

[MS-UPWCFWS]:

User Profile Property Service Application Web Service Protocol

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Revision Summary

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|-------------|-------------------------|-----------------------|--|
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1 Introduction

The User Profile Property Service Application Web Service Protocol is built upon the Windows Communication Foundation and enables a protocol client to retrieve user profile application configuration information that is located in a user profile store on a site.

Sections 1.5, 1.8, 1.9, 2, and 3 of this specification are normative. All other sections and examples in this specification are informative.

1.1 Glossary

This document uses the following terms:

access control entry (ACE): An entry in an **access control list (ACL)** that contains a set of user rights and a **security identifier (SID)** that identifies a principal for whom the rights are allowed, denied, or audited.

access control list (ACL): A list of **access control entries (ACEs)** that collectively describe the security rules for authorizing access to some resource; for example, an object or set of objects.

application server: A computer that provides infrastructure and services for applications that are hosted on a server farm.

Augmented Backus-Naur Form (ABNF): A modified version of Backus-Naur Form (BNF), commonly used by Internet specifications. ABNF notation balances compactness and simplicity with reasonable representational power. ABNF differs from standard BNF in its definitions and uses of naming rules, repetition, alternatives, order-independence, and value ranges. For more information, see [\[RFC5234\]](#).

base64 encoding: A binary-to-text encoding scheme whereby an arbitrary sequence of bytes is converted to a sequence of printable ASCII characters, as described in [\[RFC4648\]](#).

Business Data Connectivity (BDC): A shared service that stores information about business application data that exists outside a server farm. It can be used to display business data in lists, Web Parts, search results, user profiles, and custom applications. Previously referred to as Business Data Catalog.

collation: A set of rules that determines how data is compared, ordered, and presented.

data connection: A collection of information, such as the type and location, that defines how to connect to an external data source, such as a database, web service, SharePoint list, or **XML** file.

domain controller (DC): The service, running on a server, that implements Active Directory, or the server hosting this service. The service hosts the data store for objects and interoperates with other **DCs** to ensure that a local change to an object replicates correctly across all **DCs**. When Active Directory is operating as Active Directory Domain Services (AD DS), the **DC** contains full NC replicas of the configuration naming context (config NC), schema naming context (schema NC), and one of the domain NCs in its forest. If the AD DS **DC** is a global catalog server (GC server), it contains partial NC replicas of the remaining domain NCs in its forest. For more information, see [\[MS-AUTHSOD\]](#) section 1.1.1.5.2 and [\[MS-ADTS\]](#). When Active Directory is operating as Active Directory Lightweight Directory Services (AD LDS), several AD LDS **DCs** can run on one server. When Active Directory is operating as AD DS, only one AD DS **DC** can run on one server. However, several AD LDS **DCs** can coexist with one AD DS **DC** on one server. The AD LDS **DC** contains full NC replicas of the config NC and the schema NC in its forest. The domain controller is the server side of Authentication Protocol Domain Support [\[MS-APDS\]](#).

Domain Name System (DNS): A hierarchical, distributed database that contains mappings of domain names (1) to various types of data, such as IP addresses. DNS enables the location of computers and services by user-friendly names, and it also enables the discovery of other information stored in the database.

endpoint: A communication port that is exposed by an **application server** for a specific shared service and to which messages can be addressed.

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).

group: A named collection of users who share similar access permissions or roles.

Identity Lifecycle Management Service: A set of identity management services that enables protocol clients to manage digital identities from creation through retirement. Services include identity synchronization, certificate and password management, and user provisioning.

language code identifier (LCID): A 32-bit number that identifies the user interface human language dialect or variation that is supported by an application or a client computer.

partition: An area within a shared services database, such as an area that isolates different tenants within a service, or the process of creating such an area in a shared services database.

provisioned: A condition of an object that was created and deployed successfully.

schema version: An integer value that represents the version number of the schema for a deployment package.

security identifier (SID): An identifier for **security principals** in Windows that is used to identify an account or a group. Conceptually, the **SID** is composed of an account authority portion (typically a domain) and a smaller integer representing an identity relative to the account authority, termed the relative identifier (RID). The **SID** format is specified in [\[MS-DTYP\]](#) section 2.4.2; a string representation of **SIDs** is specified in [\[MS-DTYP\]](#) section 2.4.2 and [\[MS-AZOD\]](#) section 1.1.1.2.

security principal: An identity that can be used to regulate access to resources. A security principal can be a user, a computer, or a group that represents a set of users.

service: A process or agent that is available on the network, offering resources or services for clients. Examples of services include file servers, web servers, and so on.

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.

social data: A collection of ratings, tags, and comments about webpages and items on a SharePoint site or the Internet. Individual users create this data and, by default, share it with other users.

subscriber: A Session Initiation Protocol (SIP) client that is making a SUBSCRIBE request.

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 [\[RFC1738\]](#).

user object: An object of class user. A user object is a security principal object; the principal is a person or service entity running on the computer. The shared secret allows the person or service entity to authenticate itself, as described in ([MS-AUTHSOD] section 1.1.1.1).

user profile: A collection of properties that pertain to a specific person or entity within a portal site.

User Profile Service: A data source that stores, provides, and applies information about users.

user profile store: A database that stores information about each user profile.

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.

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: The Extensible Markup Language, as described in [\[XML1.0\]](#).

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. We will assist you in finding the relevant information.

[MS-DTYP] Microsoft Corporation, "[Windows Data Types](#)".

[MS-WSSFO3] Microsoft Corporation, "[Windows SharePoint Services \(WSS\): File Operations Database Communications Version 3 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>

[RFC5234] Crocker, D., Ed., and Overell, P., "Augmented BNF for Syntax Specifications: ABNF", STD 68, RFC 5234, January 2008, <http://www.rfc-editor.org/rfc/rfc5234.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/>

[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/>

[XML] World Wide Web Consortium, "Extensible Markup Language (XML) 1.0 (Fourth Edition)", W3C Recommendation 16 August 2006, edited in place 29 September 2006, <http://www.w3.org/TR/2006/REC-xml-20060816/>

1.2.2 Informative References

[RFC2822] Resnick, P., Ed., "Internet Message Format", RFC 2822, April 2001, <http://www.ietf.org/rfc/rfc2822.txt>

1.3 Overview

This protocol enables protocol clients to interact with the **User Profile Service** running on the middle-tier **application server**. The protocol client obtains information required to establish a connection, retrieves information about the permissions associated with the protocol client, and retrieves **URLs** to the sites that offer the User Profile Service. The protocol does not require that the protocol client had previous interaction with this **service**, nor does it require state information from the protocol client. The protocol requires that the protocol client obtain the URL of the service **endpoint** of this protocol server and authenticate to use this service.

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 Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS), as described in [\[RFC2818\]](#).

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

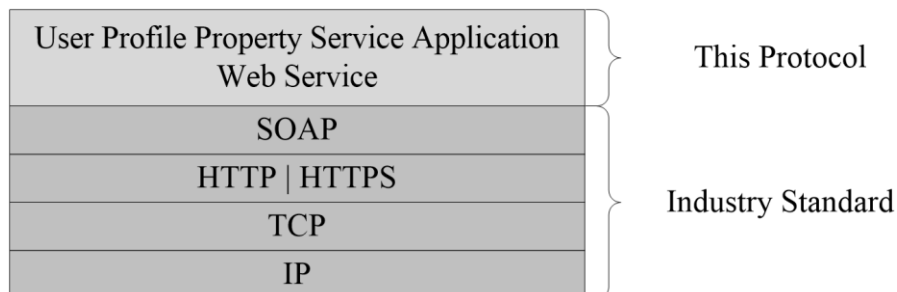


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates 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 described 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 described in [\[MS-SPTWS\]](#), by means that are independent of either protocol.

This protocol requires the protocol client to have 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 described in [\[MS-SPSTWS\]](#).

1.6 Applicability Statement

This protocol retrieves basic connectivity and configuration information for the user profile middle-tier service. It is the first interaction between a protocol client and this site service, and is required before the protocol client retrieves any **user profile** information.

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 Simple Object Access Protocol (SOAP) messages, as described 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.

2 Messages

2.1 Transport

Protocol servers MUST support Simple Object Access Protocol (SOAP) over Hypertext Transfer Protocol (HTTP), Hypertext Transfer Protocol over Secure Sockets Layer (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 **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 | http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration | |
| q2 | http://schemas.microsoft.com/2003/10/Serialization/Arrays | |
| q3 | http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Utilities | |
| ser | http://schemas.microsoft.com/2003/10/Serialization/ | |
| soap | http://schemas.xmlsoap.org/wsdl/soap/ | [SOAP1.1] |
| tns | http://tempuri.org/ | |
| tns1 | http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Administration | |
| tns2 | http://Microsoft/Office/Server/UserProfiles | |
| tns3 | http://tempuri.org/Imports | |
| wsaw | http://www.w3.org/2006/05/addressing/wsdl | |

| Prefix | Namespace URI | Reference |
|--------|----------------------------------|--|
| wSDL | http://schemas.xmlsoap.org/wSDL/ | [WSDL] |
| xs | http://www.w3.org/2001/XMLSchema | [XMLSCHEMA1] [XMLSCHEMA2] |

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 | The char simple type is a Unicode character that is stored in a 4-byte integer. This type MUST NOT be used by this protocol. |
| duration | The duration simple type is the length of time, as specified in [XMLSCHEMA1] and [XMLSCHEMA2] . This type MUST NOT be used by this protocol. |

2.2.5.1 char

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

The **char** simple type is a Unicode character that is stored in a 4-byte integer. This type MUST NOT be used by this protocol.

```
<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/

The **duration** simple type is the length of time, as specified in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#). This type MUST NOT be used by this protocol.

```
<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>
```

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

This is a server-side protocol. 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 simply exposes the current configuration state of the User Profile Service to all authenticated **user objects**. There are no dependencies between the information sent in one client-server request/response pair and the next pair; all dependencies are based on the current state of the application service. They are specified in the following figure.

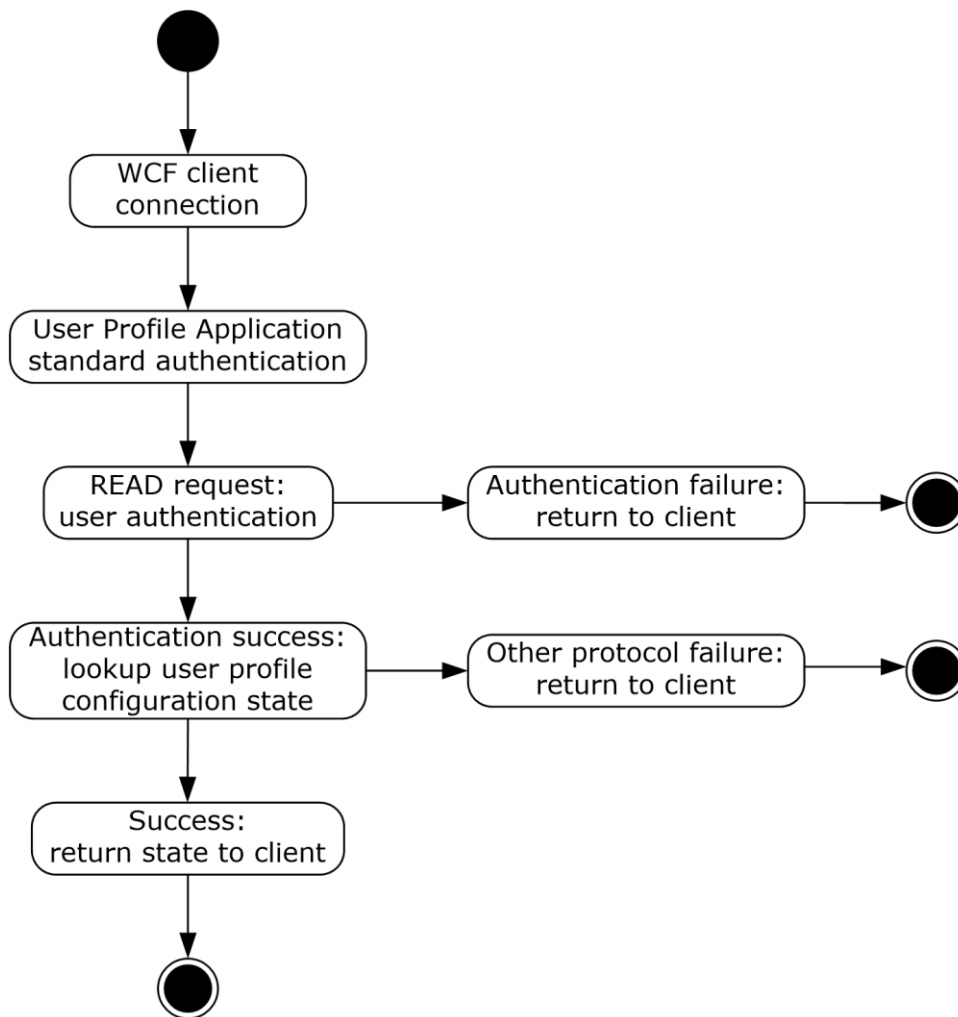


Figure 2: State Dependencies of the application service

The User Profile Service uses authentication mechanisms that are standard for Web Services and SOAP.

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.

This protocol enables protocol clients to query the latest configuration state information for the User Profile Service.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

This protocol supports only the **GetProfileProperties** operation. This **WSDL operation** is stateless.

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

| Operation | Description |
|-----------------------------|--|
| GetProfileProperties | This WSDL operation retrieves the configuration state of the User Profile Service. |

3.1.4.1 GetProfileProperties

This WSDL operation retrieves the configuration state of the User Profile Service.

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

```
<wsdl:operation name="GetProfileProperties" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input wsaw:Action="http://Microsoft.Office.Server.UserProfiles/GetProfileProperties"
    message="tns:IProfilePropertyService_GetProfileProperties_InputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
  <wsdl:output
    wsaw:Action="http://tempuri.org/IProfilePropertyService/GetProfilePropertiesResponse"
    message="tns:IProfilePropertyService_GetProfileProperties_OutputMessage"
    xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"/>
</wsdl:operation>
```

The protocol client sends an **IProfilePropertyService_GetProfileProperties_InputMessage** request message and the protocol server responds with an **IProfilePropertyService_GetProfileProperties_OutputMessage** response message containing the configuration state information associated with the application service.

3.1.4.1.1 Messages

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

| Message | Description |
|---|---|
| IProfilePropertyService_GetProfileProperties_InputMessage | The request WSDL message for the GetProfileProperties WSDL operation. |
| IProfilePropertyService_GetProfileProperties_OutputMessage | The response WSDL message for the GetProfileProperties WSDL operation. |

3.1.4.1.1.1 IProfilePropertyService_GetProfileProperties_InputMessage

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

The **SOAP action** value is:

```
http://Microsoft.Office.Server.UserProfiles/GetProfileProperties
```

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

3.1.4.1.1.2 IProfilePropertyService_GetProfileProperties_OutputMessage

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

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

3.1.4.1.2 Elements

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

| Element | Description |
|-------------------------------------|---|
| GetProfileProperties | The input data for the GetProfileProperties WSDL operation. |
| GetProfilePropertiesResponse | The result data for the GetProfileProperties WSDL operation. |

3.1.4.1.2.1 GetProfileProperties

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

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

3.1.4.1.2.2 GetProfilePropertiesResponse

The **GetProfilePropertiesResponse** element specifies the result data for the **GetProfileProperties** WSDL operation.

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

```

    <xs:element xmlns:tns2="http://Microsoft/Office/Server/UserProfiles" minOccurs="0"
name="GetProfilePropertiesResult" nillable="true" type="tns2:ProfilePropertyData"/>
  </xs:sequence>
</xs:complexType>
</xs:element>

```

GetProfilePropertiesResult: A **ProfilePropertyData** element that contains the configuration state information. However, if connection failures, authentication failures, or other transport errors occurred before the request reached the corresponding SOAP service endpoint, then the element will not contain the **ProfilePropertyData** 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 | A list of GUIDs . |
| ProfilePropertyData | The information required for a SOAP protocol client to connect to a User Profile Service that is currently running. |

3.1.4.1.3.1 ProfilePropertyData

Namespace: http://Microsoft/Office/Server/UserProfiles

This complex type is the main payload that the **GetProfileProperties** operation sends to the protocol client. It exposes the information required for a SOAP protocol client to connect to a User Profile Service that is currently running.

Because the User Profile Service configuration state contains optional elements, the protocol client **MUST** plan for the possibility that elements are not present.

```

<xs:complexType name="ProfilePropertyData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" name="AppID" type="ser:guid"/>
    <xs:element
xmlns:q1="http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration"
minOccurs="0" name="AppStatus" type="q1:SPObjectStatus"/>
    <xs:element minOccurs="0" name="ChangeJobSchedule" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="DaysWorthOfEventsToKeep" type="xs:int"/>
    <xs:element minOccurs="0" name="DisableAddCommentWebService" type="xs:boolean"/>
    <xs:element minOccurs="0" name="DisableProfileCreationWebServicesForTenants"
type="xs:boolean"/>
    <xs:element minOccurs="0" name="DocumentsFollowingLimit" type="xs:int"/>
    <xs:element minOccurs="0" name="FeedCacheLMTTLDeltaHours" type="xs:int"/>
    <xs:element minOccurs="0" name="FeedCacheLookupTimeoutMs" type="xs:int"/>
    <xs:element minOccurs="0" name="FeedCacheMaxPostLength" type="xs:int"/>
    <xs:element minOccurs="0" name="FeedCacheMaxPostMentions" type="xs:int"/>
    <xs:element minOccurs="0" name="FeedCacheMaxPostTags" type="xs:int"/>
    <xs:element minOccurs="0" name="FeedCacheRefPostsAsync" type="xs:boolean"/>
    <xs:element minOccurs="0" name="FeedCacheSPRequestsPerMention" type="xs:int"/>
    <xs:element minOccurs="0" name="FeedCacheTTLHours" type="xs:int"/>
    <xs:element minOccurs="0" name="ILMMachineName" nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="IgnoreIsActiveFlag" type="xs:boolean"/>
    <xs:element minOccurs="0" name="IsClaimProvider" nillable="true" type="xs:boolean"/>
    <xs:element minOccurs="0" name="IsCrossForestADImport" type="xs:boolean"/>
    <xs:element minOccurs="0" name="IsIilmFullyConfigured" type="xs:boolean"/>
    <xs:element minOccurs="0" name="IsInitialDataPopulated" type="xs:boolean"/>

```

```

<xs:element minOccurs="0" name="IsSynchronizationRunning" type="xs:boolean"/>
<xs:element minOccurs="0" name="IsUpscaleILMUsed" type="xs:boolean"/>
<xs:element minOccurs="0" name="IsUsersOnlyILMImport" type="xs:boolean"/>
<xs:element minOccurs="0" name="NetBIOSDomainNamesEnabled" type="xs:boolean"/>
<xs:element minOccurs="0" name="NoILMUsed" type="xs:boolean"/>
<xs:element xmlns:q2="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="PartitionIDs" nillable="true" type="q2:ArrayOfguid"/>
<xs:element
xmlns:q3="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Utilities"
minOccurs="0" name="PartitionOptions" type="q3:SPPartitionOptions"/>
<xs:element minOccurs="0" name="PeopleFollowingLimit" type="xs:int"/>
<xs:element minOccurs="0" name="PerfmonInstanceHandle" type="xs:int"/>
<xs:element minOccurs="0" name="ProfileDatabaseBackwardsCompatibleSchemaVersion"
nillable="true" type="xs:string"/>
<xs:element minOccurs="0" name="ProfileDatabaseConnectionString" nillable="true"
type="xs:string"/>
<xs:element minOccurs="0" name="ProfileDatabaseSchemaVersion" nillable="true"
type="xs:string"/>
<xs:element minOccurs="0" name="ProfileStoreCollationId" type="xs:int"/>
<xs:element minOccurs="0" name="ProfileStoreLanguage" type="xs:int"/>
<xs:element
xmlns:tns1="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Administration"
minOccurs="0" name="RemotePersonalSitePages"
type="tns1:UserProfileApplication.PersonalSitePagesRemoteStatus"/>
<xs:element minOccurs="0" name="SecTrimCacheEnabled" type="xs:boolean"/>
<xs:element minOccurs="0" name="SecTrimCacheMaxNumberOfDataItems" type="xs:int"/>
<xs:element minOccurs="0" name="SecTrimCacheMaxRetryCount" type="xs:int"/>
<xs:element minOccurs="0" name="SecTrimCacheMaxTTLMinutes" type="xs:int"/>
<xs:element minOccurs="0" name="SecTrimCacheNonAuthoritativeAccessTTLMinutes"
type="xs:int"/>
<xs:element minOccurs="0" name="SecTrimCacheThrottledTTLMinutes" type="xs:int"/>
<xs:element minOccurs="0" name="SecTrimMaxNumberOfSocialUrls" type="xs:int"/>
<xs:element minOccurs="0" name="SecTrimOptimizationsEnabled" type="xs:boolean"/>
<xs:element minOccurs="0" name="Secret" type="ser:guid"/>
<xs:element minOccurs="0" name="SerializedAdministratorAcl" nillable="true"
type="xs:string"/>
<xs:element minOccurs="0" name="SitesFollowingLimit" type="xs:int"/>
<xs:element minOccurs="0" name="SkipBDCImport" type="xs:boolean"/>
<xs:element minOccurs="0" name="SocialDatabaseBackwardsCompatibleSchemaVersion"
nillable="true" type="xs:string"/>
<xs:element minOccurs="0" name="SocialDatabaseConnectionString" nillable="true"
type="xs:string"/>
<xs:element minOccurs="0" name="SocialDatabaseSchemaVersion" nillable="true"
type="xs:string"/>
<xs:element minOccurs="0" name="SyncServiceInstanceId" type="ser:guid"/>
<xs:element minOccurs="0" name="UseOnlyPreferredDomainControllers" type="xs:boolean"/>
<xs:element minOccurs="0" name="YammerEnabled" type="xs:boolean"/>
<xs:element minOccurs="0" name="DisableProfilePictureMigration" type="xs:boolean"/>
<xs:element minOccurs="0" name="UpaSchemaEnabled" type="xs:boolean"/>
</xs:sequence>
</xs:complexType>

```

AppID: The unique identifier of the User Profile Service that is currently running.

AppStatus: An **SPObjectStatus** (section [3.1.4.1.4.2](#)) enumeration that specifies the current state of the User Profile Service specified by the **AppID** element.

ChangeJobSchedule: A string that specifies the schedule for the automated processing of tasks for the User Profile Service associated with the specified **AppID** element. The string **MUST** be formatted as specified by the following **ABNF** ([\[RFC5234\]](#)) grammar.

```

ChangeJobSchedule = SecondRecurrence / MinuteRecurrence / HourlyRecurrence / DailyRecurrence /
WeeklyRecurrence / MonthlyRecurrence / YearlyRecurrence
SecondRecurrence = "every " NONZERORECONDORMINUTE " seconds"
MinuteRecurrence = "every " NONZERORECONDORMINUTE " minutes " [SecondOrMinuteInstance]
HourlyRecurrence = "hourly " SecondOrMinuteInstance

```

```

DailyRecurrence = "daily " TimeInstance
WeeklyRecurrence = "weekly " DayInstance
MonthlyRecurrence = "monthly " (DateInstance / OrdinalDayInstance)
YearlyRecurrence = "yearly " MonthInstance
MonthInstance = ("at " MONTH " " DATE " " HourInstance) / ("between " MONTH " " DATE " "
HourInstance " and " MONTH " " DATE " " HourInstance)
DateInstance = ("at " DATE " " HourInstance) / ("between " DATE " " HourInstance " and " DATE
" " HourInstance)
DayInstance = ("at " DAY " " HourInstance) / ("between " DAY " " HourInstance " and " DAY " "
HourInstance)
OrdinalDayInstance = "at " ORDINAL " " DAY " " HourInstance
TimeInstance = ("at " HourInstance) / ("between " HourInstance " and " HourInstance)
SecondOrMinuteInstance = ("at " SECONDDORMINUTE) / ("between " SECONDDORMINUTE " and "
SECONDDORMINUTE)
HourInstance = HOUR ":" SECONDDORMINUTE [ ":" SECONDDORMINUTE ]
MONTH = "jan" / "feb" / "mar" / "apr" / "may" / "jun" / "jul" / "aug" / "sep" / "oct" / "nov"
/ "dec"
DATE = ( [ "1" / "2" ] NONZERODIGIT) / "10" / "20" / "30" / "31" ; 1-31
DAY = "sun" / "mon" / "tue" / "wed" / "thu" / "fri" / "sat" / "su" / "mo" / "tu" / "we" /
"th" / "fr" / "sa"
ORDINAL = "first" / "second" / "third" / "fourth" / "last"
HOURL = ( [ "1" ] DIGIT ) / "20" / "21" / "22" / "23" ; 0-23
SECONDDORMINUTE = "0" / NONZEROSECONDDORMINUTE ; 0-59
NONZEROSECONDDORMINUTE = NONZERODIGIT / ( ( "1" / "2" / "3" / "4" / "5" ) DIGIT ) ; 1-59
NONZERODIGIT = "1" / "2" / "3" / "4" / "5" / "6" / "7" / "8" / "9" ; 1-9
DIGIT = "0" / NONZERODIGIT ; 0-9

```

DaysWorthOfEventsToKeep: The number of days that logs for tracking changes in the **user profile store** are stored before they are removed.

DisableAddCommentWebService: If set to true, it disables the AddComment Web Service, and if set to false, it enables the service.

DisableProfileCreationWebServicesForTenants: If set to true, it disables Web Services to create Profiles for all Tenants of the User Profile Service, and if set to false, it enables these services.

DocumentsFollowingLimit: Limit for the number of documents a user can follow. The maximum value allowed for this is 500.

FeedCacheLMTTTLDeltaHours: The time to live for the last modified time of any feed cache entry.

FeedCacheLookupTimeoutMs:

FeedCacheMaxPostLength:

FeedCacheMaxPostMentions:

FeedCacheMaxPostTags:

FeedCacheRefPostsAsync:

FeedCacheSPRequestsPerMention:

FeedCacheTTLHours: The time to live for any feed cache entry.

ILMMachineName: The name of the computer in standard **DNS** format that runs the **Identity Lifecycle Management Service** associated with this User Profile Service.

IgnoreIsActiveFlag: Specifies whether the current authenticated user object that invoked this request for the **GetProfileProperties** operation is active in this User Profile Service.

IsClaimProvider: The value MAY be TRUE, FALSE, or NULL. The protocol client MUST ignore this value.

IsCrossForestADImport: This is not supported and setting this has no effect on existing functionality. This MUST always be false.

IsIlmFullyConfigured: Specifies whether the computer, specified by the **ILMMachineName** element, is completely configured to synchronize user profile information with this User Profile Service.

IsInitialDataPopulated: Specifies whether user profile information was imported successfully at least once, which initially populates user profile information in the user profile store.

IsSynchronizationRunning: Indicates whether synchronization is running for this User Profile Service at the present time.

IsUpscaleILMUsed: Specifies whether the Identity Lifecycle Management Service is managed externally to the site. If this value is TRUE, the elements **ILMMachineName**, **IsIlmFullyConfigured**, **IsUsersOnlyILMImport**, **SkipBDCImport**, and **SyncServiceInstanceId** are not applicable and MUST be ignored.

IsUsersOnlyILMImport: Specifies whether the user profile synchronization process imports only user objects for the Identity Lifecycle Management Service, or whether it also imports **groups**.

NetBIOSDomainNamesEnabled: Indicates whether NetBIOS domain names are being used during synchronization of this User Profile Service with a directory using Identity Lifecycle Management Service.

NoILMUsed: Indicates whether the Identity Lifecycle Management Service-based synchronization is enabled for this User Profile Service.

PartitionIDs: The list of **partitions** that were **provisioned** for this User Profile Service.

PartitionOptions: Specifies whether partitioning is supported, as specified by the **SPPartitionOptions** (section [3.1.4.1.4.3](#)) enumeration.

PeopleFollowingLimit: Limit for the number of people a user can follow. The maximum value allowed for this is 1000.

PerfmonInstanceHandle: MUST be set to -1.

ProfileDatabaseBackwardsCompatibleSchemaVersion: The earliest **schema version** with which the schema version of the user profile store is backward-compatible. The current schema is not considered to be compatible with any database schema with a version number lower than this version number. This version number appears in the version number format specified in the description of **ProfileDatabaseSchemaVersion**.

ProfileDatabaseConnectionString: The **data connection** string that is associated with the user profile store.

ProfileDatabaseSchemaVersion: The current schema version number of the user profile store. The version number appears in the format major.minor[.build[.revision]], where major, minor, build, and revision are non-negative integers. 4.0 and 12.0.47.0 are examples of valid version numbers. When the database schema is updated, this version number is increased. For the purpose of comparing version numbers, the integer fields appear in decreasing order of significance.

ProfileStoreCollationId: The **collation** identifier of the user profile store.

ProfileStoreLanguage: **LCID** of the language of the user profile store.

RemotePersonalSitePages: An enumeration that specifies whether various personal site pages are hosted remotely or on premise.

SecTrimCacheEnabled: Specifies if the security trimmer access cache is enabled. Default value equals true.

SecTrimCacheMaxNumberOfDataItems: Specifies the maximum number of data items in security trim cache per user. Default is 50 items in cache per-user.

SecTrimCacheMaxRetryCount: Specifies the maximum number of attempts that can be made when the search provider gets queried before persisting the cache entry state. Default number of retries equals 5.

SecTrimCacheMaxTTLMinutes: Indicates how long the security trim cache exists in minutes before being purged. Default TTL is 1440 minutes (1 day).

SecTrimCacheNonAuthoritativeAccessTTLMinutes: Indicates how long a cached non-authoritative entry exists in minutes in security trim cache before being purged. Default TTL is 15 minutes.

SecTrimCacheThrottledTTLMinutes: Indicates how long a throttled entry can be cached in minutes before being purged. Default TTL is 5 minutes.

SecTrimMaxNumberOfSocialUrls: Specifies the maximum number of URLs that the Search Service will be queried for to satisfy a social data request. This value should be defined in increments of 8, as a single security trim request may be broken down into multiple search service requests each with a non-configurable limit to 8 URLs per-request. The default value equals 24 URLs.

SecTrimOptimizationsEnabled: Specifies if security trim optimizations are enabled. Default value equals true.

Secret: A shared secret between the protocol client and protocol server.

SerializedAdministratorAcl: A string that specifies the **access control list (ACL)** that specifies the user objects that have administrative permissions associated with this user profile application. The protocol client uses this information to enable or disable specific administrator-only interactions with the User Profile Service. This field is optional because verification of authentication occurs at the service endpoint. This string MUST be well-formed **XML**, as specified by [\[XML\]](#) section 2. The root node of the XML MUST be an "acl" element. The "acl" element MUST specify a **version** attribute whose value MUST be the string ([\[XMLSCHEMA2\]](#) section 3.2.1) "1.0". The "acl" element MUST contain one "ace" child element for each **access control entry (ACE)** appearing in the ACL. Each "ace" element MUST specify the following attributes:

- **identityName:** A string ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the login name of the **security principal**.
- **displayName:** A string ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the display name of the principal.
- **sid:** A string ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the **security identifier (SID)** of the principal. This is the contents of the **SID** byte array specified in [\[MS-DTYP\]](#) section [2.4.2](#), represented as a string via **base64** encoding.
- **allowRights:** A string ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies a Rights Mask ([\[MS-WSSFO3\]](#) section 2.2.2.15) that specifies the permissions granted to the principal. This string MUST consist of the integer representation of the Rights Mask ([\[MS-WSSFO3\]](#)).
- **denyRights:** A string ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies a Rights Mask ([\[MS-WSSFO3\]](#) section 2.2.2.15) that specifies the permissions denied to the principal. This string MUST consist of the integer representation of the Rights Mask ([\[MS-WSSFO3\]](#)).

SitesFollowingLimit: Limit for the number of sites a user can follow. The maximum value allowed for this is 500.

SkipBDCImport: Specifies whether the **Business Data Connectivity (BDC)** synchronization steps will be skipped during the process that synchronizes the user profile store with external sources.

SocialDatabaseBackwardsCompatibleSchemaVersion: The earliest schema version with which the schema version of the **social data** within the user profile store is backward-compatible. The current schema is not considered to be compatible with any database schema with a version number lower than this version number. This version number appears in the version number format specified in the description of **ProfileDatabaseSchemaVersion**.

SocialDatabaseConnectionString: The data connection string associated with the social data within the user profile store.

SocialDatabaseSchemaVersion: The schema version of the social data within the user profile store. When the schema is updated, this version number is increased. This version number appears in the version number format specified in the description of **ProfileDatabaseSchemaVersion**.

SyncServiceInstanceId: The identifier of the user profile store's profile synchronization service instance.

UseOnlyPreferredDomainControllers: Specifies whether communication will only take place with a specified **domain controller (DC)**, or whether communication MAY also take place with other domain controllers.

YammerEnabled: Specifies whether Yammer is used as the social platform. True if Yammer is used as the social platform. False if SharePoint social (legacy) is used.

DisableProfilePictureMigration:

UpaSchemaEnabled:

3.1.4.1.3.2 ArrayOfguid

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

The **ArrayOfguid** element specifies a list of GUIDs.

```
<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 GUID as specified in section [3.1.4.1.4.1](#).

3.1.4.1.4 Simple Types

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

| Simple type | Description |
|---|--|
| guid | A GUID that is 16 bytes long. |
| SPObjectStatus | The processing status of the object or service. |
| SPPartitionOptions | An enumeration that specifies whether the User Profile Service was partitioned. |
| UserProfileApplication.PersonalSitePagesRemoteStatus | An enumeration that specifies whether various personal site pages are hosted remotely or on premise. |

3.1.4.1.4.1 guid

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

A GUID that is 16 bytes long.

```
<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>
```

3.1.4.1.4.2 SPObjctStatus

Namespace: http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration

This element specifies the processing status of the object or service.

```
<xs:simpleType name="SPObjctStatus" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Online"/>
    <xs:enumeration value="Disabled"/>
    <xs:enumeration value="Offline"/>
    <xs:enumeration value="Unprovisioning"/>
    <xs:enumeration value="Provisioning"/>
    <xs:enumeration value="Upgrading"/>
    <xs:enumeration value="Patching"/>
  </xs:restriction>
</xs:simpleType>
```

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

| Value | Meaning |
|----------------|---|
| Online | The object or service is online and ready. |
| Disabled | The object or service is disabled and is not accessible. |
| Offline | The object or service is temporarily offline. |
| Unprovisioning | The object or service is being un-provisioned and will be disabled shortly. |
| Provisioning | The object or service is being provisioned and is temporarily unavailable. |
| Upgrading | The object or service is being upgraded and is temporarily offline. |
| Patching | |

3.1.4.1.4.3 SPPartitionOptions

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

This element is an enumeration that specifies whether the User Profile Service was partitioned.

```
<xs:simpleType name="SPPartitionOptions" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:enumeration value="UnPartitioned"/>
  </xs:restriction>
</xs:simpleType>
```



```

    <xs:enumeration value="UniquePartitionPerSubscription"/>
  </xs:restriction>
</xs:simpleType>

```

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

| Value | Meaning |
|--------------------------------|--|
| UnPartitioned | Not Partitioned |
| UniquePartitionPerSubscription | Partitioned so that a unique partition exists for each subscriber , and each subscriber is isolated from the information or changes for another subscriber. |

3.1.4.1.4.4 UserProfileApplication.PersonalSitePagesRemoteStatus

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

An enumeration that specifies whether various personal site pages are hosted remotely or on premise.

```

<xs:simpleType name="UserProfileApplication.PersonalSitePagesRemoteStatus"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
        <xs:enumeration value="CloudStorage"/>
        <xs:enumeration value="SitesPage"/>
        <xs:enumeration value="DisableHybridAppLauncher"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>

```

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

| Value | Meaning |
|--------------------------|--|
| None | No personal site pages are hosted remotely. |
| CloudStorage | The cloud storage personal site page is hosted remotely. |
| SitesPage | The Sites personal site page is hosted remotely. |
| DisableHybridAppLauncher | |

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

This section describes example scenarios for retrieving the current configuration state of the User Profile Service.

4.1 Retrieving User Profile Service Configuration State

The protocol client constructs the following WSDL message to retrieve the current configuration state of the User Profile Service.

```
<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://Microsoft.Office.Server.UserProfiles/GetProfileProperties</a:Acti
on>
    <a:MessageID>urn:uuid:3eb21222-2b62-4735-a9ac-e673a6ee31df</a:MessageID>
    <a:ReplyTo>
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
    <a:To
s:mustUnderstand="1">net.tcp://mossperf64d2325:32845/59de0abe24804e18aeccdc292a7581f1/Profile
PropertyService.svc</a:To>
    <o:Security s:mustUnderstand="1" xmlns:o="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd">
      ...
    </o:Security>
  </s:Header>
  <s:Body>
    <GetProfileProperties xmlns="http://tempuri.org/"></GetProfileProperties>
  </s:Body>
</s:Envelope>
```

The protocol server sends the following response.

```
<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/IProfilePropertyService/GetProfilePropertiesResponse<
/a:Action>
    <a:RelatesTo>urn:uuid:3eb21222-2b62-4735-a9ac-e673a6ee31df</a:RelatesTo>
    <a:To s:mustUnderstand="1">http://www.w3.org/2005/08/addressing/anonymous</a:To>
    <o:Security s:mustUnderstand="1" xmlns:o="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd">
      ...
    </o:Security>
  </s:Header>
  <s:Body>
    <GetProfilePropertiesResponse xmlns="http://tempuri.org/">
      <GetProfilePropertiesResult xmlns:b="http://Microsoft/Office/Server/UserProfiles"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <d4p1:AppID>9f5c3c8f-beec-44ea-bc04-6ffe2fb0e7bc</d4p1:AppID>
        <d4p1:AppStatus>Online</d4p1:AppStatus>
        <d4p1:ChangeJobSchedule>hourly between 0 and 0</d4p1:ChangeJobSchedule>
        <d4p1:ILMMachineName i:nil="true"></d4p1:ILMMachineName>
        <d4p1:IgnoreIsActiveFlag>false</d4p1:IgnoreIsActiveFlag>
        <d4p1:IsClaimProvider i:nil="true"></d4p1:IsClaimProvider>
        <d4p1:IsIilmFullyConfigured>false</d4p1:IsIilmFullyConfigured>
        <d4p1:IsInitialDataPopulated>false</d4p1:IsInitialDataPopulated>
        <d4p1:IsUpscaleILMUsed>false</d4p1:IsUpscaleILMUsed>
        <d4p1:IsUsersOnlyILMImport>false</d4p1:IsUsersOnlyILMImport>
      </GetProfilePropertiesResult>
    </GetProfilePropertiesResponse>
  </s:Body>
</s:Envelope>
```

```

    <d4p1:PartitionIDs
xmlns:d5p1="http://schemas.microsoft.com/2003/10/Serialization/Arrays">
    <d5p1:guid>0c37852b-34d0-418e-91c6-2ac25af4be5b</d5p1:guid>
</d4p1:PartitionIDs>
    <d4p1:PartitionOptions>UnPartitioned</d4p1:PartitionOptions>
    <d4p1:PerfmonInstanceHandle>-1</d4p1:PerfmonInstanceHandle>

<d4p1:ProfileDatabaseBackwardsCompatibleSchemaVersion>14.0.82.0</d4p1:ProfileDatabaseBackward
sCompatibleSchemaVersion>
    <d4p1:ProfileDatabaseConnectionString>Data Source=TestMachine;Initial
Catalog="User Profile Service
Application_ProfileDB_715524f91eac4f7caeee38a2f53375c9";Integrated
Security=True;Enlist=False;Connect Timeout=15</d4p1:ProfileDatabaseConnectionString>
    <d4p1:ProfileDatabaseSchemaVersion>14.0.82.0</d4p1:ProfileDatabaseSchemaVersion>
    <d4p1:ProfileStoreCollationId>25</d4p1:ProfileStoreCollationId>
    <d4p1:ProfileStoreLanguage>1033</d4p1:ProfileStoreLanguage>
    <d4p1:SerializedAdministratorAcl>
    <acl version="1.0">
    <ace identityName="domain\user1" displayName="User 1"
sid="AQUAAAAAAAAUVAAAAoGXPfnhLm1/nfIdwKgQBAA==" allowRights="8" denyRights="0" />
    </acl>
    </d4p1:SerializedAdministratorAcl>
    <d4p1:SkipBDCImport>>false</d4p1:SkipBDCImport>

<d4p1:SocialDatabaseBackwardsCompatibleSchemaVersion>14.0.21.0</d4p1:SocialDatabaseBackwardsC
ompatibleSchemaVersion>
    <d4p1:SocialDatabaseConnectionString>Data Source=TestMachine;Initial Catalog="User
Profile Service Application_SocialDB_bba7ac6987904e2b93f3aded1af2e65d";Integrated
Security=True;Enlist=False;Connect Timeout=15</d4p1:SocialDatabaseConnectionString>
    <d4p1:SocialDatabaseSchemaVersion>14.0.21.0</d4p1:SocialDatabaseSchemaVersion>
    <d4p1:SyncServiceInstanceId>00000000-0000-0000-0000-
000000000000</d4p1:SyncServiceInstanceId>

<d4p1:UseOnlyPreferredDomainControllers>>false</d4p1:UseOnlyPreferredDomainControllers>
    </GetProfilePropertiesResult>
    </GetProfilePropertiesResponse>
</s:Body>
</s:Envelope>

```

5 Security

5.1 Security Considerations for Implementers

There are no security considerations that are specific to this protocol. General security considerations pertaining to [\[RFC2822\]](#) apply.

This protocol does not introduce any additional security considerations beyond those that apply to its underlying protocols.

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" encoding="UTF-8"?>
<wsdl:definitions xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:tns="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://Microsoft/Office/Server/UserProfiles"/>
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Administration"/>
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Utilities"/>
      <xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration"/>
      <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:schema>
  </wsdl:types>
  <wsdl:portType name="IProfilePropertyService">
    <wsdl:operation name="GetProfileProperties">
      <wsdl:input
wsaw:Action="http://Microsoft.Office.Server.UserProfiles/GetProfileProperties"
message="tns:IProfilePropertyService GetProfileProperties InputMessage"/>
      <wsdl:output
wsaw:Action="http://tempuri.org/IProfilePropertyService/GetProfilePropertiesResponse"
message="tns:IProfilePropertyService_GetProfileProperties_OutputMessage"/>
    </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding name="DefaultBinding IProfilePropertyService"
type="tns:IProfilePropertyService">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="GetProfileProperties">
      <soap:operation
soapAction="http://Microsoft.Office.Server.UserProfiles/GetProfileProperties"
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="IProfilePropertyService_GetProfileProperties_InputMessage">
    <wsdl:part name="parameters" element="tns:GetProfileProperties"/>
  </wsdl:message>
  <wsdl:message name="IProfilePropertyService_GetProfileProperties_OutputMessage">
    <wsdl:part name="parameters" element="tns:GetProfilePropertiesResponse"/>
  </wsdl:message>
</wsdl:definitions>
```

7 Appendix B: Full XML Schema

| Schema name | Prefix | Section |
|---|--------|---------------------|
| http://schemas.datacontract.org/2004/07/ /Microsoft.Office.Server.Administration | tns1 | 7.7 |
| http://Microsoft/Office/Server/UserProfiles | tns2 | 7.3 |
| http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Utilities | q3 | 7.6 |
| http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration | q1 | 7.4 |
| http://schemas.microsoft.com/2003/10/Serialization/Arrays | q2 | 7.5 |
| http://schemas.microsoft.com/2003/10/Serialization/ | ser | 7.2 |
| http://tempuri.org/ | tns | 7.1 |

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

7.1 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:import namespace="http://Microsoft/Office/Server/UserProfiles"/>
  <xs:element name="GetProfileProperties">
    <xs:complexType>
      <xs:sequence/>
    </xs:complexType>
  </xs:element>
  <xs:element name="GetProfilePropertiesResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:tns2="http://Microsoft/Office/Server/UserProfiles" minOccurs="0"
name="GetProfilePropertiesResult" nillable="true" type="tns2:ProfilePropertyData"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

7.2 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>

```

7.3 http://Microsoft/Office/Server/UserProfiles Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:tns2="http://Microsoft/Office/Server/UserProfiles"
  xmlns:ser="http://schemas.microsoft.com/2003/10/Serialization/"
  elementFormDefault="qualified" targetNamespace="http://Microsoft/Office/Server/UserProfiles"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType name="ProfilePropertyData">
    <xs:sequence>
      <xs:element minOccurs="0" name="AppID" type="ser:guid"/>
      <xs:element
        xmlns:q1="http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration"
        minOccurs="0" name="AppStatus" type="q1:SPObjectStatus"/>
      <xs:element minOccurs="0" name="ChangeJobSchedule" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="DaysWorthOfEventsToKeep" type="xs:int"/>
      <xs:element minOccurs="0" name="DisableAddCommentWebService" type="xs:boolean"/>
      <xs:element minOccurs="0" name="DisableProfileCreationWebServicesForTenants"
        type="xs:boolean"/>
      <xs:element minOccurs="0" name="DocumentsFollowingLimit" type="xs:int"/>
      <xs:element minOccurs="0" name="FeedCacheLMTTTLDeltaHours" type="xs:int"/>
      <xs:element minOccurs="0" name="FeedCacheLookupTimeoutMs" type="xs:int"/>
      <xs:element minOccurs="0" name="FeedCacheMaxPostLength" type="xs:int"/>
      <xs:element minOccurs="0" name="FeedCacheMaxPostMentions" type="xs:int"/>
      <xs:element minOccurs="0" name="FeedCacheMaxPostTags" type="xs:int"/>
      <xs:element minOccurs="0" name="FeedCacheRefPostsAsync" type="xs:boolean"/>
      <xs:element minOccurs="0" name="FeedCacheSPRequestsPerMention" type="xs:int"/>
      <xs:element minOccurs="0" name="FeedCacheTLHours" type="xs:int"/>
      <xs:element minOccurs="0" name="ILMMachineName" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="IgnoreIsActiveFlag" type="xs:boolean"/>
      <xs:element minOccurs="0" name="IsClaimProvider" nillable="true" type="xs:boolean"/>
      <xs:element minOccurs="0" name="IsCrossForestADImport" type="xs:boolean"/>
      <xs:element minOccurs="0" name="IsIlmFullyConfigured" type="xs:boolean"/>
      <xs:element minOccurs="0" name="IsInitialDataPopulated" type="xs:boolean"/>
      <xs:element minOccurs="0" name="IsSynchronizationRunning" type="xs:boolean"/>
      <xs:element minOccurs="0" name="IsUpscaleILMUsed" type="xs:boolean"/>
      <xs:element minOccurs="0" name="IsUsersOnlyILMImport" type="xs:boolean"/>
      <xs:element minOccurs="0" name="NetBIOSDomainNamesEnabled" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>

```



```

    <xs:element minOccurs="0" name="NoILMUsed" type="xs:boolean"/>
    <xs:element xmlns:q2="http://schemas.microsoft.com/2003/10/Serialization/Arrays"
minOccurs="0" name="PartitionIDs" nillable="true" type="q2:ArrayOfguid"/>
    <xs:element
xmlns:q3="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Utilities"
minOccurs="0" name="PartitionOptions" type="q3:SPPartitionOptions"/>
    <xs:element minOccurs="0" name="PeopleFollowingLimit" type="xs:int"/>
    <xs:element minOccurs="0" name="PerfmonInstanceHandle" type="xs:int"/>
    <xs:element minOccurs="0" name="ProfileDatabaseBackwardsCompatibleSchemaVersion"
nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="ProfileDatabaseConnectionString" nillable="true"
type="xs:string"/>
    <xs:element minOccurs="0" name="ProfileDatabaseSchemaVersion" nillable="true"
type="xs:string"/>
    <xs:element minOccurs="0" name="ProfileStoreCollationId" type="xs:int"/>
    <xs:element minOccurs="0" name="ProfileStoreLanguage" type="xs:int"/>
    <xs:element
xmlns:tns1="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Administration"
minOccurs="0" name="RemotePersonalSitePages"
type="tns1:UserProfileApplication.PersonalSitePagesRemoteStatus"/>
    <xs:element minOccurs="0" name="SecTrimCacheEnabled" type="xs:boolean"/>
    <xs:element minOccurs="0" name="SecTrimCacheMaxNumberOfDataItems" type="xs:int"/>
    <xs:element minOccurs="0" name="SecTrimCacheMaxRetryCount" type="xs:int"/>
    <xs:element minOccurs="0" name="SecTrimCacheMaxTTLMinutes" type="xs:int"/>
    <xs:element minOccurs="0" name="SecTrimCacheNonAuthoritativeAccessTTLMinutes"
type="xs:int"/>
    <xs:element minOccurs="0" name="SecTrimCacheThrottledTTLMinutes" type="xs:int"/>
    <xs:element minOccurs="0" name="SecTrimMaxNumberOfSocialUrls" type="xs:int"/>
    <xs:element minOccurs="0" name="SecTrimOptimizationsEnabled" type="xs:boolean"/>
    <xs:element minOccurs="0" name="Secret" type="ser:guid"/>
    <xs:element minOccurs="0" name="SerializedAdministratorAcl" nillable="true"
type="xs:string"/>
    <xs:element minOccurs="0" name="SitesFollowingLimit" type="xs:int"/>
    <xs:element minOccurs="0" name="SkipBDCImport" type="xs:boolean"/>
    <xs:element minOccurs="0" name="SocialDatabaseBackwardsCompatibleSchemaVersion"
nillable="true" type="xs:string"/>
    <xs:element minOccurs="0" name="SocialDatabaseConnectionString" nillable="true"
type="xs:string"/>
    <xs:element minOccurs="0" name="SocialDatabaseSchemaVersion" nillable="true"
type="xs:string"/>
    <xs:element minOccurs="0" name="SyncServiceInstanceId" type="ser:guid"/>
    <xs:element minOccurs="0" name="UseOnlyPreferredDomainControllers" type="xs:boolean"/>
    <xs:element minOccurs="0" name="YammerEnabled" type="xs:boolean"/>
    <xs:element minOccurs="0" name="DisableProfilePictureMigration" type="xs:boolean"/>
    <xs:element minOccurs="0" name="UpaSchemaEnabled" type="xs:boolean"/>
  </xs:sequence>
</xs:complexType>
<xs:element name="ProfilePropertyData" nillable="true" type="tns2:ProfilePropertyData"/>
<xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Administration"/>
<xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Utilities"/>
<xs:import
namespace="http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration"/>
<xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
<xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/Arrays" />
</xs:schema>

```

7.4 http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
xmlns:q1="http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration"
elementFormDefault="qualified"
targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.SharePoint.Administration"
xmlns:xs="http://www.w3.org/2001/XMLSchema">

```

```

<xs:simpleType name="SPObjectStatus">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Online"/>
    <xs:enumeration value="Disabled"/>
    <xs:enumeration value="Offline"/>
    <xs:enumeration value="Unprovisioning"/>
    <xs:enumeration value="Provisioning"/>
    <xs:enumeration value="Upgrading"/>
    <xs:enumeration value="Patching"/>
  </xs:restriction>
</xs:simpleType>
<xs:element name="SPObjectStatus" nillable="true" type="q1:SPObjectStatus"/>
</xs:schema>

```

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

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:q2="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="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="q2:ArrayOfguid"/>
</xs:schema>

```

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

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
  xmlns:q3="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Utilities"
  elementFormDefault="qualified"
  targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Utilities"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:simpleType name="SPPartitionOptions">
    <xs:restriction base="xs:string">
      <xs:enumeration value="UnPartitioned"/>
      <xs:enumeration value="UniquePartitionPerSubscription"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:element name="SPPartitionOptions" nillable="true" type="q3:SPPartitionOptions"/>
</xs:schema>

```

7.7 <http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Administrati> on Schema

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema
  xmlns:tns1="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Administration"
  elementFormDefault="qualified"
  targetNamespace="http://schemas.datacontract.org/2004/07/Microsoft.Office.Server.Administrati
  on" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:import namespace="http://schemas.microsoft.com/2003/10/Serialization/" />
  <xs:simpleType name="UserProfileApplication.PersonalSitePagesRemoteStatus">
    <xs:list>
      <xs:simpleType>

```

```
<xs:restriction base="xs:string">
  <xs:enumeration value="None"/>
  <xs:enumeration value="CloudStorage"/>
  <xs:enumeration value="SitesPage"/>
  <xs:enumeration value="DisableHybridAppLauncher"/>
</xs:restriction>
</xs:simpleType>
</xs:list>
</xs:simpleType>
<xs:element name="UserProfileApplication.PersonalSitePagesRemoteStatus" nillable="true"
type="tns1:UserProfileApplication.PersonalSitePagesRemoteStatus"/>
</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 2010
- Microsoft SharePoint Server 2013
- Microsoft SharePoint Server 2016

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

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.

| Section | Tracking number (if applicable) and description | Major change (Y or N) | Change type |
|--|---|-----------------------|---|
| 8 Appendix C: Product Behavior | Updated list of supported products. | Y | Content updated due to protocol revision. |

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