

## [MS-EDSA]:

# eDiscovery Service Application Protocol

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Preliminary

## Revision Summary

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Preliminary

# 1 Introduction

The eDiscovery Service Application Protocol enables clients to perform operations to manage **legal holds**.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in [\[RFC2119\]](#). Sections 1.5 and 1.9 are also normative but do not contain those terms. All other sections and examples in this specification are informative.

## 1.1 Glossary

The following terms are specific to this document:

**discovery case:** A site that contains information relevant to an electronic discovery (eDiscovery) case such as a custodian, a **discovery source**, and saved searches.

**discovery source:** A repository of documents and other types of content that are relevant to the electronic discovery (eDiscovery) case.

**email address:** A string that identifies a user and enables the user to receive Internet messages.

**globally unique identifier (GUID):** A term used interchangeably with universally unique identifier (UUID) in Microsoft protocol technical documents (TDs). Interchanging the usage of these terms does not imply or require a specific algorithm or mechanism to generate the value. Specifically, the use of this term does not imply or require that the algorithms described in [\[RFC4122\]](#) or [\[C706\]](#) must be used for generating the **GUID**. See also universally unique identifier (UUID).

**Hypertext Transfer Protocol (HTTP):** An application-level protocol for distributed, collaborative, hypermedia information systems (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

**Hypertext Transfer Protocol Secure (HTTPS):** An extension of HTTP that securely encrypts and decrypts web page requests. In some older protocols, "Hypertext Transfer Protocol over Secure Sockets Layer" is still used (Secure Sockets Layer has been deprecated). For more information, see [\[SSL3\]](#) and [\[RFC5246\]](#).

**legal hold:** A restriction that prevents a document from being modified or transactions from being entered for a record.

**mailbox:** A message store that contains email, calendar items, and other Message objects for a single recipient.

**policy:** A set of rules that governs all interactions with an object such as a document or item.

**search query:** A complete set of conditions that are used to generate search results, including query text, sort order, and ranking parameters.

**site collection:** A set of **websites** that are in the same content database, have the same owner, and share administration settings. A site collection can be identified by a **GUID** or the **URL** of the top-level site for the site collection. Each site collection contains a top-level site, can contain one or more subsites, and can have a shared navigational structure.

**SOAP:** A lightweight protocol for exchanging structured information in a decentralized, distributed environment. **SOAP** uses XML technologies to define an extensible messaging framework, which provides a message construct that can be exchanged over a variety of underlying protocols. The framework has been designed to be independent of any particular programming model and



other implementation-specific semantics. SOAP 1.2 supersedes SOAP 1.1. See [\[SOAP1.2-1/2003\]](#).

**SOAP action:** The HTTP request header field used to indicate the intent of the **SOAP** request, using a URI value. See [\[SOAP1.1\]](#) section 6.1.1 for more information.

**SOAP body:** A container for the payload data being delivered by a SOAP message to its recipient. See [\[SOAP1.2-1/2007\]](#) section 5.3 for more information.

**tenant:** A protocol client or protocol server that accesses a partition in a shared service database.

**Transmission Control Protocol (TCP):** A protocol used with the Internet Protocol (IP) to send data in the form of message units between computers over the Internet. TCP handles keeping track of the individual units of data (called packets) that a message is divided into for efficient routing through the Internet.

**Unicode:** A character encoding standard developed by the Unicode Consortium that represents almost all of the written languages of the world. The **Unicode** standard [\[UNICODE5.0.0/2007\]](#) provides three forms (UTF-8, UTF-16, and UTF-32) and seven schemes (UTF-8, UTF-16, UTF-16 BE, UTF-16 LE, UTF-32, UTF-32 LE, and UTF-32 BE).

**Uniform Resource Locator (URL):** A string of characters in a standardized format that identifies a document or resource on the World Wide Web. The format is as specified in [\[RFC1738\]](#).

**Web Services Description Language (WSDL):** An XML format for describing network services as a set of endpoints that operate on messages that contain either document-oriented or procedure-oriented information. The operations and messages are described abstractly and are bound to a concrete network protocol and message format in order to define an endpoint. Related concrete endpoints are combined into abstract endpoints, which describe a network service. WSDL is extensible, which allows the description of endpoints and their messages regardless of the message formats or network protocols that are used.

**website:** A group of related pages and data within a SharePoint site collection. The structure and content of a site is based on a site definition. Also referred to as SharePoint site and site.

**WSDL message:** An abstract, typed definition of the data that is communicated during a **WSDL operation** [\[WSDL\]](#). Also, an element that describes the data being exchanged between web service providers and clients.

**WSDL operation:** A single action or function of a web service. The execution of a WSDL operation typically requires the exchange of messages between the service requestor and the service provider.

**XML namespace:** A collection of names that is used to identify elements, types, and attributes in XML documents identified in a URI reference [\[RFC3986\]](#). A combination of XML namespace and local name allows XML documents to use elements, types, and attributes that have the same names but come from different sources. For more information, see [\[XMLNS-2ED\]](#).

**XML namespace prefix:** An abbreviated form of an **XML namespace**, as described in [\[XML\]](#).

**XML schema:** A description of a type of XML document that is typically expressed in terms of constraints on the structure and content of documents of that type, in addition to the basic syntax constraints that are imposed by XML itself. An XML schema provides a view of a document type at a relatively high level of abstraction.

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as defined in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## 1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](#).

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information.

[MS-QSSWS] Microsoft Corporation, "[Search Query Shared Services Protocol](#)".

[MS-SPSTWS] Microsoft Corporation, "[SharePoint Security Token Service Web Service Protocol](#)".

[MS-SPTWS] Microsoft Corporation, "[Service Platform Topology Web Service Protocol](#)".

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.rfc-editor.org/rfc/rfc2119.txt>

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, <http://www.rfc-editor.org/rfc/rfc2616.txt>

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.rfc-editor.org/rfc/rfc2818.txt>

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

[SOAP1.2/1] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 1: Messaging Framework", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part1-20030624>

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, <http://www.w3.org/TR/2001/NOTE-wsdl-20010315>

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

[XMLSCHEMA1] Thompson, H., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/>

[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

### 1.2.2 Informative References

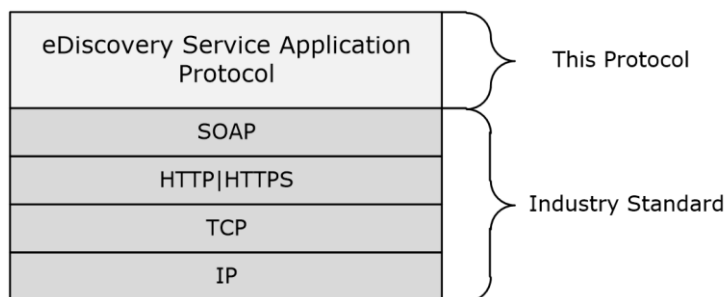
None.

## 1.3 Overview

This protocol enables a protocol client to manage the actions that can be applied to the **discovery sources**. Actions can be invoked and deleted. The protocol also provides the means to get the status of the actions that have already been sent to the protocol server. A typical scenario for using this protocol is an application used to centrally manage the different discovery sources.

## 1.4 Relationship to Other Protocols

This protocol uses **SOAP** over **HTTP**, as specified in [\[RFC2616\]](#), and **SOAP** over **HTTPS**, as specified in [\[RFC2818\]](#), as shown in the following layering diagram.



**Figure 1: This protocol in relation to other protocols**

## 1.5 Prerequisites/Preconditions

The operations described by this protocol operate against a protocol server that exposes one or more endpoint URIs that are known by protocol clients. The endpoint URI of the protocol server and the transport that is used by the protocol server are either known by the protocol client or obtained by using the discovery mechanism that is specified in [\[MS-SPTWS\]](#).

The protocol client obtains the requisite ApplicationClassId and ApplicationVersion values and the endpoint URI of the protocol server that provides the discovery mechanism, as specified in [\[MS-SPTWS\]](#), by means that are independent of either protocol.

This protocol requires the protocol client to have appropriate permission to call the methods on the protocol server.

The protocol client implements the token-based security mechanisms that are required by the protocol server and related security protocols, as specified in [\[MS-SPSTWS\]](#).

## 1.6 Applicability Statement

This protocol is intended for use by protocol clients and protocol servers that are connected by high-bandwidth, low-latency network connections.

## 1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This protocol can be implemented by using transports that support sending SOAP messages, as specified in section [2.1](#).
- **Protocol Versions:** This protocol is not versioned.

**Capability Negotiation:** This protocol does not support version negotiation.

## 1.8 Vendor-Extensible Fields

None.

## 1.9 Standards Assignments

None.

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## 2 Messages

### 2.1 Transport

Protocol servers MUST support SOAP over HTTP, HTTPS, or **TCP**.

All protocol messages MUST be transported by using HTTP or TCP bindings at the transport level.

Protocol messages MUST be formatted as specified in either [\[SOAP1.1\]](#) section 4 or [\[SOAP1.2/1\]](#) section 5. Protocol server faults MUST be returned by using HTTP status codes, as specified in [\[RFC2616\]](#) section 10, or SOAP faults, as specified in [\[SOAP1.1\]](#) section 4.4 or [\[SOAP1.2/1\]](#) section 5.4.

If the HTTPS transport is used, a server certificate MUST be deployed.

This protocol SHOULD transmit an additional SOAP header, the **ServiceContext** header, as specified in [\[MS-SPSTWS\]](#).

This protocol does not define any means for activating a protocol server or protocol client. The protocol server MUST be configured and begin listening in an implementation-specific way. In addition, the protocol client MUST know the format and transport that is used by the server, for example, the SOAP format over an HTTP transport.

### 2.2 Common Message Syntax

This section contains common structures used by this protocol. The syntax of the structures uses **XML schema**, as specified in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#) and **WSDL**, as specified in [\[WSDL\]](#).

#### 2.2.1 Namespaces

This specification defines and references various **XML namespaces** using the mechanisms specified in [\[XMLNS\]](#). Although this specification associates a specific **XML namespace prefix** for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

Prefix	Namespace URI	Reference
q1	<a href="http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08">http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08</a>	
q3	<a href="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11">http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11</a>	
ser	<a href="http://schemas.microsoft.com/2003/10/Serialization/">http://schemas.microsoft.com/2003/10/Serialization/</a>	
soap	<a href="http://schemas.xmlsoap.org/wsdl/soap/">http://schemas.xmlsoap.org/wsdl/soap/</a>	<a href="#">[SOAP1.1]</a>
tns	<a href="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administrati">http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administrati</a> <a href="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administrati">on</a>	
tns1	<a href="http://schemas.microsoft.com/2003/10/Serialization/Arrays">http://schemas.microsoft.com/2003/10/Serialization/Arrays</a>	
tns2	<a href="http://tempuri.org/">http://tempuri.org/</a>	
tns3	<a href="http://tempuri.org/Imports">http://tempuri.org/Imports</a>	
wsaw	<a href="http://www.w3.org/2006/05/addressing/wsdl">http://www.w3.org/2006/05/addressing/wsdl</a>	
wsdl	<a href="http://schemas.xmlsoap.org/wsdl/">http://schemas.xmlsoap.org/wsdl/</a>	<a href="#">[WSDL]</a>

Prefi x	Namespace URI	Reference
xs	http://www.w3.org/2001/XMLSchema	<a href="#">[XMSHEMA1 ↓ [XMSHEMA2 ↓</a>

## 2.2.2 Messages

This specification does not define any common **WSDL message** definitions.

## 2.2.3 Elements

This specification does not define any common XML schema element definitions.

## 2.2.4 Complex Types

The following table summarizes the set of common XML schema complex type definitions defined by this specification. XML schema complex type definitions that are specific to a particular operation are described with the operation.

Complex type	Description
<b>ArrayOfDiscoveryAction</b>	The <b>ArrayOfDiscoveryAction</b> type contains a list of <b>DiscoveryAction</b> elements.
<b>ArrayOfDiscoveryActionStatus</b>	The <b>ArrayOfDiscoveryActionStatus</b> type contains a list of <b>DiscoveryActionStatus</b> elements.
<b>ArrayOfKeyValueOfstringstring</b>	The <b>ArrayOfKeyValueOfstringstring</b> complex type is a list of key-value pairs.
<b>DiscoveryAction</b>	The <b>DiscoveryAction</b> complex type contains information about an action to be performed on a discovery source.
<b>DiscoveryActionStatus</b>	The <b>DiscoveryActionStatus</b> complex type contains information about the status of an action to be performed on a discovery source.
<b>SearchServiceApplicationFault</b>	The <b>SearchServiceApplicationFault</b> type represents the error detail of a SOAP fault generated by an operation.

### 2.2.4.1 ArrayOfDiscoveryAction

**Namespace:** http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11

The **ArrayOfDiscoveryAction** type contains a list of **DiscoveryAction** elements.

```
<xs:complexType name="ArrayOfDiscoveryAction" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="DiscoveryAction" nillable="true"
type="q3:DiscoveryAction"/>
  </xs:sequence>
</xs:complexType>
```

**DiscoveryAction:** Information about an action to be performed on a discovery source.

### 2.2.4.2 ArrayOfDiscoveryActionStatus

**Namespace:** <http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11>

The **ArrayOfDiscoveryActionStatus** type contains a list of **DiscoveryActionStatus** elements.

```
<xs:complexType name="ArrayOfDiscoveryActionStatus"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="DiscoveryActionStatus"
nillable="true" type="q3:DiscoveryActionStatus"/>
  </xs:sequence>
</xs:complexType>
```

**DiscoveryActionStatus:** Information about the status of an action to be performed on a discovery source.

### 2.2.4.3 DiscoveryAction

**Namespace:** <http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11>

The **DiscoveryAction** complex type contains information about an action to be performed on a discovery source.

```
<xs:complexType name="DiscoveryAction" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="ActionId" type="ser:guid"/>
    <xs:element minOccurs="0" name="ActionType" type="q3:DiscoveryActionType"/>
    <xs:element minOccurs="0" name="CaseId" type="ser:guid"/>
    <xs:element minOccurs="0" name="ContainerId" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="CorrelationId" type="ser:guid"/>
    <xs:element minOccurs="0" name="DiscoveryConsoleId" type="ser:guid"/>
    <xs:element minOccurs="0" name="ExternalFederationId" type="ser:guid"/>
    <xs:element minOccurs="0" name="FederationId" type="ser:guid"/>
    <xs:element minOccurs="0" name="HoldId" type="ser:guid"/>
    <xs:element minOccurs="0" name="PartitionId" type="ser:guid"/>
    <xs:element minOccurs="0" name="PreservationListQuery" nillable="true" type="xs:string"/>
    <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="PropertyBag" nillable="true" type="tns1:ArrayOfKeyValueOfstringstring"/>
    <xs:element minOccurs="0" name="Query" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="TimeCreated" type="xs:dateTime"/>
    <xs:element minOccurs="0" name="WebId" type="ser:guid"/>
  </xs:sequence>
</xs:complexType>
```

**ActionId:** The identifier of the action.

**ActionType:** The type of action to apply. This element **MUST** be a value from the **DiscoveryActionType** data simple type as specified in section [2.2.5.2](#).

**CaseId:** The identifier of the **discovery case** associated with this action.

**ContainerId:** The identifier of the discovery source for which the action applies. This value **MUST** be a non-empty **Uniform Resource Locator (URL)** or **e-mail address**.

**CorrelationId:** Reserved. **MUST** be ignored.

**DiscoveryConsoleId:** The identifier of the collection that contains the discovery case.

**ExternalFederationId:** The identifier of an external system to which the action is distributed.

**FederationId:** The identifier of the system that contains the discovery source.

**HoldId:** The identifier of the legal hold associated with this action.

**PartitionId:** The identifier of the **tenant**.

**PreservationListQuery:** Reserved. MUST be ignored.

**PropertyBag:** A list of properties that are associated with the action.

**Query:** A **search query** associated with the action.

**TimeCreated:** The date and time when the action was created.

**WebId:** The identifier of the **Web site** for the discovery case if **ContainerId** is a URL. This element SHOULD be an empty **GUID** if **ContainerId** is an email address.

#### 2.2.4.4 DiscoveryActionStatus

**Namespace:** <http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11>

The **DiscoveryActionStatus** complex type contains information about the status of an action to be performed on a discovery source.

```
<xs:complexType name="DiscoveryActionStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="ActionId" type="ser:guid"/>
    <xs:element minOccurs="0" name="ActionType" type="q3:DiscoveryActionType"/>
    <xs:element minOccurs="0" name="CaseId" type="ser:guid"/>
    <xs:element minOccurs="0" name="DiscoveryConsoleId" type="ser:guid"/>
    <xs:element minOccurs="0" name="ErrorMessage" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="HoldId" type="ser:guid"/>
    <xs:element minOccurs="0" name="Status" type="q3:DiscoveryStatus"/>
    <xs:element minOccurs="0" name="TimeCreated" type="xs:dateTime"/>
  </xs:sequence>
</xs:complexType>
```

**ActionId:** The identifier of the action.

**ActionType:** The type of action to apply. This element MUST be a value from the **DiscoveryActionType** data simple type as specified in section [2.2.5.2](#).

**CaseId:** The identifier of the discovery case associated with this action.

**DiscoveryConsoleId:** The identifier of the collection that contains the discovery case.

**ErrorMessage:** Empty if the action succeeded, that is, **Status** is one of **OnHold** or **NotOnHold**; otherwise, an error message that MUST NOT be empty.

**HoldId:** The identifier of the legal hold associated with this action.

**Status:** The status of the action. This element MUST be a value from the **DiscoveryStatus** simple type as specified in section [2.2.5.3](#).

**TimeCreated:** Specifies the date and time when the action was created.

#### 2.2.4.5 ArrayOfKeyValueOfstringstring

**Namespace:** <http://schemas.microsoft.com/2003/10/Serialization/Arrays>



The **ArrayOfKeyValueOfstringstring** complex type is a list of key-value pairs.

```
<xs:complexType name="ArrayOfKeyValueOfstringstring"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="KeyValueOfstringstring">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="Key" nillable="true" type="xs:string"/>
          <xs:element name="Value" nillable="true" type="xs:string"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

**KeyValueOfstringstring:** A dictionary entry that consists of a key and a value.

**KeyValueOfstringstring.Key:** The name of a property. Each value **MUST** be unique within the list and **MUST NOT** be NULL.

**KeyValueOfstringstring.Value:** The value of the property, which **MUST NOT** be null.

### 2.2.4.6 SearchServiceApplicationFault

**Namespace:** http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administration

The **SearchServiceApplicationFault** type represents the error detail of a SOAP fault generated by an operation.

```
<xs:complexType name="SearchServiceApplicationFault"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="ErrorCode" type="xs:int"/>
    <xs:element xmlns:q1="http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08"
minOccurs="0" name="FaultType" type="q1:SearchServiceApplicationFaultType"/>
    <xs:element minOccurs="0" name="Message" nillable="true" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

**ErrorCode:**

**FaultType:** The specific kind of error specified by the **SearchServiceApplicationFault** element.

**Message:** The error message associated with the error detail given by the **SearchServiceApplicationFault** element.

### 2.2.5 Simple Types

The following table summarizes the set of common XML schema simple type definitions defined by this specification. XML schema simple type definitions that are specific to a particular operation are described with the operation.

Simple type	Description
<b>char</b>	The <b>char</b> simple type represents a <b>Unicode</b> character.
<b>DiscoveryActionType</b>	The <b>DiscoveryActionType</b> simple type defines the different actions that can be applied to a discovery source.

Simple type	Description
<b>DiscoveryStatus</b>	The <b>DiscoveryStatus</b> simple type specifies the status of an action applied to a discovery source.
<b>duration</b>	The <b>duration</b> simple type specifies the time interval or duration of time measured as positive or negative number of days, hours, minutes, seconds and fractions of a second.
<b>guid</b>	The <b>guid</b> simple type contains an identifier that is globally unique.
<b>SearchServiceApplicationFaultType</b>	The <b>SearchServiceApplicationFaultType</b> type represents the type of failure for a SearchServiceApplicationFault, as defined in section <a href="#">2.2.4.6</a> . All types other than <b>DiscoveryFederatedSourceNotFound</b> are not relevant to this protocol and are defined in <a href="#">[MS-QSSWS]</a> section 3.1.4.1.4.1.

### 2.2.5.1 char

**Namespace:** <http://schemas.microsoft.com/2003/10/Serialization/>

The **char** simple type represents a Unicode character.

```
<xs:simpleType name="char" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:int"/>
</xs:simpleType>
```

### 2.2.5.2 DiscoveryActionType

**Namespace:** <http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11>

The **DiscoveryActionType** simple type defines the different actions that can be applied to a discovery source.

```
<xs:simpleType name="DiscoveryActionType" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="CreateHold"/>
    <xs:enumeration value="UpdateHold"/>
    <xs:enumeration value="ReleaseHold"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **DiscoveryActionType** simple type.

Value	Meaning
CreateHold	This value indicates that the action will put the source on a new legal hold.
UpdateHold	This value indicates that the action will update an existing legal hold for a discovery source.
ReleaseHold	This value indicates that the action will release the source from legal hold.

### 2.2.5.3 DiscoveryStatus

**Namespace:** http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11

The **DiscoveryStatus** simple type specifies the status of an action applied to a discovery source.

```
<xs:simpleType name="DiscoveryStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="CannotHold"/>
    <xs:enumeration value="NotOnHold"/>
    <xs:enumeration value="Pending"/>
    <xs:enumeration value="InProgress"/>
    <xs:enumeration value="OnFilteredHold"/>
    <xs:enumeration value="OnHold"/>
    <xs:enumeration value="PartiallyOnHold"/>
    <xs:enumeration value="Failed"/>
    <xs:enumeration value="TimedOut"/>
  </xs:restriction>
</xs:simpleType>
```

The following table specifies the allowable values for the **DiscoveryStatus** simple type.

Value	Meaning
CannotHold	This value indicates that the discovery source does not support the action of being put on legal hold.
NotOnHold	This value indicates that a <b>ReleaseHold</b> action, as defined in section <a href="#">2.2.5.2</a> , has been finished successfully. Therefore, the discovery source is not on legal hold.
Pending	This value indicates that an action is pending for the discovery source.
InProgress	This value indicates that an action is being processed for a discovery source.
OnFilteredHold	This value indicates that a <b>CreateHold</b> action, as defined in section <a href="#">2.2.5.2</a> , has been applied successfully. Therefore, contents that match the specified filter in the discovery source are on legal hold.
OnHold	This value indicates that a <b>CreateHold</b> action, as defined in section <a href="#">2.2.5.2</a> , has been applied successfully. Therefore, the discovery source is on legal hold.
PartiallyOnHold	Reserved. MUST NOT be used.
Failed	This value indicates that an action was applied to the discovery source, but it was not successful.
TimedOut	This value indicates that an action timed out for the discovery source.

### 2.2.5.4 duration

**Namespace:** http://schemas.microsoft.com/2003/10/Serialization/

The **duration** simple type specifies the time interval or duration of time measured as positive or negative number of days, hours, minutes, seconds and fractions of a second.

```
<xs:simpleType name="duration" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:duration">
    <xs:pattern value="\-?P(\d*D)?(T(\d*H)?(\d*M)?(\d*(\.\d*)?S)?)?" />
    <xs:minInclusive value="-P10675199DT2H48M5.4775808S" />
    <xs:maxInclusive value="P10675199DT2H48M5.4775807S" />
  </xs:restriction>
</xs:simpleType>
```

```
</xs:restriction>
</xs:simpleType>
```

### 2.2.5.5 guid

**Namespace:** <http://schemas.microsoft.com/2003/10/Serialization/>

The **guid** simple type contains an identifier that is globally unique.

```
<xs:simpleType name="guid" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:pattern value="\{8\}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{12}"/>
  </xs:restriction>
</xs:simpleType>
```

### 2.2.5.6 SearchServiceApplicationFaultType

**Namespace:** <http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08>

The **SearchServiceApplicationFaultType** type represents the type of failure for a **SearchServiceApplicationFault**, as defined in section 2.2.4.6. All types other than **DiscoveryFederatedSourceNotFound** are not relevant to this protocol and are defined in [\[MS-QSSWS\]](#) section 3.1.4.1.4.1.

```
<xs:simpleType name="SearchServiceApplicationFaultType"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="SpecialTerm_NotFound"/>
    <xs:enumeration value="SpecialTerm_DuplicateError"/>
    <xs:enumeration value="Synonym_NotFound"/>
    <xs:enumeration value="BestBet_NotFound"/>
    <xs:enumeration value="BestBet_OrderDuplicationError"/>
    <xs:enumeration value="AllNoiseQuery"/>
    <xs:enumeration value="SearchServiceNotFound"/>
    <xs:enumeration value="QueryMalformed"/>
    <xs:enumeration value="ScopeNotFound"/>
    <xs:enumeration value="InvalidProperty"/>
    <xs:enumeration value="OnlyExcludedTerms"/>
    <xs:enumeration value="RankingModelNotFound"/>
    <xs:enumeration value="UnsupportedTopology"/>
    <xs:enumeration value="FASTSearchQuery"/>
    <xs:enumeration value="Timeout"/>
    <xs:enumeration value="ExtendedConnectorApplicaion"/>
    <xs:enumeration value="PartitionOptionsMismatch"/>
    <xs:enumeration value="TooComplexQueryException"/>
    <xs:enumeration value="QueryThrottled"/>
    <xs:enumeration value="InternalError"/>
    <xs:enumeration value="QueryTransformInvalidProperty"/>
    <xs:enumeration value="QueryConfigurationImportException"/>
    <xs:enumeration value="ApplicationSpecific"/>
    <xs:enumeration value="DiscoveryFederatedSourceNotFound"/>
    <xs:enumeration value="RemoteSharepointSourceFault"/>
    <xs:enumeration value="TenantSiteCollectionMismatchException"/>
    <xs:enumeration value="InvalidNameException"/>
    <xs:enumeration value="InvalidPropertyTypeException"/>
    <xs:enumeration value="CouldNotModifySchemaException"/>
    <xs:enumeration value="InvalidMappingException"/>
    <xs:enumeration value="ObjectNotFoundException"/>
    <xs:enumeration value="PropertyIsReadOnlyException"/>
    <xs:enumeration value="PropertyCannotHaveMappingsException"/>
    <xs:enumeration value="InvalidManagedPropertyValue"/>
  </xs:restriction>
</xs:simpleType>
```

```

<xs:enumeration value="ArgumentNullException"/>
<xs:enumeration value="UnauthorizedAccessException"/>
<xs:enumeration value="DatabaseException"/>
<xs:enumeration value="SchemaExportException"/>
<xs:enumeration value="SchemaImportException"/>
<xs:enumeration value="NotSupported"/>
<xs:enumeration value="QueryPropertyOutOfRange"/>
</xs:restriction>
</xs:simpleType>

```

The following table specifies the allowable values for the **SearchServiceApplicationFaultType** simple type.

Value	Meaning
SpecialTerm_NotFound	Defined in [MS-QSSWS] section 3.1.4.1.4.1
SpecialTerm_DuplicateError	Defined in [MS-QSSWS] section 3.1.4.1.4.1
Synonym_NotFound	Defined in [MS-QSSWS] section 3.1.4.1.4.1
BestBet_NotFound	Defined in [MS-QSSWS] section 3.1.4.1.4.1
BestBet_OrderDuplicationError	Defined in [MS-QSSWS] section 3.1.4.1.4.1
AllNoiseQuery	Defined in [MS-QSSWS] section 3.1.4.1.4.1
SearchServiceNotFound	Defined in [MS-QSSWS] section 3.1.4.1.4.1
QueryMalformed	Defined in [MS-QSSWS] section 3.1.4.1.4.1
ScopeNotFound	Defined in [MS-QSSWS] section 3.1.4.1.4.1
InvalidProperty	Defined in [MS-QSSWS] section 3.1.4.1.4.1
OnlyExcludedTerms	Defined in [MS-QSSWS] section 3.1.4.1.4.1
RankingModelNotFound	Defined in [MS-QSSWS] section 3.1.4.1.4.1
UnsupportedTopology	Defined in [MS-QSSWS] section 3.1.4.1.4.1
FASTSearchQuery	Defined in [MS-QSSWS] section 3.1.4.1.4.1
Timeout	Defined in [MS-QSSWS] section 3.1.4.1.4.1
ExtendedConnectorApplicaion	Defined in [MS-QSSWS] section 3.1.4.1.4.1
PartitionOptionsMismatch	Defined in [MS-QSSWS] section 3.1.4.1.4.1
TooComplexQueryException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
QueryThrottled	Defined in [MS-QSSWS] section 3.1.4.1.4.1
InternalError	Defined in [MS-QSSWS] section 3.1.4.1.4.1
QueryTransformInvalidProperty	Defined in [MS-QSSWS] section 3.1.4.1.4.1
QueryConfigurationImportException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
ApplicationSpecific	
DiscoveryFederatedSourceNotFound	The discovery source is not found.
RemoteSharepointSourceFault	Defined in [MS-QSSWS] section 3.1.4.1.4.1

<b>Value</b>	<b>Meaning</b>
TenantSiteCollectionMismatchException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
InvalidNameException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
InvalidPropertyTypeException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
CouldNotModifySchemaException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
InvalidMappingException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
ObjectNotFoundException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
PropertyIsReadOnlyException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
PropertyCannotHaveMappingsException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
InvalidManagedPropertyValue	Defined in [MS-QSSWS] section 3.1.4.1.4.1
ArgumentNullException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
UnauthorizedAccessException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
DatabaseException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
SchemaExportException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
SchemaImportException	Defined in [MS-QSSWS] section 3.1.4.1.4.1
NotSupported	Defined in [MS-QSSWS] section 3.1.4.1.4.1
QueryPropertyOutOfRange	Defined in [MS-QSSWS] section 3.1.4.1.4.1

### **2.2.6 Attributes**

This specification does not define any common XML schema attribute definitions.

### **2.2.7 Groups**

This specification does not define any common XML schema group definitions.

### **2.2.8 Attribute Groups**

This specification does not define any common XML schema attribute group definitions.

### **2.2.9 Common Data Structures**

This specification does not define any common XML Schema data structures.

## 3 Protocol Details

The client side of this protocol is simply a pass-through. That is, no additional timers or other state is required on the client side of this protocol. Calls made by the higher-layer protocol or application are passed directly to the transport, and the results returned by the transport are passed directly back to the higher-layer protocol or application.

In the following sections, the schema definition might be less restrictive than the processing rules imposed by the protocol. The WSDL in this specification matches the WSDL that shipped with the product and provides a base description of the schema. The text that introduces the WSDL specifies additional restrictions that reflect actual product behavior. For example, the schema definition might allow for an element to be empty, null, or not present but the behavior of the protocol as specified restricts the same elements to being non-empty, not null and present.

### 3.1 Server Details

#### 3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

The protocol server maintains a multiple collections of discovery cases, for example lawsuits for 2005-2010 and lawsuits for 2000-2005.

For each case, the protocol server maintains a list of discovery sources that are applicable to the scope of the discovery case. For example, if a case were about Contoso vs. Fabrikam, an exemplary discovery source might be the email mailbox for the executives of Contoso. Discovery sources can be organized in groups, such as locations associated with a given person (that is, custodian). The protocol server also maintains internal state about actions that need to be performed for discovery sources, such as when a given discovery source should be placed on legal hold, as well as the status of whether those actions have been performed.

In addition, the protocol server maintains a list of search queries applicable to the discovery sources of a given case, as well as metadata about when those search queries have been exported (that is, downloaded).

The protocol server also maintains a directory of valid email mailboxes and Web sites that can be used as discovery sources. In addition, the protocol server maintains a set of **policies** that can be associated with the location.

#### 3.1.2 Timers

None.

#### 3.1.3 Initialization

None.

#### 3.1.4 Message Processing Events and Sequencing Rules

The following table summarizes the list of operations as defined by this specification.

Operation	Description
<b>ClearDiscoveryActions</b>	This operation is used by the protocol client to delete the actions identified by the provided <b>actionIds</b> .
<b>ClearOldDiscoveryActions</b>	This operation is used by the protocol client to delete expired actions.
<b>GetAllStatus</b>	This operation is used by the protocol client to get the status of all actions that have been initiated for a collection of discovery cases.
<b>GetDiscoveryActions</b>	This operation is used by the protocol client to retrieve the actions that have not been processed.
<b>GetNonIndexableItemStatistics</b>	This operation is used by the protocol client to get statistics on items that cannot be successfully indexed by the search system.
<b>InvokeDiscoveryActions</b>	This operation is used by the protocol clients to initiate actions for the protocol server to perform for discovery cases.
<b>ReportDiscoveryActionStatus</b>	This operation is used by the protocol client to update the status of processed actions.
<b>ValidateSources</b>	This operation is used by the protocol client to validate a discovery source.

### 3.1.4.1 ClearDiscoveryActions

This operation is used by the protocol client to delete the actions identified by the provided **actionIds**.

The following is the **WSDL** port type specification of the **ClearDiscoveryActions WSDL operation**.

```
<wsdl:operation name="ClearDiscoveryActions" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
    wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ClearDiscoveryActions"
    message="tns2:IDiscoveryServiceApplication_ClearDiscoveryActions_InputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
    wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ClearDiscoveryActionsResponse"
    message="tns2:IDiscoveryServiceApplication_ClearDiscoveryActions_OutputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IDiscoveryServiceApplication\_ClearDiscoveryActions\_InputMessage** request message, and the protocol server responds with an **IDiscoveryServiceApplication\_ClearDiscoveryActions\_OutputMessage** response message as follows:

- The protocol server deletes the actions identified by the **actionIds** parameter.

#### 3.1.4.1.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>IDiscoveryServiceApplication_ClearDiscoveryActions_InputMessage</b>	The request WSDL message for the <b>ClearDiscoveryActions</b>



Message	Description
	WSDL operation.
<b>IDiscoveryServiceApplication_ClearDiscoveryActions_OutputMessage</b>	The response WSDL message for the <b>ClearDiscoveryActions</b> WSDL operation.

### 3.1.4.1.1.1 IDiscoveryServiceApplication\_ClearDiscoveryActions\_InputMessage

The request WSDL message for the **ClearDiscoveryActions** WSDL operation.

The **SOAP action** value is:

```
http://tempuri.org/IDiscoveryServiceApplication/ClearDiscoveryActions
```

The **SOAP body** contains the **ClearDiscoveryActions** element.

### 3.1.4.1.1.2 IDiscoveryServiceApplication\_ClearDiscoveryActions\_OutputMessage

The response WSDL message for the **ClearDiscoveryActions** WSDL operation.

The SOAP body contains the **ClearDiscoveryActionsResponse** element.

### 3.1.4.1.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>ClearDiscoveryActions</b>	The input data for the <b>ClearDiscoveryActions</b> WSDL operation.
<b>ClearDiscoveryActionsResponse</b>	The result data for the <b>ClearDiscoveryActions</b> WSDL operation.

#### 3.1.4.1.2.1 ClearDiscoveryActions

The **ClearDiscoveryActions** element specifies the input data for the **ClearDiscoveryActions** WSDL operation.

```
<xs:element name="ClearDiscoveryActions" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
        minOccurs="0" name="discoveryConsoleId" type="ser:guid"/>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
        minOccurs="0" name="rawPartitionId" type="ser:guid"/>
      <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
        minOccurs="0" name="actionIds" nillable="true" type="tns1:ArrayOfguid"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**discoveryConsoleId:** The identifier of a collection of discovery cases.

**rawPartitionId:** The identifier of the tenant.

**actionIds:** The list of IDs of the actions to be deleted.

### 3.1.4.1.2.2 ClearDiscoveryActionsResponse

The **ClearDiscoveryActionsResponse** element specifies the result data for the **ClearDiscoveryActions** WSDL operation.

```
<xs:element name="ClearDiscoveryActionsResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence/>  
  </xs:complexType>  
</xs:element>
```

### 3.1.4.1.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
ArrayOfguid	This complex type is defined in section <a href="#">3.1.4.1.3.1</a> .

#### 3.1.4.1.3.1 ArrayOfguid

**Namespace:** http://schemas.microsoft.com/2003/10/Serialization/Arrays

An array of zero or more **guids** used to identify discovery Actions.

```
<xs:complexType name="ArrayOfguid" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:sequence>  
    <xs:element minOccurs="0" maxOccurs="unbounded" name="guid" type="ser:guid"/>  
  </xs:sequence>  
</xs:complexType>
```

**guid:** A simple type that represents a GUID.

#### 3.1.4.1.4 Simple Types

None.

#### 3.1.4.1.5 Attributes

None.

#### 3.1.4.1.6 Groups

None.

#### 3.1.4.1.7 Attribute Groups

None.

### 3.1.4.2 ClearOldDiscoveryActions

This operation is used by the protocol client to delete expired actions.

The following is the WSDL port type specification of the **ClearOldDiscoveryActions** WSDL operation.

```
<wsdl:operation name="ClearOldDiscoveryActions"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ClearOldDiscoveryActions"
message="tns2:IDiscoveryServiceApplication_ClearOldDiscoveryActions_InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ClearOldDiscoveryActionsResponse"
message="tns2:IDiscoveryServiceApplication_ClearOldDiscoveryActions_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IDiscoveryServiceApplication\_ClearOldDiscoveryActions\_InputMessage** request message, and the protocol server responds with an **IDiscoveryServiceApplication\_ClearOldDiscoveryActions\_OutputMessage** response message, as follows:

- The protocol server determines an implementation-specific expiration date that is used to determine which actions are old enough to be deleted.
- The protocol server deletes all the actions that were created prior to the expiration date.

#### 3.1.4.2.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>IDiscoveryServiceApplication_ClearOldDiscoveryActions_InputMessage</b>	The request WSDL message for the <b>ClearOldDiscoveryActions</b> WSDL operation.
<b>IDiscoveryServiceApplication_ClearOldDiscoveryActions_OutputMessage</b>	The response WSDL message for the <b>ClearOldDiscoveryActions</b> WSDL operation.

##### 3.1.4.2.1.1 IDiscoveryServiceApplication\_ClearOldDiscoveryActions\_InputMessage

The request WSDL message for the **ClearOldDiscoveryActions** WSDL operation.

The SOAP action value is:

```
http://tempuri.org/IDiscoveryServiceApplication/ClearOldDiscoveryActions
```

The SOAP body contains the **ClearOldDiscoveryActions** element.

### 3.1.4.2.1.2 IDiscoveryServiceApplication\_ClearOldDiscoveryActions\_OutputMessage

The response WSDL message for the **ClearOldDiscoveryActions** WSDL operation.

The SOAP body contains the **ClearOldDiscoveryActionsResponse** element.

### 3.1.4.2.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>ClearOldDiscoveryActions</b>	The input data for the <b>ClearOldDiscoveryActions</b> WSDL operation.
<b>ClearOldDiscoveryActionsResponse</b>	The result data for the <b>ClearOldDiscoveryActions</b> WSDL operation.

#### 3.1.4.2.2.1 ClearOldDiscoveryActions

The **ClearOldDiscoveryActions** element specifies the input data for the **ClearOldDiscoveryActions** WSDL operation.

```
<xs:element name="ClearOldDiscoveryActions" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence/>
  </xs:complexType>
</xs:element>
```

#### 3.1.4.2.2.2 ClearOldDiscoveryActionsResponse

The **ClearOldDiscoveryActionsResponse** element specifies the result data for the **ClearOldDiscoveryActions** WSDL operation.

```
<xs:element name="ClearOldDiscoveryActionsResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence/>
  </xs:complexType>
</xs:element>
```

#### 3.1.4.2.3 Complex Types

None.

#### 3.1.4.2.4 Simple Types

None.

#### 3.1.4.2.5 Attributes

None.

#### 3.1.4.2.6 Groups

None.

### 3.1.4.2.7 Attribute Groups

None.

### 3.1.4.3 GetAllStatus

This operation is used by the protocol client to get the status of all actions that have been initiated for a collection of discovery cases.

The following is the WSDL port type specification of the **GetAllStatus** WSDL operation.

```
<wsdl:operation name="GetAllStatus" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetAllStatus"
    message="tns2:IDiscoveryServiceApplication_GetAllStatus_InputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
    wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetAllStatusResponse"
    message="tns2:IDiscoveryServiceApplication_GetAllStatus_OutputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IDiscoveryServiceApplication\_GetAllStatus\_InputMessage** request message and the protocol server responds with an **IDiscoveryServiceApplication\_GetAllStatus\_OutputMessage** response message as follows:

- The protocol server returns the status of all actions.

#### 3.1.4.3.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>IDiscoveryServiceApplication_GetAllStatus_InputMessage</b>	The request WSDL message for the <b>GetAllStatus</b> WSDL operation.
<b>IDiscoveryServiceApplication_GetAllStatus_OutputMessage</b>	The response WSDL message for the <b>GetAllStatus</b> WSDL operation.

##### 3.1.4.3.1.1 IDiscoveryServiceApplication\_GetAllStatus\_InputMessage

The request WSDL message for the **GetAllStatus** WSDL operation.

The SOAP action value is:

```
http://tempuri.org/IDiscoveryServiceApplication/GetAllStatus
```

The SOAP body contains the **GetAllStatus** element.

##### 3.1.4.3.1.2 IDiscoveryServiceApplication\_GetAllStatus\_OutputMessage

The response WSDL message for the **GetAllStatus** WSDL operation.

The SOAP body contains the **GetAllStatusResponse** element.

### 3.1.4.3.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetAllStatus</b>	The input data for the <b>GetAllStatus</b> WSDL operation.
<b>GetAllStatusResponse</b>	The result data for the <b>GetAllStatus</b> WSDL operation.

#### 3.1.4.3.2.1 GetAllStatus

The **GetAllStatus** element specifies the input data for the **GetAllStatus** WSDL operation.

```
<xs:element name="GetAllStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
        minOccurs="0" name="rawPartitionId" type="ser:guid"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**rawPartitionId:** The identifier of the tenant.

#### 3.1.4.3.2.2 GetAllStatusResponse

The **GetAllStatusResponse** element specifies the result data for the **GetAllStatus** WSDL operation.

```
<xs:element name="GetAllStatusResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
        minOccurs="0" name="GetAllStatusResult" nillable="true"
        type="q3:ArrayOfDiscoveryActionStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**GetAllStatusResult:** The status of the actions for the tenant.

### 3.1.4.3.3 Complex Types

None.

### 3.1.4.3.4 Simple Types

None.

### 3.1.4.3.5 Attributes

None.

### 3.1.4.3.6 Groups

None.

### 3.1.4.3.7 Attribute Groups

None.

### 3.1.4.4 GetDiscoveryActions

This operation is used by the protocol client to retrieve the actions that have not been processed.

The following is the WSDL port type specification of the **GetDiscoveryActions** WSDL operation.

```
<wsdl:operation name="GetDiscoveryActions" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
    wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetDiscoveryActions"
    message="tns2:IDiscoveryServiceApplication_GetDiscoveryActions_InputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
    wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetDiscoveryActionsResponse"
    message="tns2:IDiscoveryServiceApplication_GetDiscoveryActions_OutputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IDiscoveryServiceApplication\_GetServiceActions\_InputMessage** request message and the protocol server responds with an **IDiscoveryServiceApplication\_GetServiceActions\_OutputMessage** response message, as follows:

- The protocol server returns a list of actions that have not been processed. If there are no actions to process, the protocol server MUST return null.

#### 3.1.4.4.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>IDiscoveryServiceApplication_GetDiscoveryActions_InputMessage</b>	The request WSDL message for the <b>GetDiscoveryActions</b> WSDL operation.
<b>IDiscoveryServiceApplication_GetDiscoveryActions_OutputMessage</b>	The response WSDL message for the <b>GetDiscoveryActions</b> WSDL operation.

##### 3.1.4.4.1.1 IDiscoveryServiceApplication\_GetDiscoveryActions\_InputMessage

The request WSDL message for the **GetDiscoveryActions** WSDL operation.

The SOAP action value is:

```
http://tempuri.org/IDiscoveryServiceApplication/GetDiscoveryActions
```

The SOAP body contains the **GetDiscoveryActions** element.

##### 3.1.4.4.1.2 IDiscoveryServiceApplication\_GetDiscoveryActions\_OutputMessage

The response WSDL message for the **GetDiscoveryActions** WSDL operation.

The SOAP body contains the **GetDiscoveryActionsResponse** element.

### 3.1.4.4.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetDiscoveryActions</b>	The input data for the <b>GetDiscoveryActions</b> WSDL operation.
<b>GetDiscoveryActionsResponse</b>	The result data for the <b>GetDiscoveryActions</b> WSDL operation.

#### 3.1.4.4.2.1 GetDiscoveryActions

The **GetDiscoveryActions** element specifies the input data for the **GetDiscoveryActions** WSDL operation.

```
<xs:element name="GetDiscoveryActions" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"  
minOccurs="0" name="rawPartitionId" type="ser:guid"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

**rawPartitionId:** The identifier of the tenant.

#### 3.1.4.4.2.2 GetDiscoveryActionsResponse

The **GetDiscoveryActionsResponse** element specifies the result data for the **GetDiscoveryActions** WSDL operation.

```
<xs:element name="GetDiscoveryActionsResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/ActionTypes/2010/11/"  
minOccurs="0" name="GetDiscoveryActionsResult" nillable="true"  
type="q3:ArrayOfDiscoveryAction"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

**GetDiscoveryActionsResult:** The actions for the tenant.

#### 3.1.4.4.3 Complex Types

None.

#### 3.1.4.4.4 Simple Types

None.

#### 3.1.4.4.5 Attributes



None.

### 3.1.4.4.6 Groups

None.

### 3.1.4.4.7 Attribute Groups

None.

### 3.1.4.5 InvokeDiscoveryActions

This operation is used by the protocol clients to initiate actions for the protocol server to perform for discovery cases.

The following is the WSDL port type specification of the **InvokeDiscoveryActions** WSDL operation.

```
<wsdl:operation name="InvokeDiscoveryActions" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
    wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/InvokeDiscoveryActions"
    message="tns2:IDiscoveryServiceApplication_InvokeDiscoveryActions_InputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
    wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/InvokeDiscoveryActionsResponse"
    message="tns2:IDiscoveryServiceApplication_InvokeDiscoveryActions_OutputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IDiscoveryServiceApplication\_InvokeDiscoveryActions\_InputMessage** request message and the protocol server responds with an **IDiscoveryServiceApplication\_InvokeDiscoveryActions\_OutputMessage** response message, as follows:

- The protocol server records the action. This action is performed synchronously, asynchronously, or in a federated manner (as in processed by an external system) by the protocol server in an implementation-specific manner.

#### 3.1.4.5.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>IDiscoveryServiceApplication_InvokeDiscoveryActions_InputMessage</b>	The request WSDL message for the <b>InvokeDiscoveryActions</b> WSDL operation.
<b>IDiscoveryServiceApplication_InvokeDiscoveryActions_OutputMessage</b>	The response WSDL message for the <b>InvokeDiscoveryActions</b> WSDL operation.

#### 3.1.4.5.1.1 IDiscoveryServiceApplication\_InvokeDiscoveryActions\_InputMessage

The request WSDL message for the **InvokeDiscoveryActions** WSDL operation.

The SOAP action value is:

```
http://tempuri.org/IDiscoveryServiceApplication/InvokeDiscoveryActions
```

The SOAP body contains the **InvokeDiscoveryActions** element.

### 3.1.4.5.1.2 IDiscoveryServiceApplication\_InvokeDiscoveryActions\_OutputMessage

The response WSDL message for the **InvokeDiscoveryActions** WSDL operation.

The SOAP body contains the **InvokeDiscoveryActionsResponse** element.

### 3.1.4.5.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>InvokeDiscoveryActions</b>	The input data for the <b>InvokeDiscoveryActions</b> WSDL operation.
<b>InvokeDiscoveryActionsResponse</b>	The result data for the <b>InvokeDiscoveryActions</b> WSDL operation.

#### 3.1.4.5.2.1 InvokeDiscoveryActions

The **InvokeDiscoveryActions** element specifies the input data for the **InvokeDiscoveryActions** WSDL operation.

```
<xs:element name="InvokeDiscoveryActions" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
        minOccurs="0" name="discoveryConsoleId" type="ser:guid"/>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
        minOccurs="0" name="rawPartitionId" type="ser:guid"/>
      <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
        minOccurs="0" name="actions" nillable="true" type="q3:ArrayOfDiscoveryAction"/>
      <xs:element minOccurs="0" name="userInitiated" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**discoveryConsoleId:** The identifier of the collection of discovery cases.

**rawPartitionId:** The identifier of the tenant.

**actions:** The list of actions to perform.

**userInitiated:** Specifies if the operation is invoked by a user (vs. for example an automated system process).

#### 3.1.4.5.2.2 InvokeDiscoveryActionsResponse

The **InvokeDiscoveryActionsResponse** element specifies the result data for the **InvokeDiscoveryActions** WSDL operation.

```

<xs:element name="InvokeDiscoveryActionsResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="InvokeDiscoveryActionsResult" nillable="true"
type="q3:ArrayOfDiscoveryActionStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

**InvokeDiscoveryActionsResult:** The status of the actions.

### 3.1.4.5.3 Complex Types

None.

### 3.1.4.5.4 Simple Types

None.

### 3.1.4.5.5 Attributes

None.

### 3.1.4.5.6 Groups

None.

### 3.1.4.5.7 Attribute Groups

None.

### 3.1.4.6 ReportDiscoveryActionStatus

This operation is used by the protocol client to update the status of processed actions.

The following is the WSDL port type specification of the **ReportDiscoveryActionStatus** WSDL operation.

```

<wsdl:operation name="ReportDiscoveryActionStatus"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ReportDiscoveryActionStatus"
message="tns2:IDiscoveryServiceApplication ReportDiscoveryActionStatus InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ReportDiscoveryActionStatusRespo
nse" message="tns2:IDiscoveryServiceApplication ReportDiscoveryActionStatus OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>

```

The protocol client sends an

**IDiscoveryServiceApplication\_ReportDiscoveryActionStatus\_InputMessage** request message and the protocol server responds with an

**IDiscoveryServiceApplication\_ReportDiscoveryActionStatus\_InputMessage** response message, as follows:

- The protocol server records the status for the action.

### 3.1.4.6.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>IDiscoveryServiceApplication_ReportDiscoveryActionStatus_InputMessage</b>	The request WSDL message for the <b>ReportDiscoveryActionStatus</b> WSDL operation.
<b>IDiscoveryServiceApplication_ReportDiscoveryActionStatus_OutputMessage</b>	The response WSDL message for the <b>ReportDiscoveryActionStatus</b> WSDL operation.

#### 3.1.4.6.1.1 IDiscoveryServiceApplication\_ReportDiscoveryActionStatus\_InputMessage

The request WSDL message for the **ReportDiscoveryActionStatus** WSDL operation.

The SOAP action value is:

```
http://tempuri.org/IDiscoveryServiceApplication/ReportDiscoveryActionStatus
```

The SOAP body contains the **ReportDiscoveryActionStatus** element.

#### 3.1.4.6.1.2 IDiscoveryServiceApplication\_ReportDiscoveryActionStatus\_OutputMessage

The response WSDL message for the **ReportDiscoveryActionStatus** WSDL operation.

The SOAP body contains the **ReportDiscoveryActionStatusResponse** element.

### 3.1.4.6.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>ReportDiscoveryActionStatus</b>	The input data for the <b>ReportDiscoveryActionStatus</b> WSDL operation.
<b>ReportDiscoveryActionStatusResponse</b>	The result data for the <b>ReportDiscoveryActionStatus</b> WSDL operation.

#### 3.1.4.6.2.1 ReportDiscoveryActionStatus

The **ReportDiscoveryActionStatus** element specifies the input data for the **ReportDiscoveryActionStatus** WSDL operation.

```

<xs:element name="ReportDiscoveryActionStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="rawPartitionId" type="ser:guid"/>
      <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="status" nillable="true" type="q3:ArrayOfDiscoveryActionStatus"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

**rawPartitionId:** The identifier of the tenant.

**status:** The list of statuses.

### 3.1.4.6.2.2 ReportDiscoveryActionStatusResponse

The **ReportDiscoveryActionStatusResponse** element specifies the result data for the **ReportDiscoveryActionStatus** WSDL operation.

```

<xs:element name="ReportDiscoveryActionStatusResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence/>
  </xs:complexType>
</xs:element>

```

### 3.1.4.6.3 Complex Types

None.

### 3.1.4.6.4 Simple Types

None.

### 3.1.4.6.5 Attributes

None.

### 3.1.4.6.6 Groups

None.

### 3.1.4.6.7 Attribute Groups

None.

### 3.1.4.7 ValidateSources

This operation is used by the protocol client to validate a discovery source.

The following is the WSDL port type specification of the **ValidateSources** WSDL operation.

```

<wsdl:operation name="ValidateSources" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ValidateSources"
message="tns2:IDiscoveryServiceApplication ValidateSources InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>

```

```

<wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ValidateSourcesResponse"
message="tns2:IDiscoveryServiceApplication_ValidateSources_OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
<wsdl:fault
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ValidateSourcesSearchServiceApp
licationFaultFault" name="SearchServiceApplicationFaultFault"
message="tns2:IDiscoveryServiceApplication_ValidateSources_SearchServiceApplicationFaultFault
_FaultMessage" xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>

```

The protocol client sends an **IDiscoveryServiceApplication\_ValidateSources\_InputMessage** input message and the protocol server responds with an **IDiscoveryServiceApplication\_ValidateSources\_OutputMessage** as follows:

- The protocol server determines if there are one or more discovery sources that match the filter. If so, it returns them. Otherwise, it returns an empty list.

### 3.1.4.7.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>IDiscoveryServiceApplication_ValidateSources_InputMessage</b>	The request WSDL message for the <b>ValidateSources</b> WSDL operation.
<b>IDiscoveryServiceApplication_ValidateSources_OutputMessage</b>	The response WSDL message for the <b>ValidateSources</b> WSDL operation.

#### 3.1.4.7.1.1 IDiscoveryServiceApplication\_ValidateSources\_InputMessage

The request WSDL message for the **ValidateSources** WSDL operation.

The SOAP action value is:

```
http://tempuri.org/IDiscoveryServiceApplication/ValidateSources
```

The SOAP body contains the **ValidateSources** element.

#### 3.1.4.7.1.2 IDiscoveryServiceApplication\_ValidateSources\_OutputMessage

The response WSDL message for the **ValidateSources** WSDL operation.

The SOAP body contains the **ValidateSourcesResponse** element.

### 3.1.4.7.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>ValidateSources</b>	The input data for the <b>ValidateSources</b> WSDL operation.

Element	Description
<b>ValidateSourcesResponse</b>	The result data for the <b>ValidateSources</b> WSDL operation.

### 3.1.4.7.2.1 ValidateSources

The **ValidateSources** element specifies the input data for the **ValidateSources** WSDL operation.

```
<xs:element name="ValidateSources" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="discoveryConsoleId" type="ser:guid"/>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="rawPartitionId" type="ser:guid"/>
      <xs:element minOccurs="0" name="sourceType" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="filter" nillable="true" type="xs:string"/>
      <xs:element xmlns:tens1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="federationSettings" nillable="true"
type="tens1:ArrayOfKeyValueOfstringstring"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**discoveryConsoleId:** The identifier of a collection of discovery cases.

**rawPartitionId:** The identifier of the tenant.

**sourceType:** Reserved. MUST be the value "exchange".

**filter:** A string used to filter the result sources.

**federationSettings:** The property bag that contains the implementation specific connection info to connect to the federated system.

### 3.1.4.7.2.2 ValidateSourcesResponse

The **ValidateSourcesResponse** element specifies the result data for the **ValidateSources** WSDL operation.

```
<xs:element name="ValidateSourcesResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="ValidateSourcesResult" nillable="true" type="q3:ArrayOfDiscoverySource"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**ValidateSourcesResult:** A list of discovery sources.

### 3.1.4.7.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>ArrayOfDiscoverySource</b>	Specifies a list of sources. This complex type is defined in section <a href="#">3.1.4.7.3.1</a> .
<b>ArrayOfKeyValueOfstringanyType</b>	Specifies properties associated with a source. This complex type is defined in section <a href="#">3.1.4.7.3.3</a> .
<b>DiscoverySource</b>	Specifies a source. This complex type is defined in section <a href="#">3.1.4.7.3.2</a> .

### 3.1.4.7.3.1 ArrayOfDiscoverySource

**Namespace:** <http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11>

The ArrayOfDiscoverySource type contains information about a collection of DiscoverySource.

```
<xs:complexType name="ArrayOfDiscoverySource" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="DiscoverySource" nillable="true"
type="q3:DiscoverySource"/>
  </xs:sequence>
</xs:complexType>
```

**DiscoverySource:** Information about a discovery source.

### 3.1.4.7.3.2 DiscoverySource

**Namespace:** <http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11>

The DiscoverySource type contains information about a discovery source.

```
<xs:complexType name="DiscoverySource" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="ContainerId" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="DisplayName" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="ExternalFederationId" type="ser:guid"/>
    <xs:element minOccurs="0" name="FederationId" type="ser:guid"/>
    <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="PropertyBag" nillable="true" type="tns1:ArrayOfKeyValueOfstringanyType"/>
  </xs:sequence>
</xs:complexType>
```

**ContainerId:** The identifier of the discovery source. This value MUST be a non-empty Uniform Resource Locator (URL) or e-mail address.

**DisplayName:** The name of the discovery source.

**ExternalFederationId:** The identifier of an external system to which actions for the discovery source need to be distributed.

**FederationId:** The identifier of the system that contains the discovery source.

**PropertyBag:** A list of properties associated with the discovery source.

### 3.1.4.7.3.3 ArrayOfKeyValueOfstringanyType

**Namespace:** <http://schemas.microsoft.com/2003/10/Serialization/Arrays>



The `ArrayOfKeyValueOfstringanyType` complex type is a list of key-value pairs.

```
<xs:complexType name="ArrayOfKeyValueOfstringanyType"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="KeyValueOfstringanyType">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="Key" nillable="true" type="xs:string"/>
          <xs:element name="Value" nillable="true" type="xs:anyType"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

**KeyValueOfstringanyType:** A dictionary entry that consists of a key and a value.

**KeyValueOfstringanyType.Key:** The name of a property. Each value **MUST** be unique within the list and **MUST NOT** be NULL.

**KeyValueOfstringanyType.Value:** The value of the property, which **MUST NOT** be null.

#### 3.1.4.7.4 Simple Types

None.

#### 3.1.4.7.5 Attributes

None.

#### 3.1.4.7.6 Groups

None.

#### 3.1.4.7.7 Attribute Groups

None.

#### 3.1.4.8 GetNonIndexableItemStatistics

This operation is used by the protocol client to get statistics on items that cannot be successfully indexed by the search system.

The following is the WSDL port type specification of the **GetNonIndexableItemStatistics** WSDL operation.

```
<wsdl:operation name="GetNonIndexableItemStatistics"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetNonIndexableItemStatistics"
message="tns2:IDiscoveryServiceApplication GetNonIndexableItemStatistics InputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetNonIndexableItemStatisticsRes
ponse"
message="tns2:IDiscoveryServiceApplication GetNonIndexableItemStatistics OutputMessage"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IDiscoveryServiceApplication\_GetNonIndexableItemStatistics\_InputMessage** input message and the protocol server responds with an **IDiscoveryServiceApplication\_GetNonIndexableItemStatistics\_OutputMessage** as follows:

- The protocol server determines if there are indexing errors for items contained in the discovery sources. If so, it returns statistics on those errors. Otherwise, it returns an empty list.

### 3.1.4.8.1 Messages

The following table summarizes the set of WSDL message definitions that are specific to this operation.

Message	Description
<b>IDiscoveryServiceApplication_GetNonIndexableItemStatistics_InputMessage</b>	The request WSDL message for the <b>GetNonIndexableItemStatistics</b> WSDL operation.
<b>IDiscoveryServiceApplication_GetNonIndexableItemStatistics_OutputMessage</b>	The response WSDL message for the <b>GetNonIndexableItemStatistics</b> WSDL operation.

#### 3.1.4.8.1.1 IDiscoveryServiceApplication\_GetNonIndexableItemStatistics\_InputMessage

The request WSDL message for the **GetNonIndexableItemStatistics** WSDL operation.

The SOAP action value is:

```
http://tempuri.org/IDiscoveryServiceApplication/GetNonIndexableItemStatistics
```

The SOAP body contains the **GetNonIndexableItemStatistics** element.

#### 3.1.4.8.1.2 IDiscoveryServiceApplication\_GetNonIndexableItemStatistics\_OutputMessage

The response WSDL message for the **GetNonIndexableItemStatistics** WSDL operation.

The SOAP body contains the **GetNonIndexableItemStatisticsResponse** element.

### 3.1.4.8.2 Elements

The following table summarizes the XML schema element definitions that are specific to this operation.

Element	Description
<b>GetNonIndexableItemStatistics</b>	The input data for the <b>GetNonIndexableItemStatistics</b> WSDL operation.
<b>GetNonIndexableItemStatisticsResponse</b>	The result data for the <b>GetNonIndexableItemStatistics</b> WSDL operation.

### 3.1.4.8.2.1 GetNonIndexableItemStatistics

The **GetNonIndexableItemStatistics** element specifies the input data for the **GetNonIndexableItemStatistics** WSDL operation.

```
<xs:element name="GetNonIndexableItemStatistics" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
        minOccurs="0" name="partitionId" type="ser:guid"/>
      <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
        minOccurs="0" name="discoveryConsoleId" type="ser:guid"/>
      <xs:element xmlns:tnsl="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
        minOccurs="0" name="mailboxes" nillable="true" type="tnsl:ArrayOfstring"/>
      <xs:element xmlns:tnsl="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
        minOccurs="0" name="federationSettings" nillable="true"
        type="tnsl:ArrayOfKeyValueOfstringstring"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**partitionId:** The identifier of the tenant.

**discoveryConsoleId:** The identifier of the **site collection** that contains the discovery case.

**mailboxes:** The list of **mailboxes** for which statistics need to be obtained.

**federationSettings:** The property bag that contains necessary information to connect to the federated system.

### 3.1.4.8.2.2 GetNonIndexableItemStatisticsResponse

The **GetNonIndexableItemStatisticsResponse** element specifies the result data for the **GetNonIndexableItemStatistics** WSDL operation.

```
<xs:element name="GetNonIndexableItemStatisticsResponse"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element xmlns:tnsl="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
        minOccurs="0" name="GetNonIndexableItemStatisticsResult" nillable="true"
        type="tnsl:ArrayOfKeyValueOfstringlong"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**GetNonIndexableItemStatisticsResult:** The statistics on index errors for the requested mailboxes. The statistics information MUST be of complex type **ArrayOfKeyValueOfstringlong** section [3.1.4.8.3.2](#) with keys representing the statistic name, such as "Size", and the values representing the statistic value.

### 3.1.4.8.3 Complex Types

The following table summarizes the XML schema complex type definitions that are specific to this operation.

Complex type	Description
<b>ArrayOfKeyValueOfstringlong</b>	The <b>ArrayOfKeyValueOfstringlong</b> complex type represents an array of key value pairs.

Complex type	Description
<b>ArrayOfstring</b>	The <b>ArrayOfstring</b> complex type represents an array of string values.

### 3.1.4.8.3.1 ArrayOfstring

**Namespace:** http://schemas.microsoft.com/2003/10/Serialization/Arrays

The **ArrayOfstring** complex type represents an array of string values.

```
<xs:complexType name="ArrayOfstring" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

**string:** A single string value.

### 3.1.4.8.3.2 ArrayOfKeyValueOfstringlong

**Namespace:** http://schemas.microsoft.com/2003/10/Serialization/Arrays

The **ArrayOfKeyValueOfstringlong** complex type represents an array of key value pairs. The datatype of keys MUST be string and the datatype of values MUST be long.

```
<xs:complexType name="ArrayOfKeyValueOfstringlong"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="KeyValueOfstringlong">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="Key" nillable="true" type="xs:string"/>
          <xs:element name="Value" type="xs:long"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

**KeyValueOfstringlong:** A dictionary entry that consists of a key and a value.

**KeyValueOfstringlong.Key:** The name of a property. Each value MUST be unique within the list and MUST NOT be NULL.

**KeyValueOfstringlong.Value:** The value of the property, which MUST NOT be null and MUST be of datatype long.

### 3.1.4.8.4 Simple Types

None.

### 3.1.4.8.5 Attributes

None.

#### **3.1.4.8.6 Groups**

None.

#### **3.1.4.8.7 Attribute Groups**

None.

#### **3.1.5 Timer Events**

None.

#### **3.1.6 Other Local Events**

None.

Preliminary

## 4 Protocol Examples

### 4.1 Invoke Discovery Actions

The following example shows the request that a protocol client sends to put a couple of discovery sources on legal hold. To do so, the protocol client calls the **InvokeDiscoveryActions** request message with the actions to apply as shown:

```
<s:Envelope xmlns:a="http://www.w3.org/2005/08/addressing"
xmlns:s="http://www.w3.org/2003/05/soap-envelope">
  <s:Header>
    <a:Action
s:mustUnderstand="1">http://tempuri.org/IDiscoveryServiceApplication/InvokeDiscoveryActions</
a:Action>
    <a:MessageID>urn:uuid:7c697165-7b28-4df7-9f37-e6cd60b7ca75</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
    <ServiceContext xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.microsoft.com/sharepoint/servicecontext">
      <correlationId>00000000-0000-0000-0000-000000000000</correlationId>
      <language>en-US</language>
      <region>en-US</region>
      <siteSubscriptionId i:nil="true"></siteSubscriptionId>
    </ServiceContext>
  </s:Header>
  <s:Body>
    <InvokeDiscoveryActions xmlns="http://tempuri.org/">
      <discoveryConsoleId>541b75dc-07f7-422a-8990-2ee8b1e70613</discoveryConsoleId>
      <rawPartitionId>0c37852b-34d0-418e-91c6-2ac25af4be5b</rawPartitionId>
      <actions xmlns:d4pl="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <d4pl:DiscoveryAction>
          <d4pl:ActionId>74a7709b-5aa9-4cb1-b405-39177166af9b</d4pl:ActionId>
          <d4pl:ActionType>CreateHold</d4pl:ActionType>
          <d4pl:CaseId>3d652524-93a7-4e6b-ad10-5f52c781a66a</d4pl:CaseId>
          <d4pl:ContainerId>http://contoso/sites/DiscoveryTest/TestWeb0</d4pl:ContainerId>
          <d4pl:CorrelationId>00000000-0000-0000-0000-000000000000</d4pl:CorrelationId>
          <d4pl:DiscoveryConsoleId>541b75dc-07f7-422a-8990-
2ee8b1e70613</d4pl:DiscoveryConsoleId>
          <d4pl:ExternalFederationId>00000000-0000-0000-0000-
000000000000</d4pl:ExternalFederationId>
          <d4pl:FederationId>00000000-0000-0000-0000-000000000000</d4pl:FederationId>
          <d4pl:HoldId>6dc65c15-9477-4e97-95bc-51a6c04a962e</d4pl:HoldId>
          <d4pl:PreservationListQuery></d4pl:PreservationListQuery>
          <d4pl:Query></d4pl:Query>
          <d4pl:TimeCreated>0001-01-01T00:00:00</d4pl:TimeCreated>
          <d4pl:WebId>46fea5d1-5ae1-419f-b617-53a3bb15eb8e</d4pl:WebId>
        </d4pl:DiscoveryAction>
        <d4pl:DiscoveryAction>
          <d4pl:ActionId>db03d91e-3fd0-4eca-99ff-caa00bd1d7c0</d4pl:ActionId>

          <d4pl:ActionType>CreateHold</d4pl:ActionType>
          <d4pl:CaseId>3d652524-93a7-4e6b-ad10-5f52c781a66a</d4pl:CaseId>
          <d4pl:ContainerId>http://contoso/sites/DiscoveryTest/TestWeb1</d4pl:ContainerId>
          <d4pl:CorrelationId>00000000-0000-0000-0000-000000000000</d4pl:CorrelationId>
          <d4pl:DiscoveryConsoleId>541b75dc-07f7-422a-8990-
2ee8b1e70613</d4pl:DiscoveryConsoleId>
          <d4pl:ExternalFederationId>00000000-0000-0000-0000-
000000000000</d4pl:ExternalFederationId>
          <d4pl:FederationId>00000000-0000-0000-0000-000000000000</d4pl:FederationId>
          <d4pl:HoldId>6dc65c15-9477-4e97-95bc-51a6c04a962e</d4pl:HoldId>
          <d4pl:PreservationListQuery></d4pl:PreservationListQuery>
          <d4pl:Query></d4pl:Query>
          <d4pl:TimeCreated>0001-01-01T00:00:00</d4pl:TimeCreated>
        </d4pl:DiscoveryAction>
      </actions>
    </InvokeDiscoveryActions>
  </s:Body>
</s:Envelope>
```

```

        <d4p1:WebId>06c463d3-384f-490f-b4ce-19236e7f4122</d4p1:WebId>
    </d4p1:DiscoveryAction>
</actions>
</InvokeDiscoveryActions>
</s:Body>
</s:Envelope>

```

The protocol server responds with an **InvokeDiscoveryActionResult** response message which contains the status of each of the applied actions:

```

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing" xmlns:u="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">

```



```

    <s:Header>
        <a:Action
s:mustUnderstand="1">http://tempuri.org/IDiscoveryServiceApplication/InvokeDiscoveryActionsRe
sponse</a:Action>
        <ActivityId CorrelationId="539ab7b2-a92b-4b91-ae7e-74b9432eb61e"
xmlns="http://schemas.microsoft.com/2004/09/ServiceModel/Diagnostics">83ede828-ca06-465b-
balf-2e23d90b57e5</ActivityId>
        <a:RelatesTo>urn:uuid:7c697165-7b28-4df7-9f37-e6cd60b7ca75</a:RelatesTo>
        <o:Security s:mustUnderstand="1" xmlns:o="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd">
            <u:Timestamp u:Id="_0">
                <u:Created>2011-04-16T07:59:46.872Z</u:Created>
                <u:Expires>2011-04-16T08:04:46.872Z</u:Expires>
            </u:Timestamp>
        </o:Security>
    </s:Header>
    <s:Body>
        <InvokeDiscoveryActionsResponse xmlns="http://tempuri.org/">
            <InvokeDiscoveryActionResult
xmlns:b="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
                <b:DiscoveryActionStatus>
                    <b>ActionId>74a7709b-5aa9-4cb1-b405-39177166af9b</b>ActionId>
                    <b>ActionType>CreateHold</b>ActionType>
                    <b:CaseId>3d652524-93a7-4e6b-ad10-5f52c781a66a</b:CaseId>
                    <b:DiscoveryConsoleId>541b75dc-07f7-422a-8990-2ee8b1e70613</b:DiscoveryConsoleId>
                    <b:ErrorMessage></b:ErrorMessage>
                    <b:HoldId>6dc65c15-9477-4e97-95bc-51a6c04a962e</b:HoldId>
                    <b>Status>Pending</b>Status>
                    <b:TimeCreated>0001-01-01T00:00:00</b:TimeCreated>
                </b:DiscoveryActionStatus>
                <b:DiscoveryActionStatus>
                    <b>ActionId>db03d91e-3fd0-4eca-99ff-caa00bd1d7c0</b>ActionId>
                    <b>ActionType>CreateHold</b>ActionType>
                    <b:CaseId>3d652524-93a7-4e6b-ad10-5f52c781a66a</b:CaseId>
                    <b:DiscoveryConsoleId>541b75dc-07f7-422a-8990-2ee8b1e70613</b:DiscoveryConsoleId>
                    <b:ErrorMessage></b:ErrorMessage>
                    <b:HoldId>6dc65c15-9477-4e97-95bc-51a6c04a962e</b:HoldId>
                    <b>Status>Pending</b>Status>
                    <b:TimeCreated>0001-01-01T00:00:00</b:TimeCreated>
                </b:DiscoveryActionStatus>
            </InvokeDiscoveryActionResult>
        </InvokeDiscoveryActionsResponse>
    </s:Body>
</s:Envelope>

```

## **5 Security**

### **5.1 Security Considerations for Implementers**

None.

### **5.2 Index of Security Parameters**

None.

Preliminary



## 6 Appendix A: Full WSDL

For ease of implementation, the full WSDL is provided in this appendix.

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tns2="http://tempuri.org/" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl" targetNamespace="http://tempuri.org/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xs:schema xmlns:tns3="http://tempuri.org/Imports"
targetNamespace="http://tempuri.org/Imports">
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administrat
ion"/>
      <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/">
      <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/Arrays"/>
      <xs:import namespace="http://tempuri.org/">
      <xs:import namespace="http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08"/>
      <xs:import namespace="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"/>
    </xs:schema>
  </wsdl:types>
  <wsdl:portType name="IDiscoveryServiceApplication">
    <wsdl:operation name="InvokeDiscoveryActions">
      <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/InvokeDiscoveryActions"
message="tns2:IDiscoveryServiceApplication_InvokeDiscoveryActions_InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/InvokeDiscoveryActionsResponse"
message="tns2:IDiscoveryServiceApplication_InvokeDiscoveryActions_OutputMessage"/>
    </wsdl:operation>
    <wsdl:operation name="ValidateSources">
      <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ValidateSources"
message="tns2:IDiscoveryServiceApplication ValidateSources InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ValidateSourcesResponse"
message="tns2:IDiscoveryServiceApplication ValidateSources_OutputMessage"/>
      <wsdl:fault
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ValidateSourcesSearchServiceAppl
icationFaultFault" name="SearchServiceApplicationFaultFault"
message="tns2:IDiscoveryServiceApplication ValidateSources_SearchServiceApplicationFaultFault
_FaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="GetDiscoveryActions">
      <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetDiscoveryActions"
message="tns2:IDiscoveryServiceApplication GetDiscoveryActions InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetDiscoveryActionsResponse"
message="tns2:IDiscoveryServiceApplication_GetDiscoveryActions_OutputMessage"/>
    </wsdl:operation>
    <wsdl:operation name="ReportDiscoveryActionStatus">
      <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ReportDiscoveryActionStatus"
message="tns2:IDiscoveryServiceApplication_ReportDiscoveryActionStatus_InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ReportDiscoveryActionStatusRespo
nse" message="tns2:IDiscoveryServiceApplication ReportDiscoveryActionStatus OutputMessage"/>
    </wsdl:operation>
    <wsdl:operation name="GetAllStatus">
      <wsdl:input wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetAllStatus"
message="tns2:IDiscoveryServiceApplication GetAllStatus InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetAllStatusResponse"
message="tns2:IDiscoveryServiceApplication_GetAllStatus_OutputMessage"/>
    </wsdl:operation>
  </wsdl:portType>

```

```

    <wsdl:operation name="ClearDiscoveryActions">
      <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ClearDiscoveryActions"
message="tns2:IDiscoveryServiceApplication_ClearDiscoveryActions_InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ClearDiscoveryActionsResponse"
message="tns2:IDiscoveryServiceApplication_ClearDiscoveryActions_OutputMessage"/>
    </wsdl:operation>
    <wsdl:operation name="ClearOldDiscoveryActions">
      <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ClearOldDiscoveryActions"
message="tns2:IDiscoveryServiceApplication_ClearOldDiscoveryActions_InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/ClearOldDiscoveryActionsResponse"
" message="tns2:IDiscoveryServiceApplication_ClearOldDiscoveryActions_OutputMessage"/>
    </wsdl:operation>
    <wsdl:operation name="GetNonIndexableItemStatistics">
      <wsdl:input
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetNonIndexableItemStatistics"
message="tns2:IDiscoveryServiceApplication_GetNonIndexableItemStatistics_InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IDiscoveryServiceApplication/GetNonIndexableItemStatisticsRes
ponse"
message="tns2:IDiscoveryServiceApplication_GetNonIndexableItemStatistics_OutputMessage"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="DefaultBinding_IDiscoveryServiceApplication"
type="tns2:IDiscoveryServiceApplication">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="InvokeDiscoveryActions">
      <soap:operation
soapAction="http://tempuri.org/IDiscoveryServiceApplication/InvokeDiscoveryActions"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="ValidateSources">
      <soap:operation
soapAction="http://tempuri.org/IDiscoveryServiceApplication/ValidateSources"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
      <wsdl:fault name="SearchServiceApplicationFaultFault">
        <soap:fault use="literal" name="SearchServiceApplicationFaultFault" namespace=""/>
      </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="GetDiscoveryActions">
      <soap:operation
soapAction="http://tempuri.org/IDiscoveryServiceApplication/GetDiscoveryActions"
style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="ReportDiscoveryActionStatus">
      <soap:operation
soapAction="http://tempuri.org/IDiscoveryServiceApplication/ReportDiscoveryActionStatus"
style="document"/>

```

```

        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="GetAllStatus">
        <soap:operation
soapAction="http://tempuri.org/IDiscoveryServiceApplication/GetAllStatus" style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="ClearDiscoveryActions">
        <soap:operation
soapAction="http://tempuri.org/IDiscoveryServiceApplication/ClearDiscoveryActions"
style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="ClearOldDiscoveryActions">
        <soap:operation
soapAction="http://tempuri.org/IDiscoveryServiceApplication/ClearOldDiscoveryActions"
style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
      <wsdl:operation name="GetNonIndexableItemStatistics">
        <soap:operation
soapAction="http://tempuri.org/IDiscoveryServiceApplication/GetNonIndexableItemStatistics"
style="document"/>
        <wsdl:input>
          <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
          <soap:body use="literal"/>
        </wsdl:output>
      </wsdl:operation>
    </wsdl:binding>
    <wsdl:message name="IDiscoveryServiceApplication_ClearDiscoveryActions_InputMessage">
      <wsdl:part name="parameters" element="tns2:ClearDiscoveryActions"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_ClearDiscoveryActions_OutputMessage">
      <wsdl:part name="parameters" element="tns2:ClearDiscoveryActionsResponse"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_ClearOldDiscoveryActions_InputMessage">
      <wsdl:part name="parameters" element="tns2:ClearOldDiscoveryActions"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_ClearOldDiscoveryActions_OutputMessage">
      <wsdl:part name="parameters" element="tns2:ClearOldDiscoveryActionsResponse"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_GetAllStatus_InputMessage">
      <wsdl:part name="parameters" element="tns2:GetAllStatus"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_GetAllStatus_OutputMessage">
      <wsdl:part name="parameters" element="tns2:GetAllStatusResponse"/>
    </wsdl:message>

```

```

    <wsdl:message name="IDiscoveryServiceApplication_GetDiscoveryActions_InputMessage">
      <wsdl:part name="parameters" element="tns2:GetDiscoveryActions"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_GetDiscoveryActions_OutputMessage">
      <wsdl:part name="parameters" element="tns2:GetDiscoveryActionsResponse"/>
    </wsdl:message>
    <wsdl:message
name="IDiscoveryServiceApplication_GetNonIndexableItemStatistics_InputMessage">
      <wsdl:part name="parameters" element="tns2:GetNonIndexableItemStatistics"/>
    </wsdl:message>
    <wsdl:message
name="IDiscoveryServiceApplication_GetNonIndexableItemStatistics_OutputMessage">
      <wsdl:part name="parameters" element="tns2:GetNonIndexableItemStatisticsResponse"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_InvokeDiscoveryActions_InputMessage">
      <wsdl:part name="parameters" element="tns2:InvokeDiscoveryActions"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_InvokeDiscoveryActions_OutputMessage">
      <wsdl:part name="parameters" element="tns2:InvokeDiscoveryActionsResponse"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_ReportDiscoveryActionStatus_InputMessage">
      <wsdl:part name="parameters" element="tns2:ReportDiscoveryActionStatus"/>
    </wsdl:message>
    <wsdl:message
name="IDiscoveryServiceApplication_ReportDiscoveryActionStatus_OutputMessage">
      <wsdl:part name="parameters" element="tns2:ReportDiscoveryActionStatusResponse"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_ValidateSources_InputMessage">
      <wsdl:part name="parameters" element="tns2:ValidateSources"/>
    </wsdl:message>
    <wsdl:message name="IDiscoveryServiceApplication_ValidateSources_OutputMessage">
      <wsdl:part name="parameters" element="tns2:ValidateSourcesResponse"/>
    </wsdl:message>
    <wsdl:message
name="IDiscoveryServiceApplication_ValidateSources_SearchServiceApplicationFaultFault_FaultMe
ssage">
      <wsdl:part
xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administrat
ion" name="detail" element="tns:SearchServiceApplicationFault"/>
    </wsdl:message>
  </wsdl:definitions>

```

Pre

## 7 Appendix B: Full XML Schema

Schema name	Prefix	Section
<a href="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administration">http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administration</a>	tns	<a href="#">7.1</a>
<a href="http://schemas.microsoft.com/2003/10/Serialization/Arrays">http://schemas.microsoft.com/2003/10/Serialization/Arrays</a>	tns1	<a href="#">7.2</a>
<a href="http://schemas.microsoft.com/2003/10/Serialization/">http://schemas.microsoft.com/2003/10/Serialization/</a>	ser	<a href="#">7.3</a>
<a href="http://tempuri.org/">http://tempuri.org/</a>	tns2	<a href="#">7.4</a>
<a href="http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08">http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08</a>	q1	<a href="#">7.5</a>
<a href="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11">http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11</a>	q3	<a href="#">7.6</a>

For ease of implementation, the following sections provide the full XML schema for this protocol.

### 7.1 <http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administration> Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
  xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administration"
  elementFormDefault="qualified"
  targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Search.Administration"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:import namespace="http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08"/>
  <xs:complexType name="SearchServiceApplicationFault">
    <xs:sequence>
      <xs:element minOccurs="0" name="ErrorCode" type="xs:int"/>
      <xs:element xmlns:q1="http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08"
        minOccurs="0" name="FaultType" type="q1:SearchServiceApplicationFaultType"/>
      <xs:element minOccurs="0" name="Message" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="SearchServiceApplicationFault" nillable="true"
    type="tns:SearchServiceApplicationFault"/>
</xs:schema>
```

### 7.2 <http://schemas.microsoft.com/2003/10/Serialization/Arrays> Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
  xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
  elementFormDefault="qualified"
  targetNamespace="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
  <xs:complexType name="ArrayOfKeyValueOfstringstring">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="KeyValueOfstringstring">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="Key" nillable="true" type="xs:string"/>
            <xs:element name="Value" nillable="true" type="xs:string"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:schema>
```

```

</xs:complexType>
<xs:element name="ArrayOfKeyValueOfstringstring" nillable="true"
type="tns1:ArrayOfKeyValueOfstringstring"/>
<xs:complexType name="ArrayOfKeyValueOfstringanyType">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="KeyValueOfstringanyType">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="Key" nillable="true" type="xs:string"/>
          <xs:element name="Value" nillable="true" type="xs:anyType"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfKeyValueOfstringanyType" nillable="true"
type="tns1:ArrayOfKeyValueOfstringanyType"/>
<xs:complexType name="ArrayOfguid">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="guid" type="ser:guid"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfguid" nillable="true" type="tns1:ArrayOfguid"/>
<xs:complexType name="ArrayOfstring">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="string" nillable="true"
type="xs:string"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfstring" nillable="true" type="tns1:ArrayOfstring"/>
<xs:complexType name="ArrayOfKeyValueOfstringlong">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="KeyValueOfstringlong">
      <xs:complexType>
        <xs:sequence>
          <xs:element name="Key" nillable="true" type="xs:string"/>
          <xs:element name="Value" type="xs:long"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfKeyValueOfstringlong" nillable="true"
type="tns1:ArrayOfKeyValueOfstringlong"/>
</xs:schema>

```

### 7.3 <http://schemas.microsoft.com/2003/10/Serialization/> Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
attributeFormDefault="qualified" elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/2003/10/Serialization/"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="anyType" nillable="true" type="xs:anyType"/>
  <xs:element name="anyURI" nillable="true" type="xs:anyURI"/>
  <xs:element name="base64Binary" nillable="true" type="xs:base64Binary"/>
  <xs:element name="boolean" nillable="true" type="xs:boolean"/>
  <xs:element name="byte" nillable="true" type="xs:byte"/>
  <xs:element name="dateTime" nillable="true" type="xs:dateTime"/>
  <xs:element name="decimal" nillable="true" type="xs:decimal"/>
  <xs:element name="double" nillable="true" type="xs:double"/>
  <xs:element name="float" nillable="true" type="xs:float"/>
  <xs:element name="int" nillable="true" type="xs:int"/>
  <xs:element name="long" nillable="true" type="xs:long"/>
  <xs:element name="QName" nillable="true" type="xs:QName"/>
  <xs:element name="short" nillable="true" type="xs:short"/>
  <xs:element name="string" nillable="true" type="xs:string"/>

```

```

<xs:element name="unsignedByte" nillable="true" type="xs:unsignedByte"/>
<xs:element name="unsignedInt" nillable="true" type="xs:unsignedInt"/>
<xs:element name="unsignedLong" nillable="true" type="xs:unsignedLong"/>
<xs:element name="unsignedShort" nillable="true" type="xs:unsignedShort"/>
<xs:element name="char" nillable="true" type="ser:char"/>
<xs:simpleType name="char">
  <xs:restriction base="xs:int"/>
</xs:simpleType>
<xs:element name="duration" nillable="true" type="ser:duration"/>
<xs:simpleType name="duration">
  <xs:restriction base="xs:duration">
    <xs:pattern value="\-?P(\d*D)?(T(\d*H)?(\d*M)?(\d*(\.\d*)?S)?)?"/>
    <xs:minInclusive value="-P10675199DT2H48M5.4775808S"/>
    <xs:maxInclusive value="P10675199DT2H48M5.4775807S"/>
  </xs:restriction>
</xs:simpleType>
<xs:element name="guid" nillable="true" type="ser:guid"/>
<xs:simpleType name="guid">
  <xs:restriction base="xs:string">
    <xs:pattern value="[\da-fA-F]{8}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{4}-[\da-fA-F]{12}"/>
  </xs:restriction>
</xs:simpleType>
<xs:attribute name="FactoryType" type="xs:QName"/>
<xs:attribute name="Id" type="xs:ID"/>
<xs:attribute name="Ref" type="xs:IDREF"/>
</xs:schema>

```

## 7.4 http://tempuri.org/ Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema elementFormDefault="qualified" targetNamespace="http://tempuri.org/"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="InvokeDiscoveryActions">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="discoveryConsoleId" type="ser:guid"/>
        <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="rawPartitionId" type="ser:guid"/>
        <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="actions" nillable="true" type="q3:ArrayOfDiscoveryAction"/>
        <xs:element minOccurs="0" name="userInitiated" type="xs:boolean"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="InvokeDiscoveryActionsResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="InvokeDiscoveryActionsResult" nillable="true"
type="q3:ArrayOfDiscoveryActionStatus"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="ValidateSources">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="discoveryConsoleId" type="ser:guid"/>
        <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="rawPartitionId" type="ser:guid"/>
        <xs:element minOccurs="0" name="sourceType" nillable="true" type="xs:string"/>
        <xs:element minOccurs="0" name="filter" nillable="true" type="xs:string"/>
        <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="federationSettings" nillable="true"
type="tns1:ArrayOfKeyValueOfstringstring"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

```

        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ValidateSourcesResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="ValidateSourcesResult" nillable="true" type="q3:ArrayOfDiscoverySource"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetDiscoveryActions">
    <xs:complexType>
        <xs:sequence>
            <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="rawPartitionId" type="ser:guid"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetDiscoveryActionsResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="GetDiscoveryActionsResult" nillable="true"
type="q3:ArrayOfDiscoveryAction"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ReportDiscoveryActionStatus">
    <xs:complexType>
        <xs:sequence>
            <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="rawPartitionId" type="ser:guid"/>
            <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="status" nillable="true" type="q3:ArrayOfDiscoveryActionStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ReportDiscoveryActionStatusResponse">
    <xs:complexType>
        <xs:sequence/>
    </xs:complexType>
</xs:element>
<xs:element name="GetAllStatus">
    <xs:complexType>
        <xs:sequence>
            <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="rawPartitionId" type="ser:guid"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="GetAllStatusResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
minOccurs="0" name="GetAllStatusResult" nillable="true"
type="q3:ArrayOfDiscoveryActionStatus"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="ClearDiscoveryActions">
    <xs:complexType>
        <xs:sequence>
            <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="discoveryConsoleId" type="ser:guid"/>
            <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="rawPartitionId" type="ser:guid"/>
            <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="actionIds" nillable="true" type="tns1:ArrayOfguid"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>

```



```

        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="ClearDiscoveryActionsResponse">
      <xs:complexType>
        <xs:sequence/>
      </xs:complexType>
    </xs:element>
    <xs:element name="ClearOldDiscoveryActions">
      <xs:complexType>
        <xs:sequence/>
      </xs:complexType>
    </xs:element>
    <xs:element name="ClearOldDiscoveryActionsResponse">
      <xs:complexType>
        <xs:sequence/>
      </xs:complexType>
    </xs:element>
    <xs:element name="GetNonIndexableItemStatistics">
      <xs:complexType>
        <xs:sequence>
          <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="partitionId" type="ser:guid"/>
          <xs:element xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
minOccurs="0" name="discoveryConsoleId" type="ser:guid"/>
          <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="mailboxes" nillable="true" type="tns1:ArrayOfstring"/>
          <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="federationSettings" nillable="true"
type="tns1:ArrayOfKeyValueOfstringstring"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:element name="GetNonIndexableItemStatisticsResponse">
      <xs:complexType>
        <xs:sequence>
          <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="GetNonIndexableItemStatisticsResult" nillable="true"
type="tns1:ArrayOfKeyValueOfstringlong"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
    <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
    <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/Arrays/" />
    <xs:import namespace="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11" />
  </xs:schema>

```

## 7.5 <http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08> Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:q1="http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08"
elementFormDefault="qualified"
targetNamespace="http://www.microsoft.com/sharepoint/search/KnownTypes/2008/08"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:simpleType name="SearchServiceApplicationFaultType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="SpecialTerm_NotFound"/>
      <xs:enumeration value="SpecialTerm_DuplicateError"/>
      <xs:enumeration value="Synonym_NotFound"/>
      <xs:enumeration value="BestBet_NotFound"/>
      <xs:enumeration value="BestBet_OrderDuplicationError"/>
      <xs:enumeration value="AllNoiseQuery"/>
      <xs:enumeration value="SearchServiceNotFound"/>
      <xs:enumeration value="QueryMalformed"/>
      <xs:enumeration value="ScopeNotFound"/>
      <xs:enumeration value="InvalidProperty"/>
      <xs:enumeration value="OnlyExcludedTerms"/>
    </xs:restriction>
  </xs:simpleType>

```

```

<xs:enumeration value="RankingModelNotFound"/>
<xs:enumeration value="UnsupportedTopology"/>
<xs:enumeration value="FASTSearchQuery"/>
<xs:enumeration value="Timeout"/>
<xs:enumeration value="ExtendedConnectorApplicaion"/>
<xs:enumeration value="PartitionOptionsMismatch"/>
<xs:enumeration value="TooComplexQueryException"/>
<xs:enumeration value="QueryThrottled"/>
<xs:enumeration value="InternalError"/>
<xs:enumeration value="QueryTransformInvalidProperty"/>
<xs:enumeration value="QueryConfigurationImportException"/>
<xs:enumeration value="ApplicationSpecific"/>
<xs:enumeration value="DiscoveryFederatedSourceNotFound"/>
<xs:enumeration value="RemoteSharepointSourceFault"/>
<xs:enumeration value="TenantSiteCollectionMismatchException"/>
<xs:enumeration value="InvalidNameException"/>
<xs:enumeration value="InvalidPropertyTypeException"/>
<xs:enumeration value="CouldNotModifySchemaException"/>
<xs:enumeration value="InvalidMappingException"/>
<xs:enumeration value="ObjectNotFoundException"/>
<xs:enumeration value="PropertyIsReadOnlyException"/>
<xs:enumeration value="PropertyCannotHaveMappingsException"/>
<xs:enumeration value="InvalidManagedPropertyValue"/>
<xs:enumeration value="ArgumentNullException"/>
<xs:enumeration value="UnauthorizedAccessException"/>
<xs:enumeration value="DatabaseException"/>
<xs:enumeration value="SchemaExportException"/>
<xs:enumeration value="SchemaImportException"/>
<xs:enumeration value="NotSupported"/>
<xs:enumeration value="QueryPropertyOutOfRange"/>
</xs:restriction>
</xs:simpleType>
<xs:element name="SearchServiceApplicationFaultType" nillable="true"
type="q1:SearchServiceApplicationFaultType"/>
</xs:schema>

```

## 7.6 <http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11> Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:q3="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
elementFormDefault="qualified"
targetNamespace="http://www.microsoft.com/sharepoint/search/KnownTypes/2010/11"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType name="ArrayOfDiscoveryAction">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" name="DiscoveryAction" nillable="true"
type="q3:DiscoveryAction"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="ArrayOfDiscoveryAction" nillable="true"
type="q3:ArrayOfDiscoveryAction"/>
  <xs:complexType name="DiscoveryAction">
    <xs:sequence>
      <xs:element minOccurs="0" name="ActionId" type="ser:guid"/>
      <xs:element minOccurs="0" name="ActionType" type="q3:DiscoveryActionType"/>
      <xs:element minOccurs="0" name="CaseId" type="ser:guid"/>
      <xs:element minOccurs="0" name="ContainerId" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="CorrelationId" type="ser:guid"/>
      <xs:element minOccurs="0" name="DiscoveryConsoleId" type="ser:guid"/>
      <xs:element minOccurs="0" name="ExternalFederationId" type="ser:guid"/>
      <xs:element minOccurs="0" name="FederationId" type="ser:guid"/>
      <xs:element minOccurs="0" name="HoldId" type="ser:guid"/>
      <xs:element minOccurs="0" name="PartitionId" type="ser:guid"/>
      <xs:element minOccurs="0" name="PreservationListQuery" nillable="true"
type="xs:string"/>
    </xs:sequence>
  </xs:complexType>

```

```

    <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="PropertyBag" nillable="true" type="tns1:ArrayOfKeyValueOfstringstring"/>
    <xs:element minOccurs="0" name="Query" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="TimeCreated" type="xs:dateTime"/>
    <xs:element minOccurs="0" name="WebId" type="ser:guid"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="DiscoveryAction" nillable="true" type="q3:DiscoveryAction"/>
<xs:simpleType name="DiscoveryActionType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="CreateHold"/>
    <xs:enumeration value="UpdateHold"/>
    <xs:enumeration value="ReleaseHold"/>
  </xs:restriction>
</xs:simpleType>
<xs:element name="DiscoveryActionType" nillable="true" type="q3:DiscoveryActionType"/>
<xs:complexType name="ArrayOfDiscoveryActionStatus">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="DiscoveryActionStatus"
nillable="true" type="q3:DiscoveryActionStatus"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfDiscoveryActionStatus" nillable="true"
type="q3:ArrayOfDiscoveryActionStatus"/>
<xs:complexType name="DiscoveryActionStatus">
  <xs:sequence>
    <xs:element minOccurs="0" name="ActionId" type="ser:guid"/>
    <xs:element minOccurs="0" name="ActionType" type="q3:DiscoveryActionType"/>
    <xs:element minOccurs="0" name="CaseId" type="ser:guid"/>
    <xs:element minOccurs="0" name="DiscoveryConsoleId" type="ser:guid"/>
    <xs:element minOccurs="0" name="ErrorMessage" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="HoldId" type="ser:guid"/>
    <xs:element minOccurs="0" name="Status" type="q3:DiscoveryStatus"/>
    <xs:element minOccurs="0" name="TimeCreated" type="xs:dateTime"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="DiscoveryActionStatus" nillable="true" type="q3:DiscoveryActionStatus"/>
<xs:simpleType name="DiscoveryStatus">
  <xs:restriction base="xs:string">
    <xs:enumeration value="CannotHold"/>
    <xs:enumeration value="NotOnHold"/>
    <xs:enumeration value="Pending"/>
    <xs:enumeration value="InProgress"/>
    <xs:enumeration value="OnFilteredHold"/>
    <xs:enumeration value="OnHold"/>
    <xs:enumeration value="PartiallyOnHold"/>
    <xs:enumeration value="Failed"/>
    <xs:enumeration value="TimedOut"/>
  </xs:restriction>
</xs:simpleType>
<xs:element name="DiscoveryStatus" nillable="true" type="q3:DiscoveryStatus"/>
<xs:complexType name="ArrayOfDiscoverySource">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="DiscoverySource" nillable="true"
type="q3:DiscoverySource"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ArrayOfDiscoverySource" nillable="true"
type="q3:ArrayOfDiscoverySource"/>
<xs:complexType name="DiscoverySource">
  <xs:sequence>
    <xs:element minOccurs="0" name="ContainerId" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="DisplayName" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="ExternalFederationId" type="ser:guid"/>
    <xs:element minOccurs="0" name="FederationId" type="ser:guid"/>
    <xs:element xmlns:tns1="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="PropertyBag" nillable="true" type="tns1:ArrayOfKeyValueOfstringanyType"/>
  </xs:sequence>
</xs:complexType>

```

```
<xs:element name="DiscoverySource" nillable="true" type="q3:DiscoverySource"/>  
<xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/" />  
<xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/Arrays" />  
</xs:schema>
```

Preliminary

## 8 Appendix C: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs.

- Microsoft SharePoint Server 2013
- Microsoft SharePoint Server 2016 Preview

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

Preliminary

## 9 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- The removal of a document from the documentation set.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.
- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com).

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">8</a> Appendix C: Product Behavior	Updated list of supported products.	Y	Content updated due to protocol revision.

Preliminary

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