d+)?)((\s*,\s*) \s+))*([ + - ]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][ + - ]?\d+)?))?)*</b> | A sequence of single letter commands, each followed by a sequence of comma and/or whitespace-separated floating point decimal values. |
| <b>[is case sensitive]</b>  | true  |

### 6.152 PenLineCapSyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Flat</b>     | A cap that does not extend past the last point of the line. Comparable to no line cap.                   |
| <b>Round</b>    | A semicircle that has a diameter equal to the line thickness.  |
| <b>Square</b>   | A rectangle that has a height equal to the line thickness and a length equal to half the line thickness. |
| <b>Triangle</b> | An isosceles right triangle whose base length is equal to the thickness of the line.                     |

### 6.153 PenLineJoinSyntax

|              |                           |
|--------------|---------------------------|
| [values]     |                           |
| <b>Bevel</b> | Beveled vertices.         |
| <b>Miter</b> | Regular angular vertices. |
| <b>Round</b> | Rounded vertices.         |

### 6.154 PixelFormatSyntax

|                          |   |
|--------------------------|---|
| [values]                 |   |
| <b>Default</b>           | The default pixel format. (The meaning of this is context-specific.)                                  |
| <b>[trim whitespace]</b> | false   |
| <b>Extended</b>          | No specific meaning is defined for this value, but individual properties may define a meaning for it. |
| <b>[trim whitespace]</b> | false   |
| <b>Indexed1</b>          | A color-indexed format with 2 entries in the index.   |
| <b>[trim whitespace]</b> | false   |
| <b>Indexed2</b>          | A color-indexed format with 4 entries in the index.   |
| <b>[trim whitespace]</b> | false   |
| <b>Indexed4</b>          | A color-indexed format with 16 entries in the index.  |
| <b>[trim whitespace]</b> | false   |
| <b>Indexed8</b>          | A color-indexed format with 256 entries in the index.   |
| <b>[trim whitespace]</b> | false   |
| <b>BlackWhite</b>        | A 1bpp black and white image.   |



|                              |  |
|------------------------------|--|
| [values]                     |  |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Gray2</b>                 | A monochrome image with 4 levels of brightness.  |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Gray4</b>                 | A monochrome image with 16 levels of brightness.   |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Gray8</b>                 | A monochrome image with 256 levels of brightness.  |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Gray16</b>                | A monochrome image with 65536 levels of brightness.  |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Gray32Float</b>           | A monochrome image with brightness represented as a 32-bit floating point value.   |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Bgr555</b>                | An image in which each pixel is represented by a 16-bit value containing 5 bits of blue, 5 bits of green, then 5 bits of red channel data for each pixel (with one unused bit) |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Bgr565</b>                | An image in which each pixel is represented by a 16-bit value containing 5 bits of blue, 6 bits of green, then 5 bits of red channel data for each pixel                       |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Bgr24</b>                 | An image where each pixel is represented by a 24-bit value comprising a blue, then a green, then a red octet (8-bit byte)  |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Rgb24</b>                 | An image where each pixel is represented by a red, then a green, then a blue octet (8-bit byte)  |
| <b>[trim<br/>whitespace]</b> | false  |
| <b>Bgr101010</b>             | An image with 10 bits each for the blue, green, and red channels.  |
| <b>[trim<br/>whitespace]</b> | false  |

|                          |  |
|--------------------------|--|
| [values]                 |  |
| <b>Bgr32</b>             | An image where each pixel is represented by a 32-bit value comprising a blue, then a green, then a red octet (8-bit byte), with one unused octet per pixel   |
| <b>[trim whitespace]</b> | false  |
| <b>Bgra32</b>            | An image where each pixel is represented by a 32-bit value comprising a blue, then a green, then a red, then an alpha octet (8-bit byte)   |
| <b>[trim whitespace]</b> | false  |
| <b>Pbgra32</b>           | An image where each pixel is represented by a 32-bit value comprising a blue, then a green, then a red, then an alpha octet (8-bit byte), where the red, green, and blue channels are pre-multiplied by the alpha channel. |
| <b>[trim whitespace]</b> | false  |
| <b>Rgb48</b>             | An image with 16 bits each for the red, green, and blue channels.  |
| <b>[trim whitespace]</b> | false  |
| <b>Rgba64</b>            | An image with 16 bits each for the red, green, blue, and alpha channels.   |
| <b>[trim whitespace]</b> | false  |
| <b>Prgba64</b>           | An image with 16 bits each for the red, green, blue, and alpha channels, where the red, green, and blue channels are pre-multiplied by the alpha channel.  |
| <b>[trim whitespace]</b> | false  |
| <b>Rgb128Float</b>       | An image where the red, green, and blue channels are each represented by a 32-bit floating point value, and the pixel size is padded to be 128 bits wide.  |
| <b>[trim whitespace]</b> | false  |
| <b>Rgba128Float</b>      | An image where the red, green, blue, and alpha channels are each represented by a 32-bit floating point value.   |
| <b>[trim whitespace]</b> | false  |
| <b>Prgba128Float</b>     | An image where the red, green, blue, and alpha channels are each represented by a 32-bit floating point value, and the red, green, and blue channels are pre-multiplied by the alpha channel.                              |
| <b>[trim whitespace]</b> | false  |
| <b>Cmyk32</b>            | An image where each pixel is represented by a 32-bit value comprising a cyan, then a magenta, then a yellow, then a black octet.   |
| <b>[trim]</b>            | false  |

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>whitespace]</b> |  |

## 6.155 PlacementModeSyntax

|                      |  |
|----------------------|--|
| [values]             |  |
| <b>Absolute</b>      | A position of the Popup control relative to the upper-left corner of the screen and at an offset that is defined by the HorizontalOffset and VerticalOffset property values. If the screen edge obscures the Popup, the control then repositions itself to align with the edge.  |
| <b>AbsolutePoint</b> | A position of the Popup control relative to the upper-left corner of the screen and at an offset that is defined by the HorizontalOffset and VerticalOffset property values. If the screen edge obscures the Popup, the control extends in the opposite direction from the axis defined by the HorizontalOffset or VerticalOffset.   |
| <b>Bottom</b>        | A position of the Popup control where the control aligns its upper edge with the lower edge of the PlacementTarget and aligns its left edge with the left edge of the PlacementTarget. If the lower screen-edge obscures the Popup, the control repositions itself so that its lower edge aligns with the upper edge of the PlacementTarget. If the upper screen-edge obscures the Popup, the control then repositions itself so that its upper edge aligns with the upper screen-edge.  |
| <b>Center</b>        | A position of the Popup control where it is centered over the PlacementTarget. If a screen edge obscures the Popup, the control repositions itself to align with the screen edge.  |
| <b>Left</b>          | A Popup control that aligns its right edge with the left edge of the PlacementTarget and aligns its upper edge with the upper edge of the PlacementTarget. If the left screen-edge obscures the Popup, the Popup repositions itself so that its left edge aligns with the right edge of the PlacementTarget. If the right screen-edge obscures the Popup, the right edge of the control aligns with the right screen-edge. If the upper or lower screen-edge obscures the Popup, the control repositions itself to align with the obscuring screen edge. |
| <b>Mouse</b>         | A position of the Popup control that aligns its upper edge with the lower edge of the bounding box of the mouse and aligns its left edge with the left edge of the bounding box of the mouse. If the lower screen-edge obscures the Popup, it repositions itself to align with the upper edge of the bounding box of the mouse. If the upper screen-edge obscures the Popup, the control repositions itself to align with the upper screen-edge.   |
| <b>MousePoint</b>    | A position of the Popup control relative to the tip of the mouse cursor and at an offset that is defined by the HorizontalOffset and VerticalOffset property values. If a horizontal or vertical screen edge obscures the Popup, it opens in the opposite direction from the obscuring edge. If the opposite screen edge also obscures the Popup, it then aligns with the obscuring screen edge.   |
| <b>Relative</b>      | A position of the Popup control relative to the upper-left corner of the PlacementTarget and at an offset that is defined by the HorizontalOffset and VerticalOffset property values. If the screen edge obscures the Popup, the control repositions itself to align with the screen edge.   |
| <b>RelativePoint</b> | A position of the Popup control relative to the upper-left corner of the PlacementTarget and at an offset that is defined by the HorizontalOffset and VerticalOffset property values. If a screen edge obscures the Popup, the Popup extends in the opposite direction from the direction from the axis defined by the HorizontalOffset or VerticalOffset. If the opposite screen edge also obscures the Popup, the control then   |

|              |  |
|--------------|--|
| [values]     |  |
|              | aligns with this screen edge.  |
| <b>Right</b> | A position of the Popup control that aligns its left edge with the right edge of the PlacementTarget and aligns its upper edge with the upper edge of the PlacementTarget. If the right screen-edge obscures the Popup, the control repositions itself so that its left edge aligns with the left edge of the PlacementTarget. If the left screen-edge obscures the Popup, the control repositions itself so that its left edge aligns with the left screen-edge. If the upper or lower screen-edge obscures the Popup, the control then repositions itself to align with the obscuring screen edge. |
| <b>Top</b>   | A position of the Popup control that aligns its lower edge with the upper edge of the PlacementTarget and aligns its left edge with the left edge of the PlacementTarget. If the upper screen-edge obscures the Popup, the control repositions itself so that its upper edge aligns with the lower edge of the PlacementTarget. If the lower screen-edge obscures the Popup, the lower edge of the control aligns with the lower screen-edge. If the left or right screen-edge obscures the Popup, it then repositions itself to align with the obscuring screen.                                    |

### 6.156 PngInterlaceOptionSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>Default</b> | The PngBitmapEncoder determines whether the image should be interlaced. |
| <b>Off</b>     | The resulting bitmap image is not interlaced.                           |
| <b>On</b>      | The resulting bitmap image is interlaced.                               |

### 6.157 Point3DCollectionSyntax

|  |  |
|--|--|
| [patterns]   |  |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)(((\s*,\s*) \s+))([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)?){2}(((\s*,\s*) \s+))([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)?){3})*</code> | Sequence of decimal floating point values, separated by either a comma or whitespace. The number of values in the sequence is a multiple of three. |
| <b>[is case sensitive]</b>   | true   |

### 6.158 Point3DSyntax

|   |   |
|---|---|
| [patterns]  |   |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){2}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)?)</code> | Three decimal floating point values, separated by either a comma or whitespace. |
| <b>[is case sensitive]</b>  | true  |

### 6.159 Point4DSyntax

|            |  |
|------------|--|
| [patterns] |  |
|------------|--|

|   |  |
|---|--|
| [patterns]  |  |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){3}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code> | Four decimal floating point values, separated by either a comma or whitespace. |
| [is case sensitive]   | true   |

### 6.160 PointCollectionSyntax

|   |  |
|---|--|
| [patterns]  |  |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)){2}*</code> | Sequence of decimal floating point values, separated by either a comma or whitespace. The number of values in the sequence is a multiple of two. |
| [is case sensitive]   | true   |

### 6.161 PointSyntax

|   |   |
|---|---|
| [patterns]  |   |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code> | Two decimal floating point values, separated by either a comma or whitespace. |
| [is case sensitive]   | true  |

### 6.162 PopupAnimationSyntax

|               |  |
|---------------|--|
| [values]      |  |
| <b>Fade</b>   | The Popup control gradually appears, or fades in. This effect is created by increasing the opacity of the Popup window over time.  |
| <b>None</b>   | The Popup control appears without animation.   |
| <b>Scroll</b> | The Popup control scrolls from the upper-left corner of its parent. If the screen does not provide enough room to allow the Popup default behavior, the Popup scrolls from the lower-right corner instead. |
| <b>Slide</b>  | The Popup control slides down or up into place. By default, a Popup slides down. However, if the screen does not provide enough room for the Popup to slide down, it slides up instead.                    |

### 6.163 PopupPrimaryAxisSyntax

|                   |   |
|-------------------|---|
| [values]          |   |
| <b>Horizontal</b> | A Popup control changes position by moving along the horizontal axis of the screen before moving along the vertical axis. |
| <b>None</b>       | A Popup control changes position according to default Popup behavior.   |
| <b>Vertical</b>   | A Popup control changes position by moving along the vertical axis of the screen before                                   |

|          |                                   |
|----------|-----------------------------------|
| [values] |                                   |
|          | moving along the horizontal axis. |

#### 6.164 PowerLineStatusSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Offline</b> | The system power is not on.                          |
| <b>Online</b>  | The system power is on.                              |
| <b>Unknown</b> | The status of the system power cannot be determined. |

#### 6.165 PresentationTraceLevelSyntax

|               |   |
|---------------|---|
| [values]      |   |
| <b>High</b>   | Traces all additional information.                |
| <b>Low</b>    | Traces some additional information.               |
| <b>Medium</b> | Traces a medium amount of additional information. |
| <b>None</b>   | Traces no available additional information.       |

#### 6.166 PropertyPathSyntax

|                            |  |
|----------------------------|--|
| [patterns]                 |  |
| <b>.*</b>                  | Property paths have a syntax that involves balanced parentheses and balanced square brackets, and so it cannot be represented as a regular expression. The syntax takes the form of a list of property identifiers each separated by either a . or a /. Each property identifier is either an alphanumeric string of characters, or a sequence of characters enclosed in parentheses. Each property may optionally be followed by one or more square-bracket-enclosed alphanumeric strings. Examples: Property Property.More.Properties MyCollection[100] MyHashTable[foo].Bar Multi[10][20] Prop.Coll/Foo[10] |
| <b>[is case sensitive]</b> | true   |

#### 6.167 QuaternionSyntax

|                 |                         |
|-----------------|-------------------------|
| [values]        |                         |
| <b>Identity</b> | The Identity quaternion |

#### 6.168 ReadabilitySyntax

|                 |   |
|-----------------|---|
| [values]        |   |
| <b>Inherit</b>  | Targeted value readability is inherited from its parent node. |
| <b>Readable</b> | Targeted value is readable text.                              |

|                   |                                 |
|-------------------|---------------------------------|
| [values]          |                                 |
| <b>Unreadable</b> | Targeted value is not readable. |

### 6.169 ReasonSessionEndingSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Logoff</b>   | The session is ending because the user is logging off.           |
| <b>Shutdown</b> | The session is ending because the user is shutting down Windows. |

### 6.170 RecognitionConfidenceSyntax

|                     |  |
|---------------------|--|
| [values]            |  |
| <b>Intermediate</b> | Indicates intermediate confidence in the recognition result. |
| <b>Poor</b>         | Indicates poor confidence in the recognition result.         |
| <b>Strong</b>       | Indicates strong confidence in the recognition result.       |

### 6.171 Rect3DSyntax

|  |   |
|--|---|
| [values]   |   |
| <b>Empty</b>   | Equivalent to a value of "0,0,0,0,0,0"  |
| <b>[is case sensitive]</b>   | true  |
| <b>[patterns]</b>  |   |
| <pre> ((( [+ - ] ? ( ( \d + ( \. \d * ) ? )   ( \d * \. \d + ) ) ( [ e E ] [ + - ] ? \d + ) ? ) ( ( \s * , \s * )   \s + ) ) { 3 } ( ( \+ ? ( ( \d + ( \. \d * ) ? )   ( \d * \. \d + ) ) ( [ e E ] [ + - ] ? \d + ) ? ) ( ( \s * , \s * )   \s + ) ) { 2 } ( \+ ? ( ( \d + ( \. \d * ) ? )   ( \d * \. \d + ) ) ( [ e E ] [ + - ] ? \d + ) ? ) </pre> | Six decimal floating point values, separated by either a comma or whitespace. The last three digits must not be negative. |
| <b>[is case sensitive]</b>   | true  |

### 6.172 RectSyntax

|                            |                                    |
|----------------------------|------------------------------------|
| [values]                   |                                    |
| <b>Empty</b>               | Equivalent to a value of "0,0,0,0" |
| <b>[is case sensitive]</b> | true                               |

|  |  |
|--|--|
| [values]   |  |
| <b>[patterns]</b>  |  |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){2}((\+?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+))(\+?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code> | Four decimal floating point values, separated by either a comma or whitespace. The last two digits must not be negative. |
| <b>[is case sensitive]</b>   | true   |

### 6.173 RelativeSourceModeSyntax

|                        |  |
|------------------------|--|
| [values]               |  |
| <b>FindAncestor</b>    | Refers to the ancestor in the parent chain of the data-bound element. You can use this to bind to an ancestor of a specific type or its subtypes. This is the mode you use if you want to specify AncestorType and/or AncestorLevel. |
| <b>PreviousData</b>    | Allows you to bind the previous data item (not that control that contains the data item) in the list of data items being displayed.  |
| <b>Self</b>            | Refers to the element on which you are setting the binding and allows you to bind one property of that element to another property on the same element.  |
| <b>TemplatedParent</b> | Refers to the element to which the template (in which the data-bound element exists) is applied. This is similar to setting a TemplateBindingExtension and is only applicable if the Binding is within a template.                   |

### 6.174 RenderingBiasSyntax

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>Performance</b> | The rendering system emphasizes performance. |
| <b>Quality</b>     | The rendering system emphasizes quality.     |

### 6.175 RepeatBehaviorSyntax

|  |  |
|--|--|
| [values]   |  |
| <b>Forever</b>   | Indicates that an animation should repeat indefinitely.  |
| <b>[is case sensitive]</b>   | true   |
| <b>[patterns]</b>  |  |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)?x</code> | A decimal floating point number followed by an 'x'. Indicates that the animation should repeat the specified number of times. Example: 2x Repeat twice 4.5x Repeat four and a half times |



|   |   |
|---|---|
| [values]  |   |
| <b>[is case sensitive]</b>                                    | true  |
| <b>(\\d+\\.)?\\d\\d?:\\d\\d?:((\\d\\d?)(\\d?\\d?\\.\\d*))</b> | The string may optionally begin with a decimal number and a dot. When present, this optional part indicates the number of days. The string always contains three parts separated by colons. The first two of these are one or two digit numbers specifying hours and minutes. The third part indicates the number of seconds and can be a two-digit integer, or a floating point number with 0, 1, or 2 digits before the point, and any number of digits after the point. Examples:<br>0:0:1 Repeat for one second 1.0:0:0 Repeat for one day 0:0:0.5 Repeat for half a second 0:0:.5 Repeat for half a second 2.5:2:22 Repeat for two days, five hours, two minutes, 22 seconds |
| <b>[is case sensitive]</b>                                    | true  |
| <b>\\d+</b>   | A decimal number specifying the number of days. Examples: 1 Repeat for one day 10 Repeat for ten days   |
| <b>[is case sensitive]</b>                                    | true  |

### 6.176 RequestCachePolicySyntax

|                             |  |
|-----------------------------|--|
| [values]                    |  |
| <b>BypassCache</b>          | Satisfies a request by using the server. No entries are taken from caches, added to caches, or removed from caches between the client and server. No entries are taken from caches, added to caches, or removed from caches between the client and server. This is the default cache behavior specified in the machine configuration file that ships with the. |
| <b>CacheIfAvailable</b>     | Satisfies a request for a resource from the cache if the resource is available; otherwise, sends a request for a resource to the server. If the requested item is available in any cache between the client and the server, the request might be satisfied by the intermediate cache.  |
| <b>CacheOnly</b>            | Satisfies a request using the locally cached resource; does not send a request for an item that is not in the cache. When this cache policy level is specified, a WebException exception is thrown if the item is not in the client cache.   |
| <b>CacheOrNextCacheOnly</b> | Satisfies a request for a resource either from the local computer's cache or a remote cache on the local area network. If the request cannot be satisfied, a WebException exception is thrown. In the HTTP caching protocol, this is achieved using the only-if-cached cache control directive.  |
| <b>Default</b>              | Satisfies a request for a resource either by using the cached copy of the resource or by sending a request for the resource to the server. The action taken is determined by the current cache policy and the age of the content in the cache. This is the cache level that should be used by most applications.   |
| <b>NoCacheNoStore</b>       | Never satisfies a request by using resources from the cache and does not cache resources. If the resource is present in the local cache, it is removed. This policy level indicates to intermediate caches that they should remove the   |

|                   |   |
|-------------------|---|
| [values]          |   |
|                   | resource. In the HTTP caching protocol, this is achieved using the no-cache cache control directive.  |
| <b>Refresh</b>    | Satisfies a request by using the server or a cache other than the local cache. Before the request can be satisfied by an intermediate cache, that cache must revalidate its cached entry with the server. In the HTTP caching protocol, this is achieved using the max-age = 0 cache control directive and the no-cache Pragma header.              |
| <b>Reload</b>     | Satisfies a request by using the server. The response might be saved in the cache. In the HTTP caching protocol, this is achieved using the no-cache cache control directive and the no-cache Pragma header.  |
| <b>Revalidate</b> | Compares the copy of the resource in the cache with the copy on the server. If the copy on the server is newer, it is used to satisfy the request and replaces the copy in the cache. If the copy in the cache is the same as the server copy, the cached copy is used. In the HTTP caching protocol, this is achieved using a conditional request. |

### 6.177 ResizeGripDirectionSyntax (4.5)

|                    |  |
|--------------------|--|
| [values]           |  |
| <b>Bottom</b>      | The window resizes from its bottom edge.         |
| <b>BottomLeft</b>  | The window resizes from its bottom-left corner.  |
| <b>BottomRight</b> | The window resizes from its bottom-right corner. |
| <b>Left</b>        | The windows resizes from its left edge.          |
| <b>None</b>        | No resize behavior is specified.                 |
| <b>Right</b>       | The window resizes from its right edge.          |
| <b>Top</b>         | The window resizes from its top edge.            |
| <b>TopLeft</b>     | The window resizes from its top-left corner.     |
| <b>TopRight</b>    | The window resizes from its top-right corner.    |

### 6.178 ResizeModeSyntax

|                          |  |
|--------------------------|--|
| [values]                 |  |
| <b>CanMinimize</b>       | A window can only be minimized and restored. The Minimize and Maximize buttons are both shown, but only the Minimize button is enabled.                |
| <b>CanResize</b>         | A window can be resized. The Minimize and Maximize buttons are both shown and enabled.   |
| <b>CanResizeWithGrip</b> | A window can be resized. The Minimize and Maximize buttons are both shown and enabled. A resize grip appears in the bottom-right corner of the window. |
| <b>NoResize</b>          | A window cannot be resized. The Minimize and Maximize buttons are not displayed in the title bar.  |

### 6.179 ResourceDictionaryLocationSyntax

|                         |   |
|-------------------------|---|
| [values]                |   |
| <b>ExternalAssembly</b> | Theme dictionaries exist in assemblies external to the one defining the types being themed. |
| <b>None</b>             | No theme dictionaries exist.  |
| <b>SourceAssembly</b>   | Theme dictionaries exist in the assembly that defines the types being themed.               |

### 6.180 RestoreFocusModeSyntax

|             |  |
|-------------|--|
| [values]    |  |
| <b>Auto</b> | WPF automatically tries to restore focus to the element that last had focus. |
| <b>None</b> | WPF does not restore focus.  |

### 6.181 RibbonApplicationMenuItemLevelSyntax (4.5)

|               |   |
|---------------|---|
| [values]      |   |
| <b>Middle</b> | The menu item is displayed in the middle level. |
| <b>Sub</b>    | The menu item is displayed in the lowest level. |
| <b>Top</b>    | The menu item is displayed in the top level.    |

### 6.182 RibbonControlLengthSyntax (4.5)

|             |   |
|-------------|---|
| [values]    |   |
| <b>Auto</b> | A RibbonControlLength structure that represents the standard automatic sizing mode. |

### 6.183 RibbonControlLengthUnitTypeSyntax (4.5)

|              |  |
|--------------|--|
| [values]     |  |
| <b>Auto</b>  | The sizing method is not specified.                                  |
| <b>Item</b>  | The size is a fixed value expressed in the number of child elements. |
| <b>Pixel</b> | The size is a fixed value expressed in pixels.                       |
| <b>Star</b>  | The size is a weighted proportion of the available space.            |

### 6.184 RibbonDismissPopupModeSyntax (4.5)

|                               |  |
|-------------------------------|--|
| [values]                      |  |
| <b>Always</b>                 | All drop-downs in a chain are closed.  |
| <b>MousePhysicallyNotOver</b> | Drop-downs in a chain are closed up to the one that the mouse pointer is over. |

### 6.185 RibbonImageSizeSyntax (4.5)

|                  |                           |
|------------------|---------------------------|
| [values]         |                           |
| <b>Collapsed</b> | The image is collapsed.   |
| <b>Large</b>     | The large image is shown. |
| <b>Small</b>     | The small image is shown. |

### 6.186 RibbonSplitButtonLabelPositionSyntax (4.5)

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>DropDown</b> | Indicates that the label should be positioned in the drop-down section of the RibbonSplitButton. |
| <b>Header</b>   | Indicates that the label should be positioned in the header section of the RibbonSplitButton.    |

### 6.187 RotationSyntax

|                  |   |
|------------------|---|
| [values]         |   |
| <b>Rotate0</b>   | The bitmap is not rotated. This is the default value. |
| <b>Rotate180</b> | Rotate the bitmap clockwise by 180 degrees.           |
| <b>Rotate270</b> | Rotate the bitmap clockwise by 270 degrees.           |
| <b>Rotate90</b>  | Rotate the bitmap clockwise by 90 degrees.            |

### 6.188 RoutedEventSyntax

|  |  |
|--|--|
| [patterns]   |  |
| <code>([_\p{L}][-\w]*:)?([\p{Lu}\p{Li}\p{Lo}\p{Lt}\p{NI}][_\p{L}\p{Mn}\p{Mc}\p{Nd}]\p{NI})*\.[_\p{Lu}\p{Li}\p{Lo}\p{Lt}\p{NI}][_\p{L}\p{Mn}\p{Mc}\p{Nd}\p{NI}]*</code> | Either a string of the form namespacePrefix:TypeName.EventName, or a string of the form TypeName.PropertyName. |
| <b>[is case sensitive]</b>   | true   |

### 6.189 RoutingStrategySyntax

|               |   |
|---------------|---|
| [values]      |   |
| <b>Bubble</b> | The routed event uses a bubbling strategy, where the event instance routes upwards through the tree, from event source to root.                               |
| <b>Direct</b> | The routed event does not route through an element tree, but does support other routed event capabilities such as type handling, EventTrigger or EventSetter. |

|               |  |
|---------------|--|
| [values]      |  |
| <b>Tunnel</b> | The routed event uses a tunneling strategy, where the event instance routes downwards through the tree, from root to source element. |

### 6.190 SamplingModeSyntax

|                        |  |
|------------------------|--|
| [values]               |  |
| <b>Auto</b>            | The system selects the most appropriate sampling mode. |
| <b>Bilinear</b>        | Use bilinear sampling.                                 |
| <b>NearestNeighbor</b> | Use nearest neighbor sampling.                         |

### 6.191 ScrollBarVisibilitySyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Auto</b>     | A ScrollBar appears and the dimension of the ScrollViewer is applied to the content when the viewport cannot display all of the content. For a horizontal ScrollBar, the width of the content is set to the ViewportWidth of the ScrollViewer. For a vertical ScrollBar, the height of the content is set to the ViewportHeight of the ScrollViewer.   |
| <b>Disabled</b> | A ScrollBar does not appear even when the viewport cannot display all of the content. The dimension of the content is set to the corresponding dimension of the ScrollViewer parent. For a horizontal ScrollBar, the width of the content is set to the ViewportWidth of the ScrollViewer. For a vertical ScrollBar, the height of the content is set to the ViewportHeight of the ScrollViewer. |
| <b>Hidden</b>   | A ScrollBar does not appear even when the viewport cannot display all of the content. The dimension of the ScrollViewer is not applied to the content.   |
| <b>Visible</b>  | A ScrollBar always appears. The dimension of the ScrollViewer is applied to the content. For a horizontal ScrollBar, the width of the content is set to the ViewportWidth of the ScrollViewer. For a vertical ScrollBar, the height of the content is set to the ViewportHeight of the ScrollViewer.   |

### 6.192 ScrollEventTypeSyntax

|                       |  |
|-----------------------|--|
| [values]              |  |
| <b>EndScroll</b>      | The Thumb was dragged to a new position and is now no longer being dragged by the user.  |
| <b>First</b>          | The Thumb moved to the Minimum position of the ScrollBar. For a vertical ScrollBar, this movement occurs when the CTRL+HOME keys are pressed. This movement corresponds to a ScrollToTopCommand in a vertical ScrollBar and a ScrollToLeftEndCommand in a horizontal ScrollBar.  |
| <b>LargeDecrement</b> | The Thumb moved a specified distance, as determined by the value of LargeChange, to the left for a horizontal ScrollBar or upward for a vertical ScrollBar. For a vertical ScrollBar, this movement occurs when the page button that is above the Thumb is pressed, or when the PAGE UP key is pressed, and corresponds to a PageUpCommand. For a horizontal ScrollBar, this movement occurs when the page button to the left of the Thumb is pressed, and corresponds to a PageLeftCommand. |

|                       |   |
|-----------------------|---|
| [values]              |   |
| <b>LargeIncrement</b> | The Thumb moved a specified distance, as determined by the value of LargeChange, to the right for a horizontal ScrollBar or downward for a vertical ScrollBar. For a vertical ScrollBar, this movement occurs when the page button that is below the Thumb is pressed, or when the PAGE DOWN key is pressed, and corresponds to a PageDownCommand. For a horizontal ScrollBar, this movement occurs when the page button to the right of the Thumb is pressed, and corresponds to a PageRightCommand. |
| <b>Last</b>           | The Thumb moved to the Maximum position of the ScrollBar. For a vertical ScrollBar, this movement occurs when the CTRL+END keys are pressed. This movement corresponds to a ScrollToEndCommand in a vertical ScrollBar and a ScrollToRightEndCommand in a horizontal ScrollBar.   |
| <b>SmallDecrement</b> | The Thumb moved a small distance, as determined by the value of SmallChange, to the left for a horizontal ScrollBar or upward for a vertical ScrollBar. For a vertical ScrollBar, this movement occurs when the upper RepeatButton is pressed or when the UP ARROW key is pressed, and corresponds to a LineUpCommand. For a horizontal ScrollBar, this movement occurs when the left RepeatButton is pressed, and corresponds to a LineLeftCommand.  |
| <b>SmallIncrement</b> | The Thumb moved a small distance, as determined by the value of SmallChange, to the right for a horizontal ScrollBar or downward for a vertical ScrollBar. For a vertical ScrollBar, this movement occurs when the lower RepeatButton is pressed or when the DOWN ARROW key is pressed, and corresponds to a LineDownCommand. For a horizontal ScrollBar, this movement occurs when the right RepeatButton is pressed, and corresponds to a LineRightCommand.   |
| <b>ThumbPosition</b>  | The Thumb moved to a new position because the user selected Scroll Here in the shortcut menu of the ScrollBar. This movement corresponds to the ScrollHereCommand. To view the shortcut menu, right-click the mouse when the pointer is over the ScrollBar.   |
| <b>ThumbTrack</b>     | The Thumb was dragged and caused a MouseMove event. A Scroll event of this ScrollEventType may occur more than one time when the Thumb is dragged in the ScrollBar.   |

### 6.193 ScrollUnitSyntax (4.5)

|              |   |
|--------------|---|
| [values]     |   |
| <b>Item</b>  | The ScrollUnit is measured in terms of the items that are displayed in the panel.       |
| <b>Pixel</b> | The ScrollUnit is measured in terms of device-independent units (1/96th inch per unit). |

### 6.194 SelectionModeSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Extended</b> | The user can select multiple consecutive items while holding down the SHIFT key. |
| <b>Multiple</b> | The user can select multiple items without holding down a modifier key.          |
| <b>Single</b>   | The user can select only one item at a time.                                     |

### 6.195 SelectiveScrollingOrientationSyntax

|                   |  |
|-------------------|--|
| [values]          |  |
| <b>Both</b>       | The panel scrolls in both the horizontal and vertical direction. |
| <b>Horizontal</b> | The panel scrolls in the horizontal direction only.              |
| <b>None</b>       | The panel does not scroll.                                       |
| <b>Vertical</b>   | The panel scrolls in the vertical direction only.                |

### 6.196 ShaderRenderModeSyntax

|                     |  |
|---------------------|--|
| [values]            |  |
| <b>Auto</b>         | Allow hardware and software rendering.             |
| <b>HardwareOnly</b> | Require hardware rendering, ignore if unavailable. |
| <b>SoftwareOnly</b> | Force software rendering.                          |

### 6.197 ShutdownModeSyntax

|                           |  |
|---------------------------|--|
| [values]                  |  |
| <b>OnExplicitShutdown</b> | An application shuts down only when Shutdown is called.                              |
| <b>OnLastWindowClose</b>  | An application shuts down when either the last window closes, or Shutdown is called. |
| <b>OnMainWindowClose</b>  | An application shuts down when either the main window closes, or Shutdown is called. |

### 6.198 Size3DSyntax

|   |   |
|---|---|
| [values]  |   |
| <b>Empty</b>  | Equivalent to a value of "0,0,0"  |
| <b>[is case sensitive]</b>  | true  |
| <b>[patterns]</b>   |   |
| <code>((\+?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){2}(\+?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code> | Three decimal floating point values, separated by either a comma or whitespace. |
| <b>[is case sensitive]</b>  | true  |

## 6.199 SizeSyntax

|   |   |
|---|---|
| [values]  |   |
| <b>Empty</b>  | Equivalent to a value of "0,0"  |
| [is case sensitive]   | true  |
| [patterns]  |   |
| (\+?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)(\+?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?) | Two decimal floating point values, separated by either a comma or whitespace. |
| [is case sensitive]   | true  |

## 6.200 SizeToContentSyntax

|                       |   |
|-----------------------|---|
| [values]              |   |
| <b>Height</b>         | Specifies that a window will automatically set its height to fit the height of its content, but not the width.  |
| <b>Manual</b>         | Specifies that a window will not automatically set its size to fit the size of its content. Instead, the size of a window is determined by other properties, including Width, Height, MaxWidth, MaxHeight, MinWidth, and MinHeight. |
| <b>Width</b>          | Specifies that a window will automatically set its width to fit the width of its content, but not the height.   |
| <b>WidthAndHeight</b> | Specifies that a window will automatically set both its width and height to fit the width and height of its content.  |

## 6.201 SlipBehaviorSyntax

|             |   |
|-------------|---|
| [values]    |   |
| <b>Grow</b> | Indicates that a ParallelTimeline will not slip with the child Timeline, but will expand to fit all slipping Timeline children. NOTE: This is only effective when the Duration of the ParallelTimeline is not explicitly specified. |
| <b>Slip</b> | Indicates that a ParallelTimeline will slip along with its first child Timeline that can slip whenever that child is delayed or accelerated..   |

## 6.202 SpeechModeSyntax

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>Command</b>       | Speech input is interpreted as commands.  |
| <b>Dictation</b>     | Speech input is interpreted as dictation. |
| <b>Indeterminate</b> | Speech input mode is indeterminate.       |



### 6.203 SpellingReformSyntax

|                         |  |
|-------------------------|--|
| [values]                |  |
| <b>Postreform</b>       | Use spelling rules from after the spelling reform.                 |
| <b>PreAndPostreform</b> | Use spelling rules from both before and after the spelling reform. |
| <b>Prereform</b>        | Use spelling rules from before the spelling reform.                |

### 6.204 StickyNoteTypeSyntax

|             |                     |
|-------------|---------------------|
| [values]    |                     |
| <b>Ink</b>  | An ink sticky note. |
| <b>Text</b> | A text sticky note. |

### 6.205 StretchDirectionSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Both</b>     | The content stretches to fit the parent according to the Stretch mode.   |
| <b>DownOnly</b> | The content scales downward only when it is larger than the parent. If the content is smaller, no scaling upward is performed. |
| <b>UpOnly</b>   | The content scales upward only when it is smaller than the parent. If the content is larger, no scaling downward is performed. |

### 6.206 StretchSyntax

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>Fill</b>          | The content is resized to fill the destination dimensions. The aspect ratio is not preserved.   |
| <b>None</b>          | The content preserves its original size.  |
| <b>Uniform</b>       | The content is resized to fit in the destination dimensions while it preserves its native aspect ratio.   |
| <b>UniformToFill</b> | The content is resized to fill the destination dimensions while it preserves its native aspect ratio. If the aspect ratio of the destination rectangle differs from the source, the source content is clipped to fit in the destination dimensions. |

### 6.207 StringCollectionSyntax

|                                 |   |
|---------------------------------|---|
| <b>StringComparisonSyntax</b>   |   |
| [values]                        |   |
| <b>CurrentCulture</b>           | Compare strings using culture-sensitive sort rules and the current culture. |
| <b>CurrentCultureIgnoreCase</b> | Compare strings using culture-sensitive sort rules, the current culture,    |

|                                   |   |
|-----------------------------------|---|
| <b>StringComparisonSyntax</b>     |   |
|                                   | and ignoring the case of the strings being compared.  |
| <b>InvariantCulture</b>           | Compare strings using culture-sensitive sort rules and the invariant culture.   |
| <b>InvariantCultureIgnoreCase</b> | Compare strings using culture-sensitive sort rules, the invariant culture, and ignoring the case of the strings being compared. |
| <b>Ordinal</b>                    | Compare strings using ordinal sort rules.   |
| <b>OrdinalIgnoreCase</b>          | Compare strings using ordinal sort rules and ignoring the case of the strings being compared.                                   |

### 6.208 StrokeCollectionSyntax

|                            |                  |
|----------------------------|------------------|
| [patterns]                 |                  |
| <b>[A-Za-z0-9+ /]*</b>     | A base64 string. |
| <b>[is case sensitive]</b> | true             |

### 6.209 StyleSimulationsSyntax

|                             |                                   |
|-----------------------------|-----------------------------------|
| [values]                    |                                   |
| <b>BoldItalicSimulation</b> | Bold and Italic style simulation. |
| <b>BoldSimulation</b>       | Bold style simulation.            |
| <b>ItalicSimulation</b>     | Italic style simulation.          |
| <b>None</b>                 | No font style simulation.         |

### 6.210 StylusButtonStateSyntax

|             |                             |
|-------------|-----------------------------|
| [values]    |                             |
| <b>Down</b> | The button is pressed down. |
| <b>Up</b>   | The button is up.           |

### 6.211 StylusPointPropertyUnitSyntax

|                    |   |
|--------------------|---|
| [values]           |   |
| <b>Centimeters</b> | Indicates that a StylusPoint property is measured in centimeters.     |
| <b>Degrees</b>     | Indicates that a StylusPoint property is measured in degrees.         |
| <b>Grams</b>       | Indicates that a StylusPoint property is measured in grams.           |
| <b>Inches</b>      | Indicates that a StylusPoint property is measured in inches.          |
| <b>None</b>        | Indicates that a StylusPoint property's measurement is not specified. |

|                |   |
|----------------|---|
| [values]       |   |
| <b>Pounds</b>  | Indicates that a StylusPoint property is measured in pounds.  |
| <b>Radians</b> | Indicates that a StylusPoint property is measured in radians. |
| <b>Seconds</b> | Indicates that a StylusPoint property is measured in seconds. |

### 6.212 StylusTipSyntax

|                  |                                    |
|------------------|------------------------------------|
| [values]         |                                    |
| <b>Ellipse</b>   | Represents an ellipse-shaped tip.  |
| <b>Rectangle</b> | Represents a rectangle-shaped tip. |

### 6.213 SweepDirectionSyntax

|                         |  |
|-------------------------|--|
| [values]                |  |
| <b>Clockwise</b>        | Specifies that arcs are drawn in a clockwise (positive-angle) direction.         |
| <b>Counterclockwise</b> | Specifies that arcs are drawn in a counter clockwise (negative-angle) direction. |

### 6.214 SystemGestureSyntax

|                   |   |
|-------------------|---|
| [values]          |   |
| <b>Drag</b>       | Maps to a left drag on a mouse.   |
| <b>Flick</b>      | Occurs with a short, quick stroke that translates into a specific command. The action taken by a flick is set system-wide. An application can listen for a Flick and prevent it from becoming one of the standard ApplicationCommands by setting the Handled property to true in the StylusSystemGesture event. |
| <b>HoldEnter</b>  | Indicates that press and hold has occurred.   |
| <b>HoldLeave</b>  |   |
| <b>HoverEnter</b> | Maps to a mouse hover. This can be used to show ToolTip rollover effects, or other mouse hover behaviors.   |
| <b>HoverLeave</b> | Maps to a mouse leaving a hover. This can be used to end ToolTip rollover effects or other mouse hover behaviors.   |
| <b>None</b>       | No system gesture.  |
| <b>RightDrag</b>  | Maps to a right drag on a mouse. This can be used to drag an object or selection to a different area and is followed by the appearance of the shortcut menu which provides options for moving the object.   |
| <b>RightTap</b>   | Maps to a right-click on a mouse. This can be used to show a shortcut menu.   |
| <b>Tap</b>        | Maps to a left-click on a mouse. This can be used to choose a command from the menu or toolbar, take action if a command is chosen, set an insertion point, or show selection feedback.   |

|                     |                                    |
|---------------------|------------------------------------|
| [values]            |                                    |
| <b>TwoFingerTap</b> | Maps to a double-click of a mouse. |

### 6.215 TabletDeviceTypeSyntax

|               |  |
|---------------|--|
| [values]      |  |
| <b>Stylus</b> | Indicates the tablet device is a stylus.       |
| <b>Touch</b>  | Indicates the tablet device is a touch screen. |

### 6.216 TabletHardwareCapabilitiesSyntax

|                             |  |
|-----------------------------|--|
| [values]                    |  |
| <b>HardProximity</b>        | Indicates the tablet device can generate in-air packets when the stylus is in the physical detection range (proximity) of the tablet device. |
| <b>Integrated</b>           | Indicates the digitizer is integrated with the display.  |
| <b>None</b>                 | Indicates the tablet device cannot provide this information.   |
| <b>StylusHasPhysicalIds</b> | Indicates the tablet device can uniquely identify the active stylus.   |
| <b>StylusMustTouch</b>      | Indicates the stylus must be in physical contact with the tablet device to report its position.  |
| <b>SupportsPressure</b>     | Indicates that the tablet device can detect the amount of pressure the user applies when using the stylus.                                   |

### 6.217 TaskbarItemProgressStateSyntax

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>Error</b>         | A red progress indicator is displayed in the taskbar button.    |
| <b>Indeterminate</b> | A pulsing green indicator is displayed in the taskbar button.   |
| <b>None</b>          | No progress indicator is displayed in the taskbar button.       |
| <b>Normal</b>        | A green progress indicator is displayed in the taskbar button.  |
| <b>Paused</b>        | A yellow progress indicator is displayed in the taskbar button. |

### 6.218 TextAlignmentSyntax

|                |                                       |
|----------------|---------------------------------------|
| [values]       |                                       |
| <b>Center</b>  | Text is centered.                     |
| <b>Justify</b> | Text is justified.                    |
| <b>Left</b>    | Default. Text is aligned to the left. |
| <b>Right</b>   | Text is aligned to the right.         |

### 6.219 TextCollapsingStyleSyntax

|                          |                               |
|--------------------------|-------------------------------|
| [values]                 |                               |
| <b>TrailingCharacter</b> | Collapse trailing characters. |
| <b>TrailingWord</b>      | Collapse trailing words.      |

### 6.220 TextCompositionAutoCompleteSyntax

|            |  |
|------------|--|
| [values]   |  |
| <b>Off</b> | Auto-complete is off.  |
| <b>On</b>  | Auto-complete is on. A TextInput event will be raised automatically by the TextCompositionManager after a TextInputStart event is handled. |

### 6.221 TextDataFormatSyntax

|                            |   |
|----------------------------|---|
| [values]                   |   |
| <b>CommaSeparatedValue</b> | Specifies that the text data is in the CommaSeparatedValue data format. |
| <b>Html</b>                | Specifies that the text data is in the Html data format.                |
| <b>Rtf</b>                 | Specifies that the text data is in the Rtf data format.                 |
| <b>Text</b>                | Specifies that the text data is in the Text data format.                |
| <b>UnicodeText</b>         | Specifies that the text data is in the UnicodeText data format.         |
| <b>Xaml</b>                | Specifies that the text data is in the Xaml data format.                |

### 6.222 TextDecorationCollectionSyntax

|   |  |
|---|--|
| [patterns]  |  |
| <b>(NONE) (OVERLINE BASELINE UNDERLINE STRIKETHROUGH)?((\s*,\s*)(OVERLINE BASELINE UNDERLINE STRIKETHROUGH))*</b> | Either 'none', or a comma-separated list of any combination of overline, baseline, underline, and strikethrough. |

### 6.223 TextDecorationLocationSyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                      |   |
|----------------------|---|
| [values]             |   |
| <b>Baseline</b>      | The vertical position of a baseline.                              |
| <b>OverLine</b>      | The vertical position of an overline.                             |
| <b>Strikethrough</b> | The vertical position of a strikethrough.                         |
| <b>Underline</b>     | The vertical position of an underline. This is the default value. |

### 6.224 TextDecorationUnitSyntax

|                            |   |
|----------------------------|---|
| [values]                   |   |
| <b>FontRecommended</b>     | A unit value that is relative to the font used for the TextDecoration. If the decoration spans multiple fonts, an average recommended value is calculated. This is the default value. |
| <b>FontRenderingEmSize</b> | A unit value that is relative to the em size of the font. The value of the offset or thickness is equal to the offset or thickness value multiplied by the font em size.              |
| <b>Pixel</b>               | A unit value that is expressed in pixels.   |

### 6.225 TextFormattingModeSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Display</b> | Indicates that the TextFormatter lays out text by using GDI-compatible font metrics. |
| <b>Ideal</b>   | Indicates that the TextFormatter lays out text by using ideal font metrics.          |

### 6.226 TextHintingModeSyntax

|                 |   |
|-----------------|---|
| [values]        |   |
| <b>Animated</b> | The rendering engine renders text with the highest animated quality.  |
| <b>Auto</b>     | The rendering engine automatically determines whether to draw text with quality settings appropriate for animated or static text. |
| <b>Fixed</b>    | The rendering engine renders text with the highest static quality.  |

### 6.227 TextMarkerStyleSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>Box</b>     | A solid square box is displayed.  |
| <b>Circle</b>  | A hollow disc circle is displayed.  |
| <b>Decimal</b> | A decimal is displayed, starting with the number one, for example, 1, 2, and 3. The TextMarkerStyle is automatically incremented for each item added to the list. |
| <b>Disc</b>    | A solid disc circle is displayed.   |

|                   |  |
|-------------------|--|
| [values]          |  |
| <b>LowerLatin</b> | A lowercase ASCII character is displayed, starting with the letter a, for example, a, b, and c. The TextMarkerStyle is automatically incremented for each item added to the list.        |
| <b>LowerRoman</b> | A lowercase Roman numeral is displayed, starting with the numeral i, for example, i, ii, iii, and iv. The TextMarkerStyle is automatically incremented for each item added to the list.  |
| <b>None</b>       | No marker is displayed.  |
| <b>Square</b>     | A hollow square shape is displayed.  |
| <b>UpperLatin</b> | An uppercase ASCII character is displayed, starting with the letter A, for example, A, B, and C. The TextMarkerStyle is automatically incremented for each item added to the list.       |
| <b>UpperRoman</b> | An uppercase Roman numeral is displayed, starting with the numeral I, for example, I, II, III, and IV. The TextMarkerStyle is automatically incremented for each item added to the list. |

### 6.228 TextPointerContextSyntax

|                        |   |
|------------------------|---|
| [values]               |   |
| <b>ElementEnd</b>      | The TextPointer is adjacent to the closing tag of a TextElement.        |
| <b>ElementStart</b>    | The TextPointer is adjacent to the opening tag of a TextElement.        |
| <b>EmbeddedElement</b> | The TextPointer is adjacent to an embedded UIElement or ContentElement. |
| <b>None</b>            | The TextPointer is adjacent to the beginning or end of content.         |
| <b>Text</b>            | The TextPointer is adjacent to text.                                    |

### 6.229 TextRenderingModeSyntax

|                  |   |
|------------------|---|
| [values]         |   |
| <b>Aliased</b>   | Text is rendered with bilevel anti-aliasing.  |
| <b>Auto</b>      | Text is rendered with the most appropriate rendering algorithm based on the layout mode that was used to format the text.           |
| <b>ClearType</b> | Text is rendered with the most appropriate ClearType rendering algorithm based on the layout mode that was used to format the text. |
| <b>Grayscale</b> | Text is rendered with grayscale anti-aliasing.  |

### 6.230 TextTabAlignmentSyntax

|                  |   |
|------------------|---|
| [values]         |   |
| <b>Center</b>    | Text is center-aligned at the tab location.                   |
| <b>Character</b> | Text is aligned at the tab location at a specified character. |
| <b>Left</b>      | Text is left-aligned at the tab location.                     |

|              |  |
|--------------|--|
| [values]     |  |
| <b>Right</b> | Text is right-aligned at the tab location. |

### 6.231 TextTrimmingSyntax

|                          |   |
|--------------------------|---|
| [values]                 |   |
| <b>CharacterEllipsis</b> | Text is trimmed at a character boundary. An ellipsis (...) is drawn in place of remaining text. |
| <b>None</b>              | Text is not trimmed.  |
| <b>WordEllipsis</b>      | Text is trimmed at a word boundary. An ellipsis (...) is drawn in place of remaining text.      |

### 6.232 TextWrappingSyntax

|                         |   |
|-------------------------|---|
| [values]                |   |
| <b>NoWrap</b>           | No line wrapping is performed.  |
| <b>Wrap</b>             | Line breaking occurs if the line overflows beyond the available block width, even if a line-breaking opportunity cannot be determined, as in the case of a very long word constrained in a fixed-width container with no scrolling allowed.   |
| <b>WrapWithOverflow</b> | Line breaking occurs if the line overflows beyond the available block width. However, a line may overflow beyond the block width if a line-break opportunity cannot be determined, as in the case of a very long word constrained in a fixed-width container with no scrolling allowed. |

### 6.233 ThicknessSyntax

|   |  |
|---|--|
| [patterns]  |  |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+))?([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code>   | One decimal floating point value, or two values separated by either a comma or whitespace. |
| <b>[is case sensitive]</b>  | true   |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){3}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)</code> | Four decimal floating point values, separated by either a comma or whitespace.             |
| <b>[is case sensitive]</b>  | true   |

### 6.234 TickBarPlacementSyntax

|               |   |
|---------------|---|
| [values]      |   |
| <b>Bottom</b> | The tick bar is positioned below the Track of the Slider.           |
| <b>Left</b>   | The tick bar is positioned to the left of the Track of the Slider.  |
| <b>Right</b>  | The tick bar is positioned to the right of the Track of the Slider. |



|            |   |
|------------|---|
| [values]   |   |
| <b>Top</b> | The tick bar is positioned above the Track of the Slider. |

### 6.235 TickPlacementSyntax

|                    |   |
|--------------------|---|
| [values]           |   |
| <b>Both</b>        | Tick marks appear above and below the Track bar for a horizontal Slider, or to the left and right of the Track for a vertical Slider. |
| <b>BottomRight</b> | Tick marks appear below the Track for a horizontal Slider, or to the right of the Track for a vertical Slider.                        |
| <b>None</b>        | No tick marks appear.   |
| <b>TopLeft</b>     | Tick marks appear above the Track for a horizontal Slider, or to the left of the Track for a vertical Slider.                         |

### 6.236 TiffCompressOptionSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Ccitt3</b>  | The CCITT3 compression schema is used.   |
| <b>Ccitt4</b>  | The CCITT4 compression schema is used.   |
| <b>Default</b> | The TiffBitmapEncoder encoder attempts to save the bitmap with the best possible compression schema. |
| <b>Lzw</b>     | The LZW compression schema is used.  |
| <b>None</b>    | The Tagged Image File Format (TIFF) image is not compressed.   |
| <b>Rle</b>     | The RLE compression schema is used.  |
| <b>Zip</b>     | Zip compression schema is used.  |

### 6.237 TileModeSyntax

|               |   |
|---------------|---|
| [values]      |   |
| <b>FlipX</b>  | The same as Tile except that alternate columns of tiles are flipped horizontally. The base tile itself is not flipped.  |
| <b>FlipXY</b> | The combination of FlipX and FlipY. The base tile itself is not flipped.  |
| <b>FlipY</b>  | The same as Tile except that alternate rows of tiles are flipped vertically. The base tile itself is not flipped.   |
| <b>None</b>   | The base tile is drawn but not repeated. The remaining area is transparent  |
| <b>Tile</b>   | The base tile is drawn and the remaining area is filled by repeating the base tile. The right edge of one tile meets the left edge of the next, and similarly for the bottom and top edges. |

### 6.238 TimeSeekOriginSyntax

|                  |  |
|------------------|--|
| [values]         |  |
| <b>BeginTime</b> | The offset is relative to the beginning of the activation period of the Timeline.  |
| <b>Duration</b>  | The offset is relative to the Duration of the Timeline, the length of a single iteration. This value has no meaning if the Duration of the Timeline is not resolved. |

### 6.239 ToleranceTypeSyntax

|                 |  |
|-----------------|--|
| [values]        |  |
| <b>Absolute</b> | Error tolerance is treated as an absolute value. |
| <b>Relative</b> | Error tolerance is treated as a relative value.  |

### 6.240 TouchActionSyntax

|             |   |
|-------------|---|
| [values]    |   |
| <b>Down</b> | The act of putting a finger onto the screen.    |
| <b>Move</b> | The act of dragging a finger across the screen. |
| <b>Up</b>   | The act of lifting a finger off of the screen.  |

### 6.241 TransformSyntax

|   |   |
|---|---|
| [values]  |   |
| <b>Identity</b>   | The identity matrix.  |
| <b>[is case sensitive]</b>  | true  |
| <b>[patterns]</b>   |   |
| <code>((([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)){5}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?))</code> | Six decimal floating point values, separated by either a comma or whitespace. |
| <b>[is case sensitive]</b>  | true  |

### 6.242 UndoActionSyntax

|               |  |
|---------------|--|
| [values]      |  |
| <b>Clear</b>  | This change will clear the undo stack              |
| <b>Create</b> | This change will create a new undo unit            |
| <b>Merge</b>  | This change will merge into the previous undo unit |
| <b>None</b>   | This change will not affect the undo stack at all  |
| <b>Redo</b>   | This change is the result of a call to Redo()      |

|             |   |
|-------------|---|
| [values]    |   |
| <b>Undo</b> | This change is the result of a call to Undo() |

### 6.243 UpdateSourceTriggerSyntax

|                        |   |
|------------------------|---|
| [values]               |   |
| <b>Default</b>         | The default UpdateSourceTrigger value of the binding target property. The default value for most properties is PropertyChanged, while the Text property has a default value of LostFocus. |
| <b>Explicit</b>        | Updates the binding source only when you call the UpdateSource method.  |
| <b>LostFocus</b>       | Updates the binding source whenever the binding target element loses focus.   |
| <b>PropertyChanged</b> | Updates the binding source immediately whenever the binding target property changes.  |

### 6.244 ValidationErrorEventArgsSyntax

|                |  |
|----------------|--|
| [values]       |  |
| <b>Added</b>   | A new ValidationError object has been detected.      |
| <b>Removed</b> | An existing ValidationError object has been cleared. |

### 6.245 ValidationStepSyntax

|                               |   |
|-------------------------------|---|
| [values]                      |   |
| <b>CommittedValue</b>         | Runs the ValidationRule after the value has been committed to the source. |
| <b>ConvertedProposedValue</b> | Runs the ValidationRule after the value is converted.                     |
| <b>RawProposedValue</b>       | Runs the ValidationRule before any conversion occurs.                     |
| <b>UpdatedValue</b>           | Runs the ValidationRule after the source is updated.                      |

### 6.246 Vector3DCollectionSyntax

|   |  |
|---|--|
| [patterns]  |  |
| <code>([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?){2}(((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]?(\d+)?)){3})*</code> | Sequence of decimal floating point values, separated by either a comma or whitespace. The number of values in the sequence is a multiple of three. |
| <b>[is case sensitive]</b>  | true   |

### 6.247 Vector3DSyntax

|            |  |
|------------|--|
| [patterns] |  |
|------------|--|

|   |   |
|---|---|
| [patterns]  |   |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?)((\s*,\s*) \s+){2}([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?</code> | Three decimal floating point values, separated by either a comma or whitespace. |
| [is case sensitive]   | true  |

### 6.248 VectorCollectionSyntax

|   |  |
|---|--|
| [patterns]  |  |
| <code>([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?(((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?){2}</code> * | Sequence of decimal floating point values, separated by either a comma or whitespace. The number of values in the sequence is a multiple of two. |
| [is case sensitive]   | true   |

### 6.249 VectorSyntax

|  |   |
|--|---|
| [patterns]   |   |
| <code>([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?((\s*,\s*) \s+)([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?</code> | Two decimal floating point values, separated by either a comma or whitespace. |
| [is case sensitive]  | true  |

### 6.250 VerticalAlignmentSyntax

|                |   |
|----------------|---|
| [values]       |   |
| <b>Bottom</b>  | The child element is aligned to the bottom of the parent's layout slot. |
| <b>Center</b>  | The child element is aligned to the center of the parent's layout slot. |
| <b>Stretch</b> | The child element stretches to fill the parent's layout slot.           |
| <b>Top</b>     | The child element is aligned to the top of the parent's layout slot.    |

### 6.251 VirtualizationCacheLengthSyntax (4.5)

|   |  |
|---|--|
| [patterns]  |  |
| <code>(([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?)((\s*,\s*) \s+)?([+-]?((\d+(\.\d*)?) (\d*\.\d+)))([eE][+-]? \d+)?</code> | One decimal floating point value, or two values separated by either a comma or whitespace. |
| [is case sensitive]   | true   |

## 6.252 VirtualizationCacheLengthUnitSyntax (4.5)

|              |   |
|--------------|---|
| [values]     |   |
| <b>Item</b>  | The CacheLength is measured in terms of the items that are displayed in the panel.                  |
| <b>Page</b>  | The CacheLength is measured in terms of a page, which is equal to the size of the panel's viewport. |
| <b>Pixel</b> | The CacheLength is measured in terms of device-independent units (1/96th inch per unit).            |

## 6.253 VirtualizationModeSyntax

|                  |   |
|------------------|---|
| [values]         |   |
| <b>Recycling</b> | Reuse the item containers.              |
| <b>Standard</b>  | Create and discard the item containers. |

## 6.254 VisibilitySyntax

|                  |  |
|------------------|--|
| [values]         |  |
| <b>Collapsed</b> | Do not display the element, and do not reserve space for it in layout.   |
| <b>Hidden</b>    | Do not display the element, but reserve space for the element in layout. |
| <b>Visible</b>   | Display the element.   |

## 6.255 WindowStartupLocationSyntax

|                     |  |
|---------------------|--|
| [values]            |  |
| <b>CenterOwner</b>  | The startup location of a Window is the center of the Window that owns it, as specified by the Owner property. |
| <b>CenterScreen</b> | The startup location of a Window is the center of the screen that contains the mouse cursor.                   |
| <b>Manual</b>       | The startup location of a Window is set manually, or defers to the default Windows location.                   |

## 6.256 WindowStateSyntax

|                  |                          |
|------------------|--------------------------|
| [values]         |                          |
| <b>Maximized</b> | The window is maximized. |
| <b>Minimized</b> | The window is minimized. |
| <b>Normal</b>    | The window is restored.  |

## 6.257 WindowStyleSyntax

|          |  |
|----------|--|
| [values] |  |
|----------|--|

|                           |  |
|---------------------------|--|
| [values]                  |  |
| <b>None</b>               | Only the client area is visible - the title bar and border are not shown. A NavigationWindow with a WindowStyle of None will still display the navigation user interface (UI). |
| <b>SingleBorderWindow</b> | A window with a single border. This is the default value.  |
| <b>ThreeDBorderWindow</b> | A window with a 3-D border.  |
| <b>ToolWindow</b>         | A fixed tool window.   |

### 6.258 WrapDirectionSyntax

|              |  |
|--------------|--|
| [values]     |  |
| <b>Both</b>  | Content that flows around both sides of the object.          |
| <b>Left</b>  | Content that only flows around the left side of the object.  |
| <b>None</b>  | Content that does not flow around the object.                |
| <b>Right</b> | Content that only flows around the right side of the object. |

### 6.259 XmlLanguageSyntax

|                                    |  |
|------------------------------------|--|
| [patterns]                         |  |
| <b>[A-Z]{1,8}(-[0-9A-Z]{1,8})*</b> | A series of tags, each from 1-8 characters long, separated by hyphens. The first tag can use upper and lowercase ASCII letters. The remaining tags can use the same and may also contain digits. |
| <b>[trim whitespace]</b>           | false  |

## 7 References

[MS-XAML-2012], Microsoft Corporation, "[XAML Object Mapping Specification 2012](#)", April 2012

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