

[MS-WMS]: Work Management Service Web Service Protocol Specification

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Preliminary

1 Introduction

The Work Management Protocol provides a way for a protocol client to trigger task aggregation and synchronization operations for a user.

Sections 1.8, 2, and 3 of this specification are normative and contain RFC 2119 language. Sections 1.5 and 1.9 are also normative but cannot contain RFC 2119 language. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are defined in [\[MS-OFCGLOS\]](#):

application server
back-end database server
personal site
SOAP action
SOAP body
SOAP fault
task
Uniform Resource Locator (URL)
user profile
WSDL message
WSDL operation
XML namespace
XML namespace prefix
XML schema

The following terms are specific to this document:

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

1.2 References

References to Microsoft Open Specification documents do not include a publishing year because links are to the latest version of the documents, which are updated frequently. References to other documents include a publishing year when one is available.

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. We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

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

[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.ietf.org/rfc/rfc2616.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>

[WSA1.0] World Wide Web Consortium, "Web Services Addressing 1.0 - WSDL Binding", W3C Candidate Recommendation, May 2006, <http://www.w3.org/TR/2006/CR-ws-addr-wsdl-20060529/>

[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.S., Ed., Beech, D., Ed., Maloney, M., Ed., and Mendelsohn, N., Ed., "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

[MS-OFCGLOS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)".

[MS-USPSWS] Microsoft Corporation, "[User Profile Service Web Service Protocol Specification](#)".

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

[SOAP1.2/2] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 2: Adjuncts", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part2-20030624>

1.3 Overview

This protocol allows protocol clients to refresh a user's **task (3)** information through a middle-tier **application server**. The protocol client sends a request for a user to the protocol server, and the server responds with an acknowledgement of the request and refreshes the task (3) information asynchronously.

1.4 Relationship to Other Protocols

This protocol uses the **SOAP** message protocol for formatting request and response messages, as described in [\[SOAP1.1\]](#), [\[SOAP1.2/1\]](#) and [\[SOAP1.2/2\]](#). It transmits those messages by using **HTTP**, as described in [\[RFC2616\]](#), or **HTTPS**, as described in [\[RFC2818\]](#).

The following diagram shows the underlying messaging and transport stack used by the protocol:

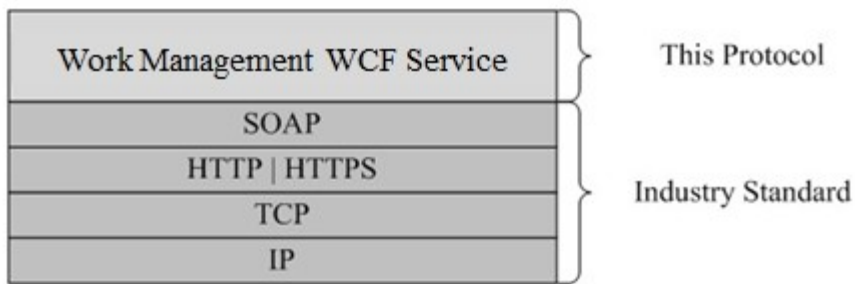


Figure 1: This protocol in relation to other protocols

This protocol also calls APIs that use the User Profile Service Web Service protocol described in [\[MS-USPSWS\]](#) to get the location of a personal site associated with a **user profile**.

1.5 Prerequisites/Preconditions

This protocol operates against a **personal site** that is identified by a **URL** that is known by a user profile service implementing the User Profile Service Web Service protocol, as defined by [\[MS-USPSWS\]](#). The protocol client needs sufficient privileges to access the site and its data stored on the **back-end database server** corresponding to the site.

This protocol assumes that authentication has been performed by the underlying protocols.

1.6 Applicability Statement

This protocol is designed to run operations on behalf of a single user per invocation and store results for that user in a storage location associated with that user's user profile.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

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 MAY 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 definitions that are used by this protocol. The syntax of the definitions uses the XML Schema syntax in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and Web Services Description Language, as defined 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 |
|--------|---|--|
| soap | http://schemas.xmlsoap.org/wsdl/soap/ | [SOAP1.1] |
| tns | http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement | |
| tns1 | http://schemas.microsoft.com/2003/10/Serialization/ | |
| tns2 | http://tempuri.org/ | |
| tns3 | http://tempuri.org/Imports | |
| wsaw | http://www.w3.org/2006/05/addressing/wsdl | Web Service Addressing [WSA1.0] |
| wsdl | http://schemas.xmlsoap.org/wsdl/ | [WSDL] |
| xs | http://www.w3.org/2001/XMLSchema | [XMLSCHEMA1] |

| Prefi x | Namespace URI | Reference |
|------------|---------------|---|
| | | 1 [XMLSCHEMA2 1 |

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

This specification does not define any common **XML schema** complex type definitions.

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 |
|-------------|---|
| char | A char simple type that represents a Unicode character. |
| duration | A time interval with its period in days, hours, minutes, and seconds. |
| guid | A unique identifier. |

2.2.5.1 char

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

A **char** simple type that 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 duration

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

A time interval with its period in days, hours, minutes, and seconds.

```
<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>
```

2.2.5.3 guid

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

A unique identifier.

```
<xs:simpleType name="guid" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <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>
```

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

None.

3 Protocol Details

In the following sections, the schema definition might differ from 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 might specify differences that reflect actual Microsoft 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**, **present**, and **not null**.

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.

3.1 Server Details

This protocol is based on stateless interaction between the protocol client and protocol server. The protocol client **MUST** be authenticated with the credentials of the user that the service will aggregate and refresh tasks (3) for.

3.1.1 Abstract Data Model

This protocol allows a protocol client to call the application server tier to trigger a refresh of a user's task (3) cache. When called, the protocol server will aggregate tasks (3) from systems defined in its configuration and write them into a storage location, such as a list in the content back-end database server. The protocol server returns a result indicating whether a new aggregation job was created along with an id for the job if one exists.

This protocol also allows a protocol client to call the application server tier to trigger a synchronization of tasks (3) between an external location such as a mailbox and the back-end database server.

3.1.2 Timers

None.

3.1.3 Initialization

A User Profile Service Application implementing the User Profile Service Web Service protocol, as defined by [\[MS-USPSWS\]](#) **MUST** be available before this protocol can be used.

3.1.4 Message Processing Events and Sequencing Rules

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

| Operation | Description |
|-------------------------------|--|
| BeginCacheRefresh | Triggers the server to create a job to aggregate tasks (3) on behalf of the calling user and writes results to a storage location. |
| BeginExchangeSync | Starts a server synchronization for the current user. |
| BeginExchangeSyncForNextUsers | Starts a server synchronization for the next set of users who need to be synchronized, where the next set is determined by the system. |

3.1.4.1 BeginCacheRefresh

Triggers the server to create a job to aggregate tasks (3) on behalf of the calling user and writes results to a storage location.

```
<wsdl:operation name="BeginCacheRefresh" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
    wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginCacheRefresh"
    message="tns2:IWorkManagementServiceApplication_BeginCacheRefresh_InputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
    wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginCacheRefreshResponse"
    message="tns2:IWorkManagementServiceApplication_BeginCacheRefresh_OutputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The method returns confirmation of whether an aggregation job was created.

3.1.4.1.1 Messages

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

| Message | Description |
|---|---|
| IWorkManagementServiceApplication_BeginCacheRefresh_InputMessage | The request WSDL message for the BeginCacheRefresh WSDL operation . |
| IWorkManagementServiceApplication_BeginCacheRefresh_OutputMessage | The response WSDL message for the BeginCacheRefresh WSDL operation . |

3.1.4.1.1.1

IWorkManagementServiceApplication_BeginCacheRefresh_InputMessage

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

The **SOAP action** value is:

```
http://tempuri.org/IWorkManagementServiceApplication/BeginCacheRefresh
```

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

3.1.4.1.1.2

IWorkManagementServiceApplication_BeginCacheRefresh_OutputMessage

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

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

3.1.4.1.2 Elements

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

| Element | Description |
|---------------------------|--|
| BeginCacheRefresh | The input data for the BeginCacheRefresh WSDL operation. |
| BeginCacheRefreshResponse | The result data for the BeginCacheRefresh WSDL operation. |

3.1.4.1.2.1 BeginCacheRefresh

The input data for the **BeginCacheRefresh** WSDL operation.

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

3.1.4.1.2.2 BeginCacheRefreshResponse

The result data for the **BeginCacheRefresh** WSDL operation.

```
<xs:element name="BeginCacheRefreshResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element
        xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement"
        minOccurs="0" name="BeginCacheRefreshResult" nillable="true"
        type="tns:CreateRefreshJobResult"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

BeginCacheRefreshResult: Returns the CreateRefreshJobResult that indicates the result of the aggregation refresh request.

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 |
|------------------------|---|
| CreateRefreshJobResult | Information about the task (3) aggregation job that was created as a result of the refresh request. |

3.1.4.1.3.1 CreateRefreshJobResult

Namespace: http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement

Information resulting from a request to create an aggregation refresh job.

```
<xs:complexType name="CreateRefreshJobResult" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="CreatedJob" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
```

```

    <xs:element minOccurs="0" name="CurrentJobId" nillable="true" type="xs:int"/>
    <xs:element minOccurs="0" name="CurrentJobIdClient" type="xs:int"/>
  </xs:sequence>
</xs:complexType>

```

CreatedJob: The result of creating a new refresh job, which MUST return true if the job was successfully created and false if the job was not. A job MAY not be created if there is already a job running for that user or an error occurs while creating the job.

CurrentJobId: The integer identifier of the job that is currently running on behalf of the user. This MAY be the job created as a result of the request, or a job that is still in progress. MUST return NULL if creation of the job failed.

CurrentJobIdClient: Same as CurrentJobId, except that it MUST return WmaClientConstants.NoValue if the creation of the job failed instead of NULL.

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 BeginExchangeSync

Starts a server synchronization for the current user.

```

<wsdl:operation name="BeginExchangeSync" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
    wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSync"
    message="tns2:IWorkManagementServiceApplication_BeginExchangeSync_InputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
    wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncResponse"
    message="tns2:IWorkManagementServiceApplication_BeginExchangeSync_OutputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>

```

This operation returns whether the synchronization process successfully started.

3.1.4.2.1 Messages

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

| Message | Description |
|---|--|
| IWorkManagementServiceApplication_BeginExchangeSync_InputMessage | The request WSDL message for the BeginExchangeSync WSDL operation. |
| IWorkManagementServiceApplication_BeginExchangeSync_OutputMessage | The response WSDL message for the BeginExchangeSync WSDL operation. |

3.1.4.2.1.1

IWorkManagementServiceApplication_BeginExchangeSync_InputMessage

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

The SOAP action value is:

```
http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSync
```

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

3.1.4.2.1.2

IWorkManagementServiceApplication_BeginExchangeSync_OutputMessage

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

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

3.1.4.2.2 Elements

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

| Element | Description |
|---------------------------|--|
| BeginExchangeSync | The input data for the BeginExchangeSync WSDL operation. |
| BeginExchangeSyncResponse | The result data for the BeginExchangeSync WSDL operation. |

3.1.4.2.2.1 BeginExchangeSync

The input data for the **BeginExchangeSync** WSDL operation.

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


3.1.4.2.2 BeginExchangeSyncResponse

The result data for the **BeginExchangeSync** WSDL operation.

```
<xs:element name="BeginExchangeSyncResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="BeginExchangeSyncResult" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

BeginExchangeSyncResult: MUST return true if the synchronization job successfully started and false if not.

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 BeginExchangeSyncForNextUsers

Starts a server synchronization for the next set of users who need to be synchronized, where the next set is determined by the system.

```
<wsdl:operation name="BeginExchangeSyncForNextUsers"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input
    wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncForNextUsers"
    message="tns2:IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_InputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
    wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncForNextUsersResponse"
    message="tns2:IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_OutputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

Returns whether or not the synchronization process was successfully started.

3.1.4.3.1 Messages

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

| Message | Description |
|---|--|
| IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_InputMessage | The request WSDL message for the BeginExchangeSyncForNextUsers WSDL operation. |
| IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_OutputMessage | The response WSDL message for the BeginExchangeSyncForNextUsers WSDL operation. |

3.1.4.3.1.1

IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_InputMessage

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

The SOAP action value is:

`http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncForNextUsers`

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

3.1.4.3.1.2

IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_OutputMessage

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

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

3.1.4.3.2 Elements

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

| Element | Description |
|---------------------------------------|--|
| BeginExchangeSyncForNextUsers | The input data for the BeginExchangeSyncForNextUsers WSDL operation. |
| BeginExchangeSyncForNextUsersResponse | The result data for the BeginExchangeSyncForNextUsers WSDL operation. |

3.1.4.3.2.1 **BeginExchangeSyncForNextUsers**

The input data for the **BeginExchangeSyncForNextUsers** WSDL operation.

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

3.1.4.3.2.2 BeginExchangeSyncForNextUsersResponse

The result data for the **BeginExchangeSyncForNextUsers** WSDL operation.

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

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.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None

4 Protocol Examples

In this scenario, the protocol client calls `BeginCacheRefresh` to request a task aggregation job on behalf of a user:

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing" xmlns:u="Security">
  <s:Header>
    <a:Action
s:mustUnderstand="1">http://tempuri.org/IWorkManagementServiceApplication/BeginCacheRefresh</
a:Action>
    <a:MessageID>urn:uuid:d9b6e13c-d6e6-46e1-a4e8-8e88006d273e</a:MessageID>
    <a:SequenceAcknowledgement>
      <a:ReplyTo>http://www.w3.org/2005/08/addressing/anonymous</a:ReplyTo>
    </a:SequenceAcknowledgement>
    <ServiceContext xmlns="http://schemas.microsoft.com/sharepoint/servicecontext"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
      <correlationId>666b6e9b-7569-3030-1abf-a25007b984f2</correlationId>
      <devdashboardIsEnabled>>false</devdashboardIsEnabled>
      <language>en-US</language>
      <region>en-US</region>
      <scopeId>99445843689490</scopeId>
      <siteSubscriptionId>00000000-0000-0000-0000-000000000000</siteSubscriptionId>
      <ulstraceOverrideLevel>10</ulstraceOverrideLevel>
    </ServiceContext>
    <a:To s:mustUnderstand="1"
u:Id="_1">http://serverurl:32843/44058d0990524belb0f66a890da50007/WorkManagementService.svc</
a:To>
    <o:Timestamp s:mustUnderstand="1" xmlns:o="http://www.w3.org/2001/04/xmlenc#">
      <u:Created u:Id="_0">
        <u:Expires>2011-11-24T07:45:46.175Z</u:Expires>
        <u:Length>2011-11-24T07:50:46.175Z</u:Length>
      </u:Created>
      <saml:Assertion MajorVersion="1" MinorVersion="1" AssertionID="_9b6296d4-3f78-4887-8a99-
73355d77ed4b" Issuer="SharePoint" IssueInstant="2011-11-24T07:21:27.120Z"
xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion">
        <saml:Conditions NotBefore="2011-11-24T07:21:27.089Z" NotOnOrAfter="2011-11-
24T17:21:27.089Z">
          <saml:AudienceRestrictionCondition>
            <saml:Audience>urn:schemas-microsoft-com:sharepoint:service</saml:Audience>
          </saml:AudienceRestrictionCondition>
        </saml:Conditions>
        <saml:AttributeStatement>
          <saml:Subject>
            <saml:NameIdentifier>username</saml:NameIdentifier>
            <saml:SubjectConfirmation>
              <saml:ConfirmationMethod>urn:oasis:names:tc:SAML:1.0:cm:holder-of-
key</saml:ConfirmationMethod>
              <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
                <KeyValue>
                  <RSAKeyValue>
                    <Modulus>xTLtoGopRTYng4kkTo+AGsU9AYYqsoJ3TsiUdALBVW9C7hNQBgx0loCVV2H23ckHi1970VEyOmYAIIVxtMFL
jQb9TtDckncZDrN8CuL/Pc5LIKhh9zuFIjdbJiLqnYQBAYxHyLphEcW6MSRaTX62EoGk/pxPzZAhUocVOzvk7aU=</Mod
ulus>
                  <Exponent>AQAB</Exponent>
                </RSAKeyValue>
              </KeyValue>
            </KeyInfo>
          </saml:Subject>
        </saml:AttributeStatement>
      </saml:Assertion>
    </o:Timestamp>
  </s:Header>
  <s:Body>
  </s:Body>
</s:Envelope>
```

```

    </saml:SubjectConfirmation>
  </saml:Subject>
  <saml:Attribute AttributeName="primarysid"
AttributeNamespace="http://schemas.microsoft.com/ws/2008/06/identity/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>S-1-5-21-2127521184-1604012920-1887927527-
526964</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="primarygroupsid"
AttributeNamespace="http://schemas.microsoft.com/ws/2008/06/identity/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>S-1-5-21-2127521184-1604012920-1887927527-
513</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="upn"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2005/05/identity/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>username@contoso.com</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="userlogonname"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>Username</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="userid"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="SecurityTokenService"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>0#.w|username</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="name"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2005/05/identity/claims"
a:OriginalIssuer="SecurityTokenService"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>0#.w|username</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="identityprovider"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="SecurityTokenService"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>windows</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="isauthenticated"
AttributeNamespace="http://sharepoint.microsoft.com/claims/2009/08"
a:OriginalIssuer="SecurityTokenService"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>True</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="farmid"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="ClaimProvider:System"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>95cc4a80-a978-4077-ae9-1103092e5303</saml:AttributeValue>
</saml:Attribute>
  <saml:Attribute AttributeName="tokenreference"
AttributeNamespace="http://sharepoint.microsoft.com/claims/2009/08">
  <saml:AttributeValue>0).w|s-1-5-21-2127521184-1604012920-1887927527-
526964,0#.w|username,129666288871048579,True,mosiwjgtmyOf4EPy284D/Jwtb4Zff6qhlMZhV+dsneECHLdv
9sWwc8pWlqM/lxfZPgcrc6udlpRKezroqo017Nf+MzTSypfUe5ZwL6qhIuDmFE+LcjpVavwnVbE6ubBWPn9hM+Rv66vfCn
FNh/vM2tNQhV7hTqE29C3J6rNVBK1M4QFyCyZuH+GdED49S/55XDA5wmTSCgAz/t8swIM80vmHyMBtA4v0pKs2faXeN1F
N1npDaQvwNNnt0qYJv7Y0Nj3Ri8btJQ58BKX+HCztHZKqtQpBjoTH7XLbl1Wsap1c6JdCo1Sghz8BQEK8U9QLx9vWVavMK
MfNywsyWtnSg3uw==,urn:schemas-microsoft-com:sharepoint:service</saml:AttributeValue>

```

```

</saml:Attribute>
<saml:Attribute AttributeName="SidCompressed"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>S-1-5-21-2127521184-1604012920-
1887927527;513;3235764;5631067;6527764;1495408;2041268;5958388;5001327;6527739;2898815;634623
;6527783;492976;6527730;5951129;6527781;6525568;3535576;7360148;5377546;6621241;3168605;30615
41;3794426;4600588;7781173;4466716;4933277;3168614;1421044;7681958;7347463;5782818;7781172;31
68604;8091924;8133536;1910859;326949;7781246;3535807;7864574;7149326;5005350;3533463;6088077;
7338907;8084865;2115484;1921745;6598066;7485662;2738467;7513462;6835656;7957251;3240403;31213
04;7492442;1821296;7693631;6094633;3535581;8139922;1924384;7311515;3244172;3244301;7781169;77
81163;4552137;3168601;3168602;6129242;6071320;8227456;5518445;6835659;7781164;5124256;5869759
;1929380;8004468;7856854;2927357;6634566;2889412;650728;7856812;7877130;175772;2361615;650727
;6527731;771043;7547205;7856860;7877049;6527765;4814166;6639913;1700934;6984515;2547081;77640
26;6527784;4666181;2361614;4662838;6527782;7205074;4662826;2015132;7856806;6634544;1230889;26
71629;6260547;2289587;6634723;7856956;7672696;6253091;6916102;4923067;6639947;7842436;7547198
;4968904;6634530;7672705;3457292;6639831;1378086;4662824;5135771;4662842;7755302;6634516;1908
118;1908119;7856977;1230890;1378084;1472082;2400103;2542707;1908120;6001903;158181;4571792;20
62437;6015065;556526;771112;7672780;2289588;2529053;5107804;1390170;7877064;6984513;2361613;7
25547;6639879;1378088;6639888;7672699;5107803;6634527;754149;2671628;1472096;6634538;7856830;
1908117;1908121;2984327;7856938;6680169;6639833;571;6634536;3132840;6634505;6634528;7844666;7
764017;7316492;6634535;6527740;6869767;6634518;6634503;2361612;1378091;6634531|S-1-1;0|S-1-5-
21-1049126966-2357333717-3104358719;1012|S-1-5;11|S-1-5-21-2146773085-903363285-
719344707;1309616;1146011;1253526;1262012;1252077|S-1-5-21-1721254763-462695806-
1538882281;3217681;3207910|S-1-5-21-124525095-708259637-
1543119021;1115857;1115914;1115908;1165956;1115917;926551;926563;1115903|S-1-5-
64;10|</saml:AttributeValue>
</saml:Attribute>
<saml:Attribute AttributeName="actor"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>&lt;Actor&gt;&lt;saml:Attribute AttributeName="nameidentifier"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2005/05/identity/claims"
a:OriginalIssuer="SharePoint" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt;
;username&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="userlogonname"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="Windows" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt;
;Username&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="userid"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="SecurityTokenService" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt;
;0#.w|username&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="identityprovider"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="SecurityTokenService" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt;
;windows&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="isauthenticated"
AttributeNamespace="http://sharepoint.microsoft.com/claims/2009/08"
a:OriginalIssuer="SecurityTokenService" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt;
;True&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="name"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2005/05/identity/claims"
a:OriginalIssuer="SecurityTokenService" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt;
;0#.w|username&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="farmid"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="ClaimProvider:System" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt;
;95cc4a80-a978-4077-ae9-

```

```

1103092e5303<lt;/saml:AttributeValue>&lt;/saml:Attribute>&lt;/saml:Attribute
Value>
  </saml:Attribute>
</saml:AttributeStatement>
<saml:AuthenticationStatement
AuthenticationMethod="urn:federation:authentication:windows" AuthenticationInstant="2011-11-
24T07:21:26.995Z">
  <saml:Subject>
    <saml:NameIdentifier>username</saml:NameIdentifier>
    <saml:SubjectConfirmation>
      <saml:ConfirmationMethod>urn:oasis:names:tc:SAML:1.0:cm:holder-of-
key</saml:ConfirmationMethod>
      <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
        <KeyValue>
          <RSAKeyValue>
            <Modulus>xTLtoGopRTYng4kkTo+AGsU9AYYqsoJ3TsiUdALBVW9C7hNQBgx0loCVV2H23ckHi1970VEyOmYAIIVxtMFL
jQb9TtDckncZDrN8CuL/Pc5LlKhH9zuFIjdbJiLqnYQBAYxHyLphEcW6MSRaTX62EoGk/pxPzZAhUocVOzvk7aU=</Mod
ulus>
              <Exponent>AQAB</Exponent>
            </RSAKeyValue>
          </KeyValue>
        </KeyInfo>
      </saml:SubjectConfirmation>
    </saml:Subject>
  </saml:AuthenticationStatement>
  <ds:Signature xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
    <ds:SignedInfo>
      <ds:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
      </ds:CanonicalizationMethod>
      <ds:SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256">
      </ds:SignatureMethod>
      <ds:Reference URI="#_9b6296d4-3f78-4887-8a99-73355d77ed4b">
        <ds:Transforms>
          <ds:Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature">
          </ds:Transform>
          <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
          </ds:Transform>
        </ds:Transforms>
        <ds:DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#sha256">
        </ds:DigestMethod>
        <ds:DigestValue>p+PdaqS/EfOyTid+2Tr5yH8xywIik1KktiaoN9FzIPA=</ds:DigestValue>
      </ds:Reference>
    </ds:SignedInfo>
    <ds:SignatureValue>g9VAK+5/ZGLOzk8rd5RUG99Q/g9Qnh+JTeHi3Dt9REyn6aLH7DJ2P2qRenrrMPMyQIQUIF/NfX
pXfo8UqLX1+02HQZ188ZoCqXzQUj61LeEWI2OVXlyFehdvtFG+3UstKWdR3wVJ7CWh62u/SOXvPiM8GyXitGnG5AE6bja
82fnV+QNxrlYKbMMeMgBmIs9B87x4Ivq7ksetFstbiXO3mIZcz1YsTTCLkeX2StxlhF+yb0EsdLJ6NcCxUJk0y6KzAtT
f6TEfzmhSoqq2J82DaablbtY0z8HBTmr27rQ9mVU1SvYra9PoBsw1S5Q8fD/GFgxtfVZ60UYXpBQ+ArQow==</ds:Sign
atureValue>
      <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
        <X509Data>
          <X509Certificate>MIIErjCCAi6gAwIBAgIQM5u5YNJ2qZRK7/rf8N2SezANBkgqhkiG9w0BAQUFADBaMQswCQYDVQQG
EwJVUzESMBAGAlUEChMjTWljcm9zb2Z0MRMwEQYDVQQLEwpTaGFyZVBvaW50MSIwIAYDVQQDEx1TaGFyZVBvaW50IFJvb
3QgQXV0aG9yaXR5MCAXDTExMTEyMzAwMzQ1MFOYDzk5OTkwMTAxMDAwMDAwWjBiMQswCQYDVQQGEwJVUzESMBAGAlUECh
MjTWljcm9zb2Z0MRMwEQYDVQQLEwpTaGFyZVBvaW50MSowKAYDVQQDEyFTaGFyZVBvaW50IFNlY3VyaXR5IFRva2VuIFN
lcnZpY2UwgqgEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQCzHm/BcOXm6TYMGMQYc+XPR/9YTG0RXYi43SGOC9wR
qzipS6r/AU+hidfFpUOS3bjER5wCcLiG39cokOlBmk5uYkNgQpEcEshgklbeyfsQfs4M5jbc0z5z+FmK4CqN1LebHDJgN
6vcONnxBKmvR0H4szZ45p2fblTueJvIeM4/891TaIvByI7a6HU6pIw13jYTa9MdtVSgQj3ExiLw7k4hlec+0+CiqrYnL
imQe30Urdl0CS71uwQsTJcrY0u5zwnFJL9A+PLUwg8HS2bsAue50dvc1MIMS4ifaOkMDkdpQYqutjeZLyMJ0ty0dh1HUU
Yl01LUDtvR2YaykogoeKPAgMBAEwDQYJKoZIhvcNAQEFBQADggIBAJgAElPG314GeVA8mIfE2mAc1SWjDM4xaA+azelZ

```

```
FGzIT8h3Kbr201Mqw8TvUspTQiFAlaP0ldU3PoRQYwck60Q5Z3plYZ7bL4K0kxvcPgbSsRoQ/R0odkdokNw3yE5yQuo21
Y1X289hwsYoWrXGYxIBz8B82bZe3Ty1H5edU3SJU9P2nCoC/8xDkhjQp0lrrwTOHcwcqaBeqdmYcZT0QafnAQ1m7NpSuF
6UEyMGd343N1ZtC6CgxisqT1K19Dcw54ryG0R9CrP5RsJGyk+tMeWlYG/i08V26o3Y9Hq/iC8JoYM9m1TmAMaekKawxY4
3SxObEmqiVP6mX6N1StWxIwU7HhGjz6sgOhQGU3Ljlr4cMe6yBhzWZ/reOjGI/viDNuFkbrLtzRDAFe+oG1T9VWcUtV4p
1s17lXx+dbY2+sBSKfO5340sCyuERX4i3HcdUaHAIwoY26Yy3mkkU3AJL7eKex/09Sr2GfTxxBS818dCXagagFQ+qJv8
CVn8WyyHhkb20u8gzIBwNjbdosjcmJh1B7q7rJd06gLi0jp7HqtsYYcsw/Y6XBSp8S09uENVhrgiZdNzBIhUu39iqm5su
gK1VJGt1jp6gDsMM/xgAh/H+OVYQ0t5HbCdZ7vPeKxubGoEFYit6MpahdjWqZU6s5m2dnQ9tMJ57e2jhIhztSE</X509C
ertificate>
```

```
</X509Data>
</KeyInfo>
</ds:Signature>
</saml:Assertion>
<SignedInfo xmlns="http://www.w3.org/2000/09/xmldsig#enveloped-signature">
  <CanonicalizationMethod>
    <SignatureMethod Algorithm="PrefixList">
    </SignatureMethod>
    <SignatureValue Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256">
    </SignatureValue>
    <Reference URI="#_0">
      <Transforms>
        <Transform Algorithm="PrefixList">
        </Transform>
      </Transforms>
      <DigestMethod Algorithm="http://www.w3.org/2001/04/xmlenc#sha256">
      </DigestMethod>
      <Address>U+ftZ2ktf2g6IYzZHI3l4WH7I40=</Address>
    </Reference>
    <Reference URI="#_1">
      <Transforms>
        <Transform Algorithm="PrefixList">
        </Transform>
      </Transforms>
      <DigestMethod Algorithm="http://www.w3.org/2001/04/xmlenc#sha256">
      </DigestMethod>
      <Address>E0mgpYR9TOws6SpBQXM/j4UjD2w=</Address>
    </Reference>
  </CanonicalizationMethod>

  <DataReference>sAMgAVtnJAl+VsmvyoEgobVTSTOSchwI6TYOtquAlBb3cxN9QFCw+WNLmuAg3VQ24ZuZUe2nfxGMSJ
  Jqv5+Gn6oVD5UNEKvNAI8c8Bp/pNe5+ZGMxN8xe6qNk8uMqujRlsETwDFaSOweqXL8hZ6vlnN9S4vf0lOsF7Wojlufaac
  =</DataReference>
  <http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd>
    <o:Sequence k:http://docs.oasis-open.org/wss/oasis-wss-soap-message-security-
    1.1#ThumbprintSHA1="http://docs.oasis-open.org/wss/oasis-wss-saml-token-profile-1.1#SAMLV1.1"
    xmlns:k="RequestSecurityTokenResponseCollection">
      <o:http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-
      1.0#Base64Binary Type="http://docs.oasis-open.org/wss/oasis-wss-saml-token-profile-
      1.0#SAMLAssertionID">_9b6296d4-3f78-4887-8a99-73355d77ed4b</o:http://docs.oasis-
      open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0#Base64Binary>
    </o:Sequence>
  </http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd>
</SignedInfo>
</o:Timestamp>
</s:Header>
<s:Body>
  <BeginCacheRefresh xmlns="http://tempuri.org/">
  </BeginCacheRefresh>
</s:Body>
</s:Envelope>
```


The protocol server might respond with a message such as this one:

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing" xmlns:u="Security">
  <s:Header>
    <a:Action
s:mustUnderstand="1">http://tempuri.org/IWorkManagementServiceApplication/BeginCacheRefreshRe
sponse</a:Action>
    <ActivityId CorrelationId="668cb0dd-3d8c-4f55-af96-22cfb06c13d3"
xmlns="http://schemas.microsoft.com/2004/09/ServiceModel/Diagnostics">58cad185-6509-43cd-
8e89-58a3338b0cdd</ActivityId>
    <a:RelatesTo>urn:uuid:d9b6e13c-d6e6-46e1-a4e8-8e88006d273e</a:RelatesTo>
    <ServiceResourceConsumption xmlns="http://schemas.microsoft.com/sharepoint/servicecontext"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
      <CPUMCycles>2288</CPUMCycles>
      <ManagedMemoryBytes i:nil="true">
      </ManagedMemoryBytes>
      <ManagedMemoryBytesLOH i:nil="true">
      </ManagedMemoryBytesLOH>
      <TotalSqlQueryCount>19</TotalSqlQueryCount>
      <TotalSqlQueryDuration>74</TotalSqlQueryDuration>
    </ServiceResourceConsumption>
    <o:Timestamp s:mustUnderstand="1" xmlns:o="http://www.w3.org/2001/04/xmlenc#">
      <u:Created u:Id="_0">
      <u:Expires>2011-11-24T07:45:47.028Z</u:Expires>
      <u:Length>2011-11-24T07:50:47.028Z</u:Length>
      </u:Created>
    </o:Timestamp>
  </s:Header>
  <s:Body>
    <BeginCacheRefreshResponse xmlns="http://tempuri.org/">
      <BeginCacheRefreshResult
xmlns:b="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:CreatedJob>true</b:CreatedJob>
        <b:CurrentJobId>2</b:CurrentJobId>
        <b:CurrentJobIdClient>2</b:CurrentJobIdClient>
      </BeginCacheRefreshResult>
    </BeginCacheRefreshResponse>
  </s:Body>
</s:Envelope>
```

In this scenario, the protocol client calls `BeginExchangeSync` to request a task synchronization job on behalf of a user:

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing" xmlns:u="Security">
  <s:Header>
    <a:Action
s:mustUnderstand="1">http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSync</
a:Action>
    <a:MessageID>urn:uuid:1246723e-3b80-448d-9b1e-bfe889babd78</a:MessageID>
    <a:SequenceAcknowledgement>
    <a:ReplyTo>http://www.w3.org/2005/08/addressing/anonymous</a:ReplyTo>
    </a:SequenceAcknowledgement>
    <ServiceContext xmlns="http://schemas.microsoft.com/sharepoint/servicecontext"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
      <correlationId>93ef6f9b-65fb-3030-1abf-a71cdec960af</correlationId>
    </ServiceContext>
  </s:Header>
  <s:Body>
    <BeginExchangeSyncResponse xmlns="http://tempuri.org/">
      <BeginExchangeSyncResult
xmlns:b="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:CreatedJob>true</b:CreatedJob>
        <b:CurrentJobId>2</b:CurrentJobId>
        <b:CurrentJobIdClient>2</b:CurrentJobIdClient>
      </BeginExchangeSyncResult>
    </BeginExchangeSyncResponse>
  </s:Body>
</s:Envelope>
```

```

    <devdashboardIsEnabled>false</devdashboardIsEnabled>
    <language>en-US</language>
    <region>en-US</region>
    <scopeId>4286270333255698</scopeId>
    <siteSubscriptionId>00000000-0000-0000-0000-000000000000</siteSubscriptionId>
    <ulstraceOverrideLevel>0</ulstraceOverrideLevel>
  </ServiceContext>
  <a:To s:mustUnderstand="1"
u:Id="_1">http://servername:port/44058d0990524belb0f66a890da50007/WorkManagementService.svc</
a:To>
    <o:Timestamp s:mustUnderstand="1" xmlns:o="http://www.w3.org/2001/04/xmlenc#">
      <u:Created u:Id="_0">
        <u:Expires>2011-11-29T00:49:38.851Z</u:Expires>
        <u:Length>2011-11-29T00:54:38.851Z</u:Length>
      </u:Created>
      <saml:Assertion MajorVersion="1" MinorVersion="1" AssertionID="_a760cacb-9550-4af5-8ad0-
e3b902ael891" Issuer="SharePoint" IssueInstant="2011-11-28T17:29:46.432Z"
xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion">
        <saml:Conditions NotBefore="2011-11-28T17:29:46.416Z" NotOnOrAfter="2011-11-
29T03:29:46.416Z">
          <saml:AudienceRestrictionCondition>
            <saml:Audience>urn:schemas-microsoft-com:sharepoint:service</saml:Audience>
          </saml:AudienceRestrictionCondition>
        </saml:Conditions>
        <saml:AttributeStatement>
          <saml:Subject>
            <saml:NameIdentifier>username</saml:NameIdentifier>
            <saml:SubjectConfirmation>
              <saml:ConfirmationMethod>urn:oasis:names:tc:SAML:1.0:cm:holder-of-
key</saml:ConfirmationMethod>
              <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
                <KeyValue>
                  <RSAKeyValue>
                    <Modulus>33Z32MKwwMpKEQf16k+Z2C7lsFrEtj0AvliOKUE33xhSHB91111jvDorzNIANA2BUbEQFZGmfGbVzbKdG0o9
un978aRNazZyit53GYaeZo5qPMvJkrTTbUjcJ77Rf/4osXxiEcCo0IVrf4m6qOy0laOKAM3KZadAZD+v/psQA9E=</Mod
ulus>
                    <Exponent>AQAB</Exponent>
                  </RSAKeyValue>
                </KeyValue>
              </KeyInfo>
            </saml:SubjectConfirmation>
          </saml:Subject>
          <saml:Attribute AttributeName="primarysid"
AttributeNamespace="http://schemas.microsoft.com/ws/2008/06/identity/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
            <saml:AttributeValue>S-1-5-21-2127521184-1604012920-1887927527-
526964</saml:AttributeValue>
          </saml:Attribute>
          <saml:Attribute AttributeName="primarygroupid"
AttributeNamespace="http://schemas.microsoft.com/ws/2008/06/identity/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
            <saml:AttributeValue>S-1-5-21-2127521184-1604012920-1887927527-
513</saml:AttributeValue>
          </saml:Attribute>
          <saml:Attribute AttributeName="upn"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2005/05/identity/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
            <saml:AttributeValue>username@contoso.com</saml:AttributeValue>
          </saml:Attribute>

```

```
<saml:Attribute AttributeName="userlogonname"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>Username</saml:AttributeValue>
</saml:Attribute>
<saml:Attribute AttributeName="userid"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="SecurityTokenService"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>0#.w|username</saml:AttributeValue>
</saml:Attribute>
<saml:Attribute AttributeName="name"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2005/05/identity/claims"
a:OriginalIssuer="SecurityTokenService"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>0#.w|username</saml:AttributeValue>
</saml:Attribute>
<saml:Attribute AttributeName="identityprovider"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="SecurityTokenService"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>windows</saml:AttributeValue>
</saml:Attribute>
<saml:Attribute AttributeName="isauthenticated"
AttributeNamespace="http://sharepoint.microsoft.com/claims/2009/08"
a:OriginalIssuer="SecurityTokenService"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>True</saml:AttributeValue>
</saml:Attribute>
<saml:Attribute AttributeName="farmid"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="ClaimProvider:System"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>95cc4a80-a978-4077-ae9-1103092e5303</saml:AttributeValue>
</saml:Attribute>
<saml:Attribute AttributeName="tokenreference"
AttributeNamespace="http://sharepoint.microsoft.com/claims/2009/08">
  <saml:AttributeValue>0).w|s-1-5-21-2127521184-1604012920-1887927527-
526964,0#.w|username,129670109864168945,True,BwACO6nxCcbSMU1RgxAgTUmvdqvyo70g8KKPdguhZCtNTEtD
rEbGA98YUsfJcT+JN5qk22/SiHAsjd21+b5hh8JW2oRJJ2bpiJQeC3rdkIv9pj8p5NjeEHF3noP3eYP2CvWxRVUr6NZ/j
mc7Q7B7/cJsmRsJhMrmHNaqCCLiWr5XpuNnHomSrEeCdqBnZGpwYE9HhscTicQsf3wKCR+0iBEFgftjOKJ4irJWD9p5YW
RHsVXUSmMnfP5zqE9hBbjt7JhCX+EZuDd/fWjzkXzrrf3rB3JMKRxCZOCyH70BFmIBRNvYnnYdiWNUHHCmOlggnAwoFjGB
Fiy+iH+T00LK6eg==,urn:schemas-microsoft-com:sharepoint:service</saml:AttributeValue>
</saml:Attribute>
<saml:Attribute AttributeName="SidCompressed"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="Windows" xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
  <saml:AttributeValue>S-1-5-21-2127521184-1604012920-
1887927527;513;3235764;5631067;6527764;1495408;2041268;5958388;5001327;6527739;2898815;634623
;6527783;492976;6527730;5951129;6527781;6525568;3535576;7360148;5377546;6621241;3168605;30615
41;3794426;4600588;7781173;4466716;4933277;3168614;1421044;7681958;7347463;5782818;7781172;31
68604;8091924;8133536;1910859;326949;7781246;3535807;7864574;7149326;5005350;3533463;6088077;
7338907;8084865;2115484;1921745;6598066;7485662;2738467;7513462;6835656;7957251;3240403;31213
04;7492442;1821296;7693631;6094633;3535581;8139922;1924384;7311515;3244172;3244301;7781169;77
81163;4552137;3168601;3168602;6129242;6071320;8227456;5518445;6835659;7781164;5124256;5869759
;1929380;8004468;7856854;2927357;6634566;2889412;650728;7856812;7877130;175772;2361615;650727
;6527731;771043;7547205;7856860;7877049;6527765;4814166;6639913;1700934;6984515;2547081;77640
26;6527784;4666181;2361614;4662838;6527782;7205074;4662826;2015132;7856806;6634544;1230889;26
71629;6260547;2289587;6634723;7856956;7672696;6253091;6916102;4923067;6639947;7842436;7547198
;4968904;6634530;7672705;3457292;6639831;1378086;4662824;5135771;4662842;7755302;6634516;1908
118;1908119;7856977;1230890;1378084;1472082;2400103;2542707;1908120;6001903;158181;4571792;20
62437;6015065;556526;771112;7672780;2289588;2529053;5107804;1390170;7877064;6984513;2361613;7
25547;6639879;1378088;6639888;7672699;5107803;6634527;754149;2671628;1472096;6634538;7856830;
```

```

1908117;1908121;2984327;7856938;6680169;6639833;571;6634536;3132840;6634505;6634528;7844666;7
764017;7316492;6634535;6527740;6869767;6634518;6634503;2361612;1378091;6634531|S-1-1;0|S-1-
5;11|S-1-5-21-2146773085-903363285-719344707;1309616;1146011;1253526;1260212;1252077|S-1-5-
21-1721254763-462695806-1538882281;3217681;3207910|S-1-5-21-124525095-708259637-
1543119021;1115857;1115914;1115908;1165956;1115917;926551;926563;1115903|</saml:AttributeValu
e>
</saml:Attribute>
<saml:Attribute AttributeName="actor"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2009/09/identity/claims">
<saml:AttributeValue>&lt;Actor&gt;&lt;saml:Attribute AttributeName="nameidentifier"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2005/05/identity/claims"
a:OriginalIssuer="SharePoint" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt
;user&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="userlogonname"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="Windows" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt
;Username&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="userid"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="SecurityTokenService" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt
;0#.w|username&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="identityprovider"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="SecurityTokenService" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt
;windows&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="isauthenticated"
AttributeNamespace="http://sharepoint.microsoft.com/claims/2009/08"
a:OriginalIssuer="SecurityTokenService" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt
;True&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="name"
AttributeNamespace="http://schemas.xmlsoap.org/ws/2005/05/identity/claims"
a:OriginalIssuer="SecurityTokenService" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt
;0#.w|username&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;saml:Attribute
AttributeName="farmid"
AttributeNamespace="http://schemas.microsoft.com/sharepoint/2009/08/claims"
a:OriginalIssuer="ClaimProvider:System" xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:a="http://schemas.xmlsoap.org/ws/2009/09/identity/claims"&gt;&lt;saml:AttributeValue&gt
;95cc4a80-a978-4077-ae9-
1103092e5303&lt;/saml:AttributeValue&gt;&lt;/saml:Attribute&gt;&lt;/Actor&gt;</saml:Attribute
Value>
</saml:Attribute>
</saml:AttributeStatement>
<saml:AuthenticationStatement
AuthenticationMethod="urn:federation:authentication:windows" AuthenticationInstant="2011-11-
28T17:29:46.401Z">
<saml:Subject>
<saml:NameIdentifier>username</saml:NameIdentifier>
<saml:SubjectConfirmation>
<saml:ConfirmationMethod>urn:oasis:names:tc:SAML:1.0:cm:holder-of-
key</saml:ConfirmationMethod>
<KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
<KeyValue>
<RSAKeyValue>
<Modulus>33Z32MKwwMpKEQf16k+Z2C7lsFrEtj0AvliOKUE33xhSHB91111jvDorzNIANA2BUBEQFZGmfGbVzbKdG0o9
un978aRNazZyit53GYaeZo5qPMvJkrTtBuJcJ77Rf/4osXxiEcCo0IVrf4m6qOy0laOKAM3KZadAZD+v/psQA9E=</Mod
ulus>
<Exponent>AQAB</Exponent>

```



```

<Transforms>
  <Transform Algorithm="PrefixList">
  </Transform>
</Transforms>
<DigestMethod Algorithm="http://www.w3.org/2001/04/xmlenc#sha256">
</DigestMethod>
<Address>sybFh758WbKHAB6sqM0Za+X5UQg</Address>
</Reference>
<Reference URI="#_1">
  <Transforms>
    <Transform Algorithm="PrefixList">
    </Transform>
  </Transforms>
  <DigestMethod Algorithm="http://www.w3.org/2001/04/xmlenc#sha256">
  </DigestMethod>
  <Address>E0mgrpYR9TOws6SpBQXM/j4UjD2w</Address>
</Reference>
</CanonicalizationMethod>

<DataReference>kEwSrGK8PJvww92WEEbVp/kfqhhG9VBH6U2lrxadcfiu5vQj1gt1GVKHiJYhbJMgcZKoKf/BGDRyLS
3ZCmAQWDBfg+TTX4E/BLiz/XPRC0Ixnad6Mws1e+FEtOnPHG9swQjavgno3lAgVERKMfREY1ADS72L960v7gEJ0bd76dc
=</DataReference>
  <http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd>
    <o:Sequence k:http://docs.oasis-open.org/wss/oasis-wss-soap-message-security-
1.1#ThumbprintSHA1="http://docs.oasis-open.org/wss/oasis-wss-saml-token-profile-1.1#SAMLV1.1"
xmlns:k="RequestSecurityTokenResponseCollection">
      <o:http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-
1.0#Base64Binary Type="http://docs.oasis-open.org/wss/oasis-wss-saml-token-profile-
1.0#SAMLAssertionID">_a760cacb-9550-4af5-8ad0-e3b902ae1891</o:http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0#Base64Binary>
    </o:Sequence>
  </http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd>
</SignedInfo>
</o:Timestamp>
</s:Header>
<s:Body>
  <BeginExchangeSync xmlns="http://tempuri.org/">
  </BeginExchangeSync>
</s:Body>
</s:Envelope>

```

The protocol server might respond with a message such as this one:

```

<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing" xmlns:u="Security">
  <s:Header>
    <a:Action
s:mustUnderstand="1">http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncRe
sponse</a:Action>
    <ActivityId CorrelationId="be8fbd1c-5b27-4527-a8bf-d65b51a20d89"
xmlns="http://schemas.microsoft.com/2004/09/ServiceModel/Diagnostics">701b8f86-20fa-4451-
960a-d3767f47b2c1</ActivityId>
    <a:RelatesTo>urn:uuid:1246723e-3b80-448d-9b1e-bfe889babd78</a:RelatesTo>
    <ServiceResourceConsumption xmlns="http://schemas.microsoft.com/sharepoint/servicecontext"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
      <CPUMCycles>1257</CPUMCycles>
      <ManagedMemoryBytes i:nil="true">
      </ManagedMemoryBytes>

```

```
<ManagedMemoryBytesLOH i:nil="true">
</ManagedMemoryBytesLOH>
<TotalSqlQueryCount>8</TotalSqlQueryCount>
<TotalSqlQueryDuration>25</TotalSqlQueryDuration>
</ServiceResourceConsumption>
<o:Timestamp s:mustUnderstand="1" xmlns:o="http://www.w3.org/2001/04/xmlenc#">
  <u:Created u:Id="_0">
    <u:Expires>2011-11-29T00:49:39.324Z</u:Expires>
    <u:Length>2011-11-29T00:54:39.324Z</u:Length>
  </u:Created>
</o:Timestamp>
</s:Header>
<s:Body>
  <BeginExchangeSyncResponse xmlns="http://tempuri.org/">
    <BeginExchangeSyncResult>true</BeginExchangeSyncResult>
  </BeginExchangeSyncResponse>
</s:Body>
</s:Envelope>
```

5 Security

5.1 Security Considerations for Implementers

Aggregation and synchronization will occur on behalf of the user whose identity is tied to the request. Implementers should make sure that the identity is established for the correct user prior to making calls to this protocol.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

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

```
<?xml version="1.0"?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:tns2="http://tempuri.org/"
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://tempuri.org/" />
      <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement" />
    </xs:schema>
  </wsdl:types>
  <wsdl:message name="IWorkManagementServiceApplication_BeginCacheRefresh_InputMessage">
    <wsdl:part name="parameters" element="tns2:BeginCacheRefresh" />
  </wsdl:message>
  <wsdl:message name="IWorkManagementServiceApplication_BeginCacheRefresh_OutputMessage">
    <wsdl:part name="parameters" element="tns2:BeginCacheRefreshResponse" />
  </wsdl:message>
  <wsdl:message name="IWorkManagementServiceApplication_BeginExchangeSync_InputMessage">
    <wsdl:part name="parameters" element="tns2:BeginExchangeSync" />
  </wsdl:message>
  <wsdl:message name="IWorkManagementServiceApplication_BeginExchangeSync_OutputMessage">
    <wsdl:part name="parameters" element="tns2:BeginExchangeSyncResponse" />
  </wsdl:message>
  <wsdl:message
name="IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_InputMessage">
    <wsdl:part name="parameters" element="tns2:BeginExchangeSyncForNextUsers" />
  </wsdl:message>
  <wsdl:message
name="IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_OutputMessage">
    <wsdl:part name="parameters" element="tns2:BeginExchangeSyncForNextUsersResponse" />
  </wsdl:message>
  <wsdl:portType name="IWorkManagementServiceApplication">
    <wsdl:operation name="BeginCacheRefresh">
      <wsdl:input
wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginCacheRefresh"
message="tns2:IWorkManagementServiceApplication_BeginCacheRefresh_InputMessage" />
      <wsdl:output
wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginCacheRefreshResponse"
message="tns2:IWorkManagementServiceApplication_BeginCacheRefresh_OutputMessage" />
    </wsdl:operation>
    <wsdl:operation name="BeginExchangeSync">
      <wsdl:input
wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSync"
message="tns2:IWorkManagementServiceApplication_BeginExchangeSync_InputMessage" />
      <wsdl:output
wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncResponse"
message="tns2:IWorkManagementServiceApplication_BeginExchangeSync_OutputMessage" />
    </wsdl:operation>
    <wsdl:operation name="BeginExchangeSyncForNextUsers">
      <wsdl:input
wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncForNextUse
rs"
message="tns2:IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_InputMessage" />
```

```

        <wsdl:output
wsaw:Action="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncForNextUsersResponse"
message="tns2:IWorkManagementServiceApplication_BeginExchangeSyncForNextUsers_OutputMessage"/
>
    </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="DefaultBinding_IWorkManagementServiceApplication"
type="tns2:IWorkManagementServiceApplication">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="BeginCacheRefresh">
        <soap:operation
soapAction="http://tempuri.org/IWorkManagementServiceApplication/BeginCacheRefresh"
style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="BeginExchangeSync">
        <soap:operation
soapAction="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSync"
style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="BeginExchangeSyncForNextUsers">
        <soap:operation
soapAction="http://tempuri.org/IWorkManagementServiceApplication/BeginExchangeSyncForNextUsers"
style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
</wsdl:definitions>

```

7 Appendix B: Full XML Schema

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

| Schema name | Prefix | Section |
|---|--------|---------------------|
| http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement | tns | 7.1 |
| http://schemas.microsoft.com/2003/10/Serialization/ | tns1 | 7.2 |
| http://tempuri.org/ | tns2 | 7.3 |

7.1

<http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement> Schema

```
<?xml version="1.0"?>
<xs:schema
  xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement"
  elementFormDefault="qualified"
  targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType name="CreateRefreshJobResult">
    <xs:sequence>
      <xs:element minOccurs="0" name="CreatedJob" type="xs:boolean"/>
      <xs:element minOccurs="0" name="CurrentJobId" nillable="true" type="xs:int"/>
      <xs:element minOccurs="0" name="CurrentJobIdClient" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="CreateRefreshJobResult" nillable="true"
    type="tns:CreateRefreshJobResult"/>
</xs:schema>
```

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

```
<?xml version="1.0"?>
<xs:schema xmlns:tns1="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:schema>
```

```

<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="tns1:char"/>
<xs:simpleType name="char">
  <xs:restriction base="xs:int"/>
</xs:simpleType>
<xs:element name="duration" nillable="true" type="tns1: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="tns1: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>

```

7.3 <http://tempuri.org/> Schema

```

<?xml version="1.0"?>
<xs:schema elementFormDefault="qualified" targetNamespace="http://tempuri.org/"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:import
    namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement"/>
  <xs:element name="BeginCacheRefresh">
    <xs:complexType>
      <xs:sequence/>
    </xs:complexType>
  </xs:element>
  <xs:element name="BeginCacheRefreshResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element
          xmlns:tns="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.WorkManagement"
          minOccurs="0" name="BeginCacheRefreshResult" nillable="true"
          type="tns:CreateRefreshJobResult"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BeginExchangeSync">
    <xs:complexType>
      <xs:sequence/>
    </xs:complexType>
  </xs:element>
  <xs:element name="BeginExchangeSyncResponse">
    <xs:complexType>
      <xs:sequence>

```

```
        <xs:element minOccurs="0" name="BeginExchangeSyncResult" type="xs:boolean"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="BeginExchangeSyncForNextUsers">
    <xs:complexType>
      <xs:sequence/>
    </xs:complexType>
  </xs:element>
  <xs:element name="BeginExchangeSyncForNextUsersResponse">
    <xs:complexType>
      <xs:sequence/>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

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 15 Technical 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.

9 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

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