

A semi-truck is shown from a low angle, driving on a road towards the right. The truck's headlights are on, and the trailer features the Windows logo and the word "Windows". The scene is set against a sunset sky with a bright sun on the horizon, creating a warm, golden glow. The road curves into the distance.

# Internet Explorer 7

Markus Mielke

Program Manager Internet Explorer

Microsoft Corporation

# Agenda

Windows Vista & IE7 Readiness Tour

## Part 1:

- Why will your customers care about IE 7?
- Why you should care about IE 7?
- When is all of this going to happen?

## Part 2:

- The Developer Platform
- Important Platform Technologies
- Preparing your pages for IE7

# The Developer Platform

## What is the Developer Platform

Windows Vista & IE7 Readiness Tour

- Foundation for Making Applications Great
  - Parsing, DOM, Layout, Rendering, Script, etc.
- Platform Principles:
  - Security
  - Compatibility
  - Standards
  - Consistency
  - Tools & Documentation
  - Deliver on Customer Demand

# Internet Explorer 7

## Organizing Platform Work

Windows Vista & IE7 Readiness Tour

- **Secure and Trustworthy Browsing**
  - “How we balance Security and Compatibility”
- **Powerful Web Developer Platform**
  - Open Search
  - RSS Platform/Extensions -“Reach your customers wherever they are”
  - CSS - “Enabling Standards-First Web Development”
  - AJAX- “Build web applications easier that run faster”



**Security is Part of the Platform**

# Security

## Overview

Windows Vista & IE7 Readiness Tour

- Defend **Users** against misleading downloads and websites
  - Download scanning from Windows Defender
  - Phishing Filter
  - Secure defaults for IDN (International Domain Names)
  - Extended Verification certificates and address bar
  - Dangerous Settings notification
  - Parental Controls (Windows Vista only)
- Defend **PC/Code** against vulnerabilities
  - ActiveX opt-in
  - Unified URL parsing
  - Cross-domain security enhancements
  - Code quality improvements to reduce buffer overruns
  - Protected Mode (Windows Vista only)

# Security

## Protect Mode/Compatibility (1 of 2)

Windows Vista & IE7 Readiness Tour

- X/HTML, Javascript, CSS Content
  - Majority of content will just work
- New windows for cross zone navigation
  - Protected mode:
    - Internet
    - Intranet
    - Restricted Sites zones
  - Zones that are not pre-configured to run in Protected Mode
    - Trusted Sites
    - Local Machine
- Content with ActiveX that only needs to store state
  - Majority of controls will just work
  - File system writes get redirected to Temporary Internet Folder (TIF)

# Security

## Protect Mode/Compatibility (2 of 2)

Windows Vista & IE7 Readiness Tour

- Content with ActiveX that requires local file access
  - “Save As” API to save files outside of the Temporary Internet Folder
  - Other access, code to connect to broker process is required
- Content that requires additional software installation
  - User will have to opt into installation
  - User will have to provide admin credentials
- Test your content in protect mode
  - IE Compatibility Toolkit can help
  - Identifies security features that are blocking app functionality





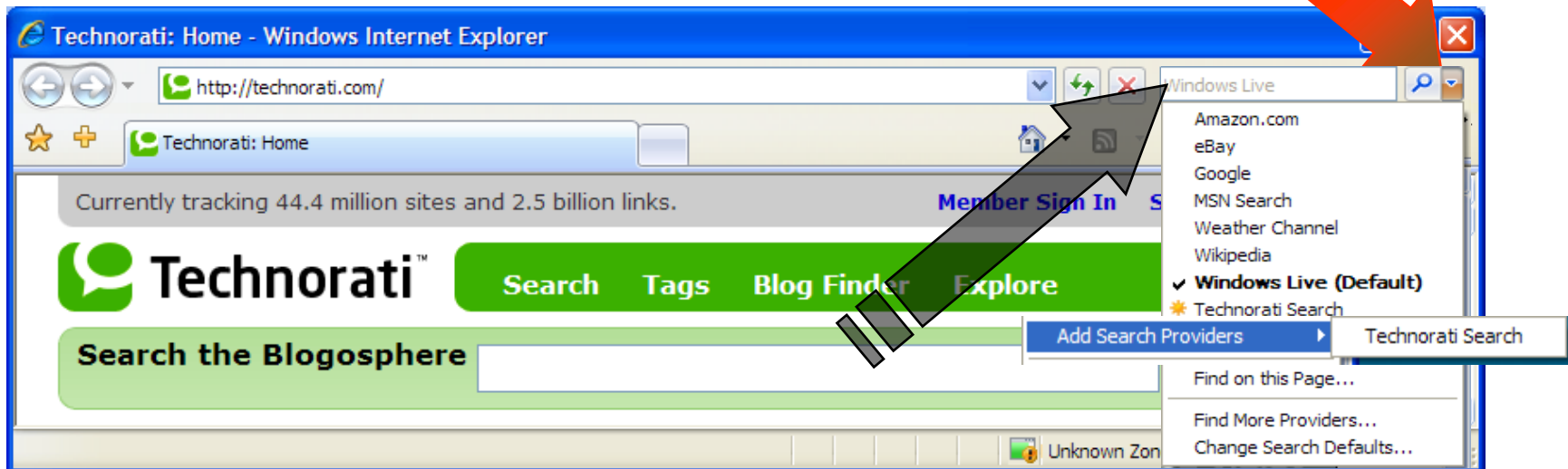
# Search and RSS are Part of the Platform

# Easier Searching

## Open Search 1.1

Windows Vista & IE7 Readiness Tour

- OpenSearch: a technology collection for generically publishing search results
  - Under creative common license
- Users can add sites as search providers
  - Similar experience as adding favorites
- IE provides Search Discovery
  - Similar experience as RSS Discovery



# Adding Search Provider

## With Open Search 1.1

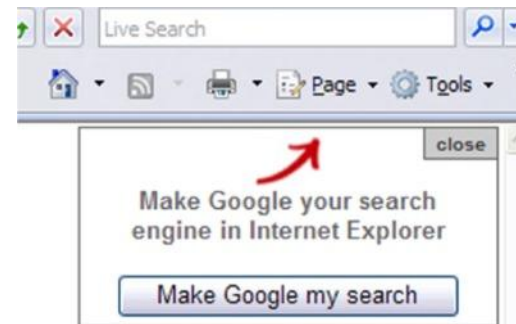
Windows Vista & IE7 Readiness Tour

- Script API prompts user to add provider:  
`window.external.AddSearchProvider( [url] )`

- URL points to XML

```
<?xml version="1.0" encoding="UTF-8"?>
<OpenSearchDescription xmlns="http://a9.com/-/spec/opensearchdescription/1.1/">
  <ShortName>MSDN</ShortName>
  <Description>MSDN Example Search</Description>
  <Tags>MSDN Developer</Tags>
  <Contact>admin@msdn.com</Contact>
  <Url type="text/html"
    template="http://search.microsoft.com/search/results.aspx?qu={searchTerms}&View
    ={language?}&p={startPage?}" />
</OpenSearchDescription>
```

- Result returned as HTML
  - RSS also possible



# Search Discovery

## With Open Search 1.1

Windows Vista & IE7 Readiness Tour

- Use a link:  

```
<link title="My Search" rel="search"  
type="application/opensearchdescription+xml"  
href="http://mysearch.com/search.odd" />
```
- Easy tool to build XML for own Search provider:  
<http://www.enhanceie.com/IE/SearchBuilder.asp>
- Design Guidelines
  - Titles should be short
  - Ensure the title advertised in the LINK tag represents the same title used by the XML description file
  - Only top 3 providers will be advertised

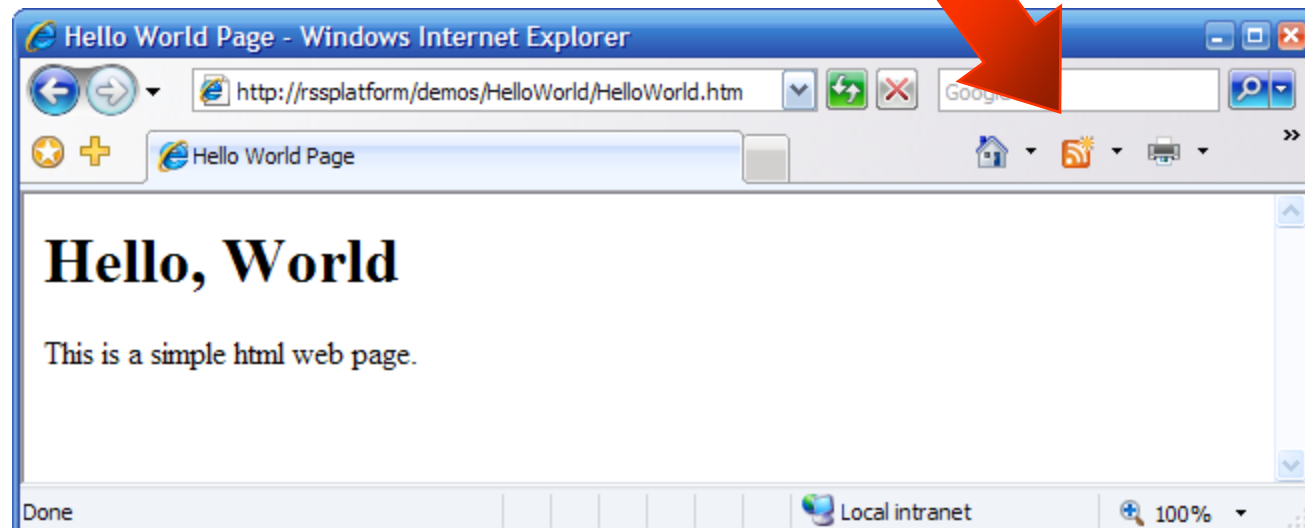
- RSS is part of the Windows developer platform
  - IE7 makes use of it
- Feeds strengthen the connection to your customers
- Make feed information easier to use
  - Sort & Filter tags to simplify searching
  - Expose Lists to organize feed data

# RSS

## Feed Discovery

Windows Vista & IE7 Readiness Tour

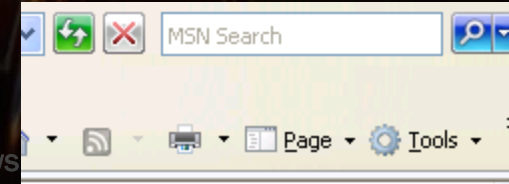
```
<html>
  <head>
    <title>Hello World Page</title>
    <link rel="alternate" type="application/rss+xml"
      title="The Hello World RSS feed" href="HelloWorld.xml"/>
  </head>
  <body>
    <h1>Hello, World</h1>
  </body>
</html>
```



# RSS

## Sorting and Grouping

```
<channel>
  <cf:listinfo>
    <cf:sort ns="urn:my" label="Buy It Now price"
      element="BuyItNowPrice" data-type="number"
      default="no"/>
    <cf:sort ns="urn:my" label="Current auction price"
      element="CurrentPrice" data-type="number"
      default="no"/>
    ...
    <cf:group ns="urn:my" label="option"
      element="ItemCharacteristic"/>
    ...
  </cf:listinfo>
```



A screenshot of an RSS feed interface. It shows a search box at the top, followed by 'Displaying 20 / 20' and a 'Show All' link. Below that is a 'Sort by:' section with a dropdown menu showing 'Buy It Now price' selected, and other options: 'Current auction price', 'Listing end time', and 'Number of bids'. There is a 'Filter by listing format:' section with 'Auction' (12) and 'Buy It Now' (13). Below that is a 'Filter by option:' section with 'Best Offer' (7), 'eBay Giving Works' (8), and 'Listed with PayPal' (18). Finally, there is a 'Filter by listing category:' section with 'Game Controllers' (4), 'Games' (5), 'Memory' (6), and 'Other Accessories' (5). Two red arrows point from the XML code on the left to the 'Sort by:' and 'Filter by option:' sections of the interface.

Learn more on the RSS Team blog:

<http://blogs.msdn.com/rssteam/>

Or see MIX06: Using RSS Platform

<http://sessions.mix06.com/> BTB033

# RSS

## Lists

Windows Vista & IE7 Readiness Tour

- Inventory-list, Music playlists, photo albums, top 10 songs, wish lists, even search results
- List semantic
  - Order matters
  - Complete set of items

```
<rss version="2.0" xmlns:cf="http://www.microsoft.com/schemas/rss/core/2005">  
  <channel>  
    <cf:treatAs>list</cf:treatAs>  
    ...  
    <item>  
      ...  
    </item>  
  </channel>  
</rss>
```



A semi-truck is shown from a low-angle perspective, driving on a road that curves into the distance. The truck's trailer is white and features the Windows logo and the text "Windows" in blue. The scene is set against a dramatic sunset sky with orange and blue hues. The truck's headlights and side mirrors are visible, and the overall atmosphere is one of motion and technology in a real-world setting.

*demo*

**Lists in Action**

# RSS

## Prepare Your Content

Windows Vista & IE7 Readiness Tour

- RSS enable your site (feed discovery)
- Enrich your feed with Sort & Filter tags
- Expose Lists
- Follow Publish Best Practices
  - `<guid>` prevents duplicate items
  - `<pubDate>` to have predictable sorting
  - `<title>` lets users scan for what to read
  - Emit well-formed XML including content
  - Choose the feed format that you want; but choose only one



**Standards are part of the platform**

# Identifying Bugs to Fix

## Gathering Feedback

Windows Vista & IE7 Readiness Tour

- Listened to the Community
- Requests on IEBlog
- Newsgroups
- Conferences
- Community Sites
  - MeyerWeb
  - Quirksmode
  - The Web Standards Project
  - PositionIsEverything

# Identifying Bugs to Fix

## Organizing Feedback

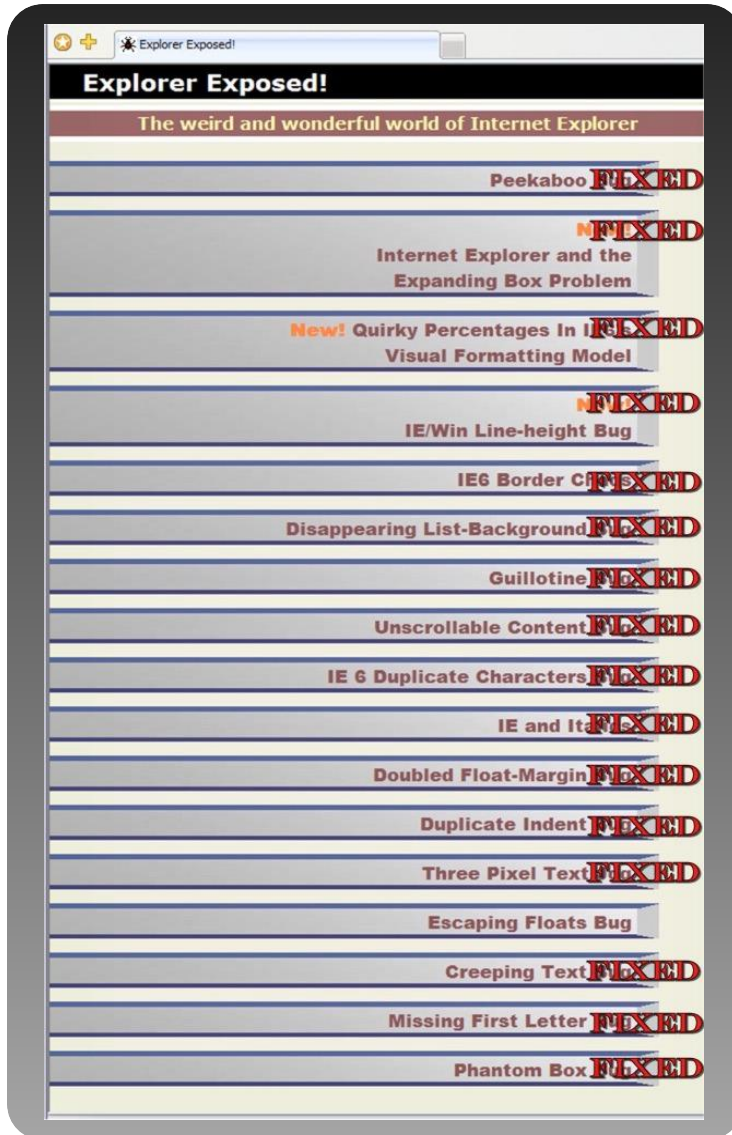
Windows Vista & IE7 Readiness Tour

- Focus on People Making a living on the Web
- Reduce Cross Browser Development Time
  - Reduce IE unique behavior
  - Work towards increasing standards compliance
- Make developers more efficient on IE
  - Better Docs
  - Developer Toolbar

# Identifying Bugs to Fix

## Feedback Example

Windows Vista & IE7 Readiness Tour



- PositionIsEverything is a community site that collects IE issues
- Fixed all but one bug

A semi-truck is shown from a low-angle perspective, driving on a road towards the right. The truck's trailer features the Windows logo and the text "Windows 7". The scene is set against a dramatic sunset sky with orange and blue hues. The truck's headlights and side mirrors are visible.

*demo*

# Layout bugs fixed in IE7

examples

# Behavioral Improvements

## CSS Improvements

Windows Vista & IE7 Readiness Tour

### Over 200 CSS bugs fixed

- Parser bugs: \* html, \_property or /\*\*/ comment bug
- Select control: style-able and not always on top
- Auto-sizing of absolute positioned element with right & left (great for 3 column layouts)
- Relative positioning issues
- % calculations for height/width for abs positioned elements
- hover effect working not just over text
- <?xml> prolog no longer causes quirks mode
- HTML element truly independent of the Body
- 1 px dotted borders no longer render as dashed
- Bottom margin bug on hover does not collapse margins



# Behavioral Improvements

## Overflow Behavior Works Correctly!

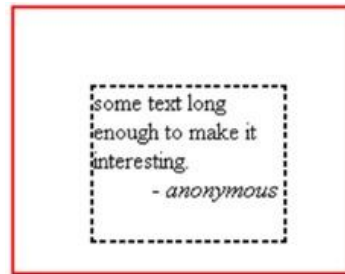
Windows Vista & IE7 Readiness Tour

### IE6 used to grow the boxes (even if not asked)

```
<style type="text/css">
  div { width : 100px; height: 100px; border: thin solid red;}
  blockquote { width: 125px; height: 100px; margin-top: 50px;
               margin-left: 50px; border: thin dashed black}
  cite { display: block; text-align: right; border: none}
  p { margin: 0;}
</style>
```

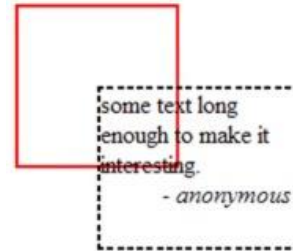
```
<div> <blockquote> <p>some text long enough to make it interesting.</p>
<cite>- anonymous </cite> </blockquote> </div>
```

IE6



IE7

(and other modern browsers)



# Behavioral Improvements

## Most Requested: Standards

Windows Vista & IE7 Readiness Tour

- Fixed inconsistencies with the W3C specs
  - Enable :hover on all elements not just on <a>
  - Background-attachment: fixed on all elements
  - Improved <object> fallback
- Added standards features (CSS 2.1/HTML 4)
  - Fixed positioning support
  - Min/Max-Width/Height support
  - Transparent borders
  - Selectors: first-child, adjacent, attribute, child
    - CSS 3 attribute selectors: prefix, suffix and substring
- Alpha channel support in PNG images

A semi-truck with a white trailer featuring the Windows logo is driving on a road during a sunset. The sun is low on the horizon, creating a warm, golden glow. The truck is moving towards the right, and the road curves into the distance. The sky is filled with soft, colorful clouds.

*demo*

# New CSS Features

# Behavioral Improvements

## Most Requested: AJAX

Windows Vista & IE7 Readiness Tour

- AJAX =Asynchronous JavaScript and XML
  - a technique for creating **interactive** web applications
- Native XmlHttpRequest
  - Better enables DHTML/Atlas applications
  - No longer subject to ActiveX being enabled
- Javascript perf improvements
- <select> element now windowless
  - Can be visually layered w/ other elements
  - Makes Forms for AJAX apps more useful



## Preparing for IE7

# Preparing for IE 7

Windows Vista & IE7 Readiness Tour

- Behavioral changes for better standard support mean some pages break
  - Need to balance standard compliance with application compatibility
  - IE6 introduced quirks mode and strict mode
  - All fixes are under strict mode
- Help to update pages
  - Most common breaks and mitigation
  - Tools to identify and fix breaks
  - Documentation up on MSDN

# Preparing for IE 7

## Fixing Common Breaks

Windows Vista & IE7 Readiness Tour

- User Agent Strings and Browser Detection
  - Base your version-testing on `>=`, NOT `=`
- Overflow
  - Use `min-height/width` or correct box size
- `<?xml>` prolog doesn't prevent strict mode in IE7, which affects the CSS Box Model

```
<?xml version="1.0"?>
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "DTD/xhtml1-strict.dtd">
```

# Preparing for IE 7

## Fixing CSS Hacks

Windows Vista & IE7 Readiness Tour

- Rely on parser bugs and/or not yet implemented features
  - \* html (Target: IE only)
  - \_height:50px; (Target: IE only)
  - height/\*\*/: 300px; (Target: Everyone but IE)
  - html > body (Target: Everyone but IE)
- Ideally no workarounds are needed – but reality intrudes
  - If you use CSS hacks – only target already-obsolete UAs
    - Know in what browser version your hack will stop working
- IE Alternative: Conditional Comments to target versions

```
<!--[if lte IE 6]>
  <link rel="stylesheet" type="text/css" href="iestyles.css" />
<![endif]-->
```



# Preparing for IE 7

## Fixing “Broken” Work Arounds

Windows Vista & IE7 Readiness Tour

- Most famous CSS Filter break: the Holly hack
  - \* html {height:1%;}
- Used to force “Has Layout”
  - IE internal data structure – still exists in IE7
  - Responsible for sizing and positioning itself
  - Article produced in cooperation with WASP  
<http://msdn.microsoft.com/library/default.asp?url=/library/en-us/ietechcol/cols/dnexpie/expie20050831.asp>
- What can you do?
  - IE6 and below: Use of Holly hack is ok
  - IE7 (if needed): conditional comments + zoom:1;

# Preparing for IE 7

## IE 7 Readiness Toolkit

Windows Vista & IE7 Readiness Tour

- Documentation <http://msdn.microsoft.com/ie/>
  - Tools for testing and development
  - Developer and IT Pro Checklists
  - Testing and debugging guidance
- Web developer toolbar
  - Works on IE 6 or better
  - Rich tool set for exploring DHTML and CSS
- ExpressionFinder
  - Identifies CSS hacks
- Application Compatibility Toolkit
  - Identifies features blocking app functionality
- Fiddler HTTP monitor
  - Watch/Manipulate network traffic between client and server

<http://blogs.msdn.com/ie/archive/2006/04/24/582546.aspx>

A semi-truck is shown from a low-angle perspective, driving on a road towards the right. The truck's trailer features the Windows logo and the text "Windows". The scene is set against a sunset sky with orange and blue tones. The word "demo" is overlaid in a yellow, italicized font on the left side of the truck's cab.

*demo*

# Analyzing Web Page Breaks

# IE 7 and Beyond

Windows Vista & IE7 Readiness Tour

- RC1 is available NOW
- IE7 ships Q4 of 2006
- Planning next two releases
  - Place users in control of security and privacy
  - Improve powerful standards-based platform
  - Provide the best web user experience

# Completing IE 7

## Web Trends We Are Monitoring

Windows Vista & IE7 Readiness Tour

- Mash-Up pattern will continue to grow through integration technologies
  - RSS
  - Semantic tagging of data
    - Microformats
    - LiveClipboard
- More capabilities will become standardized
  - XMLHttpRequest, for example
  - Need application semantics, not just pages
- The interoperable platform will grow

# Resources


Windows Vista & IE7 Readiness Tour

- IE Dev Center: <http://msdn.microsoft.com/ie/>
- IE Team Blog: <http://blogs.msdn.com/IE/>
- RSS Team blog <http://blogs.msdn.com/rssteam/>
  
- IE7 Readiness Toolkit  
<http://go.microsoft.com/fwlink/?linkid=64421>
- Free Virtual PC Download  
<http://www.microsoft.com/windows/virtualpc/default.aspx>

# Internet Explorer 7

## Preparing your Content

Windows Vista & IE7 Readiness Tour

- Prepare your pages to be ready for IE7
- Test your IE components (ActiveX, BHOs, toolbars) to ensure they are prepared for opt-in & Protected Mode
- Use  RSS on your site
  - Enrich your feed with Sort & Filter tags
  - Publish data using lists
- Use OpenSearch for search exposure
- We are dependent on each other
  - Standards improvements mean that behavior will change
  - End users don't like broken pages, so we need your help!
- Give us feedback



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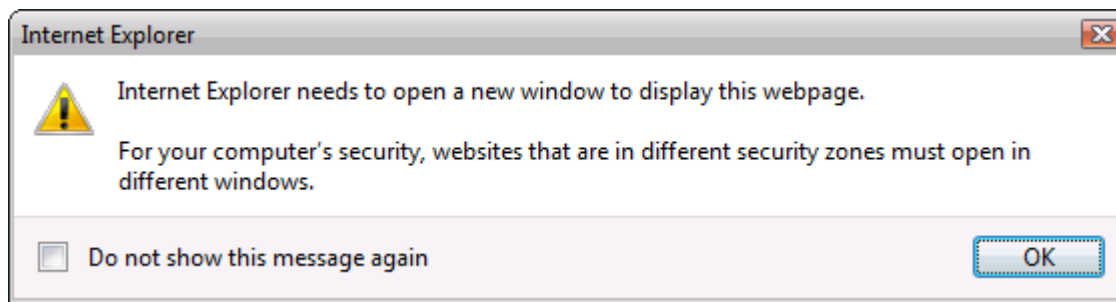


# Security

## Cross Zone

Windows Vista & IE7 Readiness Tour

- Zones that run in Protected Mode (PM)
  - Internet
  - Intranet
  - Restricted Sites zones
- Zones that are not pre-configured to run in Protected Mode
  - Trusted Sites
  - Local Machine
- Navigation outside of PM Zones spawn a new window
- Users can change behavior through security settings
- Administrators can change this through Group Policy



# Security

## In Process Add ons

Windows Vista & IE7 Readiness Tour

- Redirects file and registry key writes to a virtualized, Lower privileged location
  - HKCU\Software\Microsoft\Internet Explorer\**Low Rights\Virtual**
  - Documents and Settings\%user profile%\Local Settings\**Temporary Internet Files\Virtual**
- Virtualized path is the full pathname added to the virtualized directory

If Protected Mode tries to write here...	...the virtualized write goes here:
HKCU\Software\FooBar\	HKCU\Software\MS\IE\Low Rights\Virtual\Software\FooBar
C:\Documents\%user\Profile%\FooBar	C:\Documents \%user profile%\Local Settings\Temporary Internet Files\Virtual\FooBar

# Security

## In Progress: Save As API

Windows Vista & IE7 Readiness Tour

- Step 1: Call IEShowSaveFileDialog() with target location
  - User is prompted with “Save As” dialog
  - Returns the user-chosen target path
- Step 2: Call IESaveFile() with source location
  - User Broker copies the file from source to the target location

