

[MS-UPIEWS]:

User Profile Import and Export Web Service Protocol

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1 Introduction

The User Profile Import and Export Web Service Protocol is used to import and export user properties stored in profiles and groups of users data to and from the database that stores the information about each profile.

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:

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.

directory service (DS): A service that stores and organizes information about a computer network's users and network shares, and that allows network administrators to manage users' access to the shares. See also Active Directory.

distinguished name (DN): A name that uniquely identifies an object by using the relative distinguished name (RDN) for the object, and the names of container objects and domains that contain the object. The distinguished name (DN) identifies the object and its location in a tree.

entity: An instance of an EntityType element that has a unique identity and an independent existence. An entity is an operational unit of consistency.

EntityInstance: A set of Field values that have a unique identity that represents a specific instance of an Entity, and are stored in a line-of-business (LOB) system.

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

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

identifier: A string value that is used to uniquely identify a component of the CSDL and that is of type SimpleIdentifier.

member group: A group of users that is specific to a user profile service. Examples of types of member groups are distribution lists, security groups, and SharePoint sites. A member group contains metadata such as the group name, email address, URL, and a list of members.

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.

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.

SOAP fault: A container for error and status information within a SOAP message. See [\[SOAP1.2-1/2007\]](#) section 5.4 for more information.

synchronization engine: A code module that creates an integrated view of objects that are stored in multiple, connected data sources, and manages information in those data sources.

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

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 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-USRPCH] Microsoft Corporation, "[User Profile Change Log Web Service Protocol](#)".

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

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

[SOAP1.1] Box, D., Ehnebuske, D., Kakivaya, G., et al., "Simple Object Access Protocol (SOAP) 1.1", W3C Note, May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

[SOAP1.2-1/2007] Gudgin, M., Hadley, M., Mendelsohn, N., et al., "SOAP Version 1.2 Part 1: Messaging Framework (Second Edition)", W3C Recommendation, April 2007, <http://www.w3.org/TR/2007/REC-soap12-part1-20070427/>

[SOAP1.2-2/2007] Gudgin, M., Hadley, M., Mendelsohn, N., et al., "SOAP Version 1.2 Part 2: Adjuncts (Second Edition)", W3C Recommendation, April 2007, <http://www.w3.org/TR/2007/REC-soap12-part2-20070427/>

[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/>

[XMLSCHEMA1/2] Thompson, H., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "XML Schema Part 1: Structures Second Edition", W3C Recommendation, October 2004, <http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/>

[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/>

[XMLSCHEMA2/2] Biron, P., and Malhotra, A., Eds., "XML Schema Part 2: Datatypes Second Edition", W3C Recommendation, October 2004, <http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/>

[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

[LDAP] Microsoft Corporation, "About Lightweight Directory Access Protocol", <http://msdn.microsoft.com/en-us/library/aa366075.aspx>

1.3 Protocol Overview (Synopsis)

This protocol is used to import and export **user profile** and **member group** data to and from the **user profile store**. A typical scenario for using this protocol is a synchronization application that runs at fixed intervals to keep the user profile store and an **[LDAP] directory service (DS)** in sync.

The protocol supports methods to retrieve all user profiles or only user profiles that have changed since a specific time. The protocol also allows importing **Business Data Connectivity (BDC)** data for specific user profile properties for existing user profiles.

1.4 Relationship to Other Protocols

This protocol uses the **Simple Object Access Protocol (SOAP)** message protocol for formatting request and response messages, as described in [\[SOAP1.1\]](#), [\[SOAP1.2-1/2007\]](#) and [\[SOAP1.2-2/2007\]](#). It transmits those messages by using **Hypertext Transfer Protocol (HTTP)**, as described in [\[RFC2616\]](#).

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

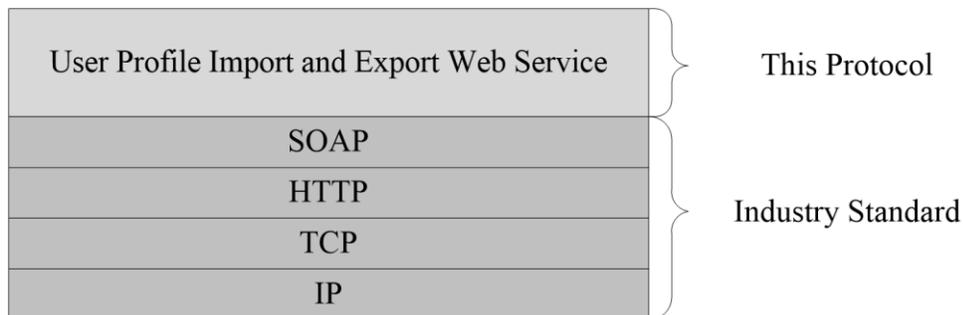


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a site that is identified by a URL that is known by protocol clients. The protocol server endpoint is formed by appending `"/_vti_bin/profileimportexportservice.asmx"` to the URL of the site, for example: `http://www.contoso.com/_vti_bin/profileimportexportservice.asmx`.

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

1.6 Applicability Statement

This protocol is designed for flowing user and group data across the **user profile store** and external **directory services (DS)**. It is applicable when the protocol client is acting as a broker between directory services and the user profile store.

This protocol was designed with the intention of supporting a scale point of approximately:

- 2 million users
- an average of 100 **member groups** per **user profile**, up to a total of 1 million member groups
- 10 million group memberships

This protocol does not specify how the data should be stored in the external directory services, how the protocol client should connect to the external directory services, or what synchronization logic should be used by the protocol client when flowing data between the user profile store and the external directory services.

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. Protocol servers SHOULD additionally support SOAP over HTTPS for securing communication with clients.

Protocol messages MUST be formatted as specified either in [\[SOAP1.1\]](#), section 4 or in [\[SOAP1.2-1/2007\]](#), section 5. Server faults MUST be returned either using HTTP Status Codes as specified in [\[RFC2616\]](#), section 10 or using **SOAP faults** as specified either in [\[SOAP1.1\]](#), section 4.4 or in [\[SOAP1.2-1/2007\]](#), section 5.4.

2.2 Common Message Syntax

This section contains common definitions used by this protocol. The syntax of the definitions uses XML Schema as defined in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and **WSDL** 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
http	http://schemas.xmlsoap.org/wsd/http/	
s1	http://microsoft.com/wsd/types/	
soap	http://schemas.xmlsoap.org/wsd/soap/	[SOAP1.1]
soap12	http://schemas.xmlsoap.org/wsd/soap12/	[SOAP1.2-1/2007] [SOAP1.2-2/2007]
tns	http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService	
wSDL	http://schemas.xmlsoap.org/wsd/	[WSDL]
xs	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1/2] [XMLSCHEMA2/2]

2.2.2 Messages

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

2.2.3 Elements

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

2.2.4 Complex Types

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

Complex type	Description
ArrayOfAnyType	The ArrayOfAnyType complex type MUST be an array of instances of any object type. Zero instances in the array means that an empty array is provided.
ArrayOfProfileChangeData	The ArrayOfProfileChangeData complex type MUST be an array of instances of ProfileChangeData objects. This array is used to provide a list of changes made to user profiles. Zero instances in the array means that an empty array is provided.
ArrayOfPropertyChangeData	The ArrayOfPropertyChangeData complex type MUST be an array of instances of PropertyChangeData objects. This array is used to provide a list of property changes. Zero instances in the array means that an empty array is provided.
ArrayOfString	The ArrayOfString complex type MUST be a set of strings. Zero instances in the array means that an empty array is provided.
ProfileChangeData	This object MUST contain the data of changes made to a profile along with the Profile Identifier, and DistinguishedName that are used to identify the profile. Each object represents a profile and contains a list of changes made to its various properties. Zero occurrences of an element means that empty data is provided. The ProfileChangeData object does not match a profile if the ProfileIdentifier or DistinguishedName is not provided. It will be an invalid object. ProfileIdentifier and DistinguishedName objects SHOULD be present.
ProfileChangeDataContainer	The ProfileChangeDataContainer complex type MUST contain a list of ProfileChangeData objects (section 2.2.4.5). Zero objects in the list means that an empty list is provided.
PropertyChangeData	An object that holds the data of a change made to a property. Zero occurrences of an element means that empty data is provided.

2.2.4.1 ArrayOfAnyType

Namespace: <http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService>

The **ArrayOfAnyType** complex type MUST be an array of instances of any object type. Zero instances in the array means that an empty array is provided.

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

anyType: An anyType value as specified in [\[XMLSCHEMA1\]](#).

2.2.4.2 ArrayOfProfileChangeData

Namespace: <http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService>

The **ArrayOfProfileChangeData** complex type MUST be an array of instances of **ProfileChangeData** objects. This array is used to provide a list of changes made to user profiles. Zero instances in the array means that an empty array is provided.

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

ProfileChangeData: An object that holds the data of changes made to a profile along with **ProfileIdentifier** and **DistinguishedName** that are used to identify the profile.

2.2.4.3 ArrayOfPropertyChangeData

Namespace: <http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService>

The **ArrayOfPropertyChangeData** complex type MUST be an array of instances of **PropertyChangeData** objects. This array is used to provide a list of property changes. Zero instances in the array means that an empty array is provided.

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

PropertyChangeData: An object that holds the data of changes made to a property. Specified in section [2.2.4.7](#).

2.2.4.4 ArrayOfString

Namespace: <http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService>

The **ArrayOfString** complex type MUST be a set of strings. Zero instances in the array means that an empty array is provided.

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

string: A single element in the array of strings.

2.2.4.5 ProfileChangeData

Namespace: <http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService>

This object MUST contain the data of changes made to a profile along with the Profile Identifier, and **DistinguishedName** that are used to identify the profile. Each object represents a profile and contains a list of changes made to its various properties. Zero occurrences of an element means that empty data is provided. The ProfileChangeData object does not match a profile if the

ProfileIdentifier or DistinguishedName is not provided. It will be an invalid object. **ProfileIdentifier** and DistinguishedName objects SHOULD be present.

```
<xs:complexType name="ProfileChangeData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="ProfileIdentifier" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="DistinguishedName" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ObjectGuid"
      xmlns:s1="http://microsoft.com/wsdl/types/" type="s1:guid"/>
    <xs:element minOccurs="0" maxOccurs="1" name="ObjectClass" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="PropertyChanges"
      type="tns:ArrayOfPropertyChangeData"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ChangeType" type="tns:ChangeTypes"/>
  </xs:sequence>
</xs:complexType>
```

ProfileIdentifier: Unique string used to identify a profile object in the **user profile store**. This string MUST be a string that can be used to identify or retrieve the profile objects. The profile identifier is provided by the protocol client for import operations and the protocol server for export operations. E.g. For user and contact object types this is the 'AccountName', and for group object types, it is the 'SourceReference'. The element SHOULD be present.

DistinguishedName: The **distinguished name (DN)** of the profile object. The element SHOULD be present.

ObjectGuid: Unused.

ObjectClass: Defines the type of profile. This value MUST be one of the following: "user", "group", "contact".

PropertyChanges: An array of **PropertyChangeData** objects. It contains one **PropertyChangeData** instance for each changed property. Each PropertyChangeData MUST be populated as specified in section [2.2.4.7](#).

ChangeType: Defines the type of change made to the profile. This value MUST be one of the following: Add, Delete, or Modify. The enumeration values "None", "Metadata" and "All" are preserved for backward compatibility but are not used anymore.

2.2.4.6 ProfileChangeDataContainer

Namespace: http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService

The **ProfileChangeDataContainer** complex type MUST contain a list of **ProfileChangeData** objects (section [2.2.4.5](#)). Zero objects in the list means that an empty list is provided.

```
<xs:complexType name="ProfileChangeDataContainer"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="ProfileChangeData"
      type="tns:ArrayOfProfileChangeData"/>
    <xs:element minOccurs="1" maxOccurs="1" name="LastId" type="xs:long"/>
    <xs:element minOccurs="0" maxOccurs="1" name="LastChangeToken" type="xs:string"/>
  </xs:sequence>
</xs:complexType>
```

ProfileChangeData: A list of **ProfileChangeData** as specified in section 2.2.4.5.

LastId: RecordId of the last profile in the **ProfileChangeData** array, a 64-bit integer identifier of the user profile.

LastChangeToken: ChangeToken of the last Profile that was synchronized, as specified in [\[MS-USRPCH\]](#) section 2.2.4.4. This will be set if there are Organization or User profile objects in the return set. If there are no Organization or User profile objects in the return set the ChangeToken is an empty string.

2.2.4.7 PropertyChangeData

Namespace: http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService

An object that holds the data of a change made to a property. Zero occurrences of an element means that empty data is provided.

```
<xs:complexType name="PropertyChangeData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
    <xs:element minOccurs="1" maxOccurs="1" name="ChangeType" type="tns:ChangeTypes"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Values" type="tns:ArrayOfAnyType"/>
  </xs:sequence>
</xs:complexType>
```

Name: Name of the property that changed.

ChangeType: Defines the type of change made to the property. If the property is a single value property, this value MUST be Modify. If the property is a multiple value property, this value MUST be one of the following: Add, Delete, or Modify.

Values: If **ChangeType** is set to Modify, this value MUST contain all the current values for the property that will replace the previous ones. If **ChangeType** is set to Add, this value MUST contain only the new values to be aggregated with the previous ones. If **ChangeType** is set to Delete, this value MUST contain only the values deleted from the previous ones.

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
ChangeTypes	The ChangeTypes enumeration MUST define all the available types of changes that can be made to a profile.
guid	This MUST be a Unique Identifier.

2.2.5.1 ChangeTypes

Namespace: http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService

The **ChangeTypes** enumeration MUST define all the available types of changes that can be made to a profile.

```
<xs:simpleType name="ChangeTypes" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:list>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="None"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:list>
</xs:simpleType>
```

```

    <xs:enumeration value="Add"/>
    <xs:enumeration value="Modify"/>
    <xs:enumeration value="Delete"/>
    <xs:enumeration value="Metadata"/>
    <xs:enumeration value="All"/>
  </xs:restriction>
</xs:simpleType>
</xs:list>
</xs:simpleType>

```

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

Value	Meaning
None	No change was made.
Add	A new profile has been added. This ChangeType MUST be specified when a new User is being added to the profile store. This MUST be the ChangeType returned in the ProfileChangeData from a call to RetrieveProfileChangeDataFull .
Modify	At least one property on the profile has changed. This ChangeType MUST be used when changes are made to a userprofile which already exists in the profile store.
Delete	Profile has been deleted.
Metadata	Profile metadata has been changed.
All	All the preceding types of changes have been made.

2.2.5.2 guid

Namespace: http://microsoft.com/wsdl/types/

This MUST be a Unique Identifier.

```

<xs:simpleType name="guid" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:restriction base="xs:string">
    <xs:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-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.

3 Protocol Details

The client side of this protocol is 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

3.1.1 Abstract Data Model

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

The protocol server maintains the following data:

- A list of member groups and the user profiles that belong to them.
- A reconciliation of member groups that contain other member groups such that users belonging to a child member group are identified as belonging in the parent member group.
- A list of **BDC** entities.
- A list of **partitions**.
- The state information about whether a profile import or export session is in progress. A session is in progress if an `InitializeProfileImportExportProcess` is called and the `FinalizeProfileImportExportProcess` is not yet called.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

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

Operation	Description
FinalizeProfileImportExportProcess	This operation marks the end of a synchronization run.
GetImportProperties	This operation returns the object types and their list of properties configured to be imported in the server.
GetPartitionIds	This operation MUST return the partition ids for all partitions that the user profile application is associated with.

Operation	Description
GetProfileImportClientMode	This method retrieves the Profile Import mode for the associated User Profile Application. <1>
InitializeProfileImportExportProcess	This operation marks the beginning of a synchronization run.
RetrieveBDCProfileChangeData	This operation is used to retrieve an array of ProfileChangeData objects for all entity objects in a BDC data source. This data is retrieved from the Business Data Entity that the particular BDC connection points to. This call MUST be done after an InitializeProfileImportExportProcess call has been done and a FinalizeProfileImportExportProcess call MUST be made sometime before another InitializeProfileImportExportProcess call is done.
RetrieveProfileChangeDataDelta	This operation is used to retrieve an array of ProfileChangeData objects for user profiles that changed since the last synchronization run. There can only be one synchronization run active at any time. This call MUST be done after an InitializeProfileImportExportProcess call has been done and a FinalizeProfileImportExportProcess call MUST be made sometime before another InitializeProfileImportExportProcess call is done.
RetrieveProfileChangeDataFull	This operation MUST return an array of ProfileChangeData objects for profiles that have been originally imported from Active Directory or LDAP data sources so that their properties can be synchronized with the connected data sources. This is the complete list of groups and users along with their properties. This call MUST be done after an InitializeProfileImportExportProcess call has been done and a FinalizeProfileImportExportProcess call MUST be made sometime before another InitializeProfileImportExportProcess call is done.
UpdateWithProfileChangeData	This operation updates the user profile store with changes for the connected data sources. This is the list of groups and users along with their properties that have changed since the last call.

3.1.4.1 FinalizeProfileImportExportProcess

This operation marks the end of a synchronization run.

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

```
<wsdl:operation name="FinalizeProfileImportExportProcess"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:FinalizeProfileImportExportProcessSoapIn"/>
  <wsdl:output message="tns:FinalizeProfileImportExportProcessSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **FinalizeProfileImportExportProcessSoapIn** request message and the protocol server responds with a **FinalizeProfileImportExportProcessSoapOut** response message.

The method sends the `importExportId` that identifies the current synchronization run context.

3.1.4.1.1 Messages

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

Message	Description
FinalizeProfileImportExportProcessSoapIn	The request WSDL message for the FinalizeProfileImportExportProcess WSDL operation .
FinalizeProfileImportExportProcessSoapOut	The response WSDL message for the FinalizeProfileImportExportProcess WSDL operation .

3.1.4.1.1.1 FinalizeProfileImportExportProcessSoapIn

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

The **SOAP action** value is:

```
http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/FinalizeProfileImportExportProcess
```

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

3.1.4.1.1.2 FinalizeProfileImportExportProcessSoapOut

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

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

3.1.4.1.2 Elements

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

Element	Description
FinalizeProfileImportExportProcess	The input data for the FinalizeProfileImportExportProcess WSDL operation .
FinalizeProfileImportExportProcessResponse	The result data for the FinalizeProfileImportExportProcess WSDL operation .

3.1.4.1.2.1 FinalizeProfileImportExportProcess

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

```
<xs:element name="FinalizeProfileImportExportProcess"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="importExportId" type="xs:long"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

importExportId: importExportId as specified in section [3.1.4.7.2.1](#).

3.1.4.1.2 FinalizeProfileImportExportProcessResponse

The **FinalizeProfileImportExportProcessResponse** element specifies the result data for the **FinalizeProfileImportExportProcess** **WSDL operation**.

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

3.1.4.1.3 Complex Types

None.

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 GetImportProperties

This operation returns the object types and their list of properties configured to be imported in the server.

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

```
<wsdl:operation name="GetImportProperties" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetImportPropertiesSoapIn"/>
  <wsdl:output message="tns:GetImportPropertiesSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetImportPropertiesSoapIn** request message and the protocol server responds with a **GetImportPropertiesSoapOut** response message.

3.1.4.2.1 Messages

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

Message	Description
GetImportPropertiesSoapIn	The request WSDL message for the GetImportProperties WSDL operation .
GetImportPropertiesSoapOut	The response WSDL message for the GetImportProperties WSDL operation.

3.1.4.2.1.1 GetImportPropertiesSoapIn

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

The **SOAP action** value is:

```
http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetImportProperties
```

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

3.1.4.2.1.2 GetImportPropertiesSoapOut

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

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

3.1.4.2.2 Elements

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

Element	Description
GetImportProperties	The input data for the GetImportProperties WSDL operation .
GetImportPropertiesResponse	The result data for the GetImportProperties WSDL operation .

3.1.4.2.2.1 GetImportProperties

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

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

3.1.4.2.2.2 GetImportPropertiesResponse

The **GetImportPropertiesResponse** element specifies the result data for the **GetImportProperties WSDL operation**.

```
<xs:element name="GetImportPropertiesResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element minOccurs="0" maxOccurs="1" name="GetImportPropertiesResult"  
        type="tns:ArrayOfImportExportProperties"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

GetImportPropertiesResult: An array of ImportExportProperties as specified in section [3.1.4.2.3.1](#).

3.1.4.2.3 Complex Types

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

Complex type	Description
ArrayOfImportExportProperties	Specifies an array of instances of ImportExportProperties objects, as specified in section 3.1.4.2.3.2 . This array is used to provide a list of object types being imported, along with their respective properties.
ImportExportProperties	Specifies an object that holds the data of the properties configured to be imported for one specific object type.

3.1.4.2.3.1 ArrayOfImportExportProperties

Namespace: <http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService>

The **ArrayOfImportExportProperties** complex type is an array of instances of **ImportExportProperties** objects. This array is used to provide a list of object types being imported with their respective properties.

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

ImportExportProperties: Specified in section [3.1.4.2.3.2](#).

3.1.4.2.3.2 ImportExportProperties

Namespace: <http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService>

An object that holds the data of the properties configured to be imported for one specific object type.

```
<xs:complexType name="ImportExportProperties" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="TypeName" type="xs:string"/>
    <xs:element minOccurs="0" maxOccurs="1" name="Properties" type="tns:ArrayOfString"/>
  </xs:sequence>
</xs:complexType>
```

TypeName: Defines the name of the object type.

Properties: An array containing the names of the properties configured to be imported for this specific object type.

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 GetPartitionIds

This operation MUST return the **partition** ids for all partitions that the **user profile** application is associated with.

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

```
<wsdl:operation name="GetPartitionIds" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetPartitionIdsSoapIn"/>
  <wsdl:output message="tns:GetPartitionIdsSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **GetPartitionIdsSoapIn** request message and the protocol server responds with a **GetPartitionIdsSoapOut** response message.

3.1.4.3.1 Messages

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

Message	Description
GetPartitionIdsSoapIn	The request WSDL message for the GetPartitionIds WSDL operation .
GetPartitionIdsSoapOut	The response WSDL message for the GetPartitionIds WSDL operation .

3.1.4.3.1.1 GetPartitionIdsSoapIn

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

The **SOAP action** value is:

```
http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetPartitionIds
```

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

3.1.4.3.1.2 GetPartitionIdsSoapOut

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

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

3.1.4.3.2 Elements

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

Element	Description
GetPartitionIds	The input data for the GetPartitionIds WSDL operation .
GetPartitionIdsResponse	The result data for the GetPartitionIds WSDL operation .

3.1.4.3.2.1 GetPartitionIds

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

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

3.1.4.3.2.2 GetPartitionIdsResponse

The **GetPartitionIdsResponse** element specifies the result data for the **GetPartitionIds WSDL operation**.

```
<xs:element name="GetPartitionIdsResponse" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetPartitionIdsResult"
type="tns:ArrayOfGuid"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

GetPartitionIdsResult: An array of **partition** identifiers.

3.1.4.3.3 Complex Types

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

Complex type	Description
ArrayOfGuid	Specifies an array of GUID data types.

3.1.4.3.3.1 ArrayOfGuid

Namespace: <http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService>

This is an array of **GUID** data types.

```
<xs:complexType name="ArrayOfGuid" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="unbounded" name="guid"
xmlns:s1="http://microsoft.com/wsdl/types/" type="s1:guid"/>
  </xs:sequence>
```

```
</xs:complexType>
```

guid: A GUID.

3.1.4.3.4 Simple Types

None.

3.1.4.3.5 Attributes

None.

3.1.4.3.6 Groups

None.

3.1.4.3.7 Attribute Groups

None.

3.1.4.4 InitializeProfileImportExportProcess

This operation marks the beginning of a synchronization run.

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

```
<wsdl:operation name="InitializeProfileImportExportProcess"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:InitializeProfileImportExportProcessSoapIn"/>
  <wsdl:output message="tns:InitializeProfileImportExportProcessSoapOut"/>
</wsdl:operation>
```

The protocol client sends an **InitializeProfileImportExportProcessSoapIn** request message and the protocol server responds with an **InitializeProfileImportExportProcessSoapOut** response message.

At the beginning of a synchronization run, the protocol client calls this method and gets the `importExportId`, (specified in **RetrieveProfileChangeDataFull**, section [3.1.4.7.2.1](#)) that is used by the protocol client during subsequent calls to other methods on the Web service during synchronization. There **MUST** only be one synchronization run active at any time. The attempt to start another synchronization run will change the `importExportId` and group membership changes made with the previous identifier will be lost.

3.1.4.4.1 Messages

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

Message	Description
InitializeProfileImportExportProcessSoapIn	The request WSDL message for the InitializeProfileImportExportProcess WSDL operation .
InitializeProfileImportExportProcessSoapOut	The response WSDL message for the InitializeProfileImportExportProcess WSDL operation .

3.1.4.4.1.1 InitializeProfileImportExportProcessSoapIn

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

The **SOAP action** value is:

```
http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/InitializeProfileImportExportProcess
```

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

3.1.4.4.1.2 InitializeProfileImportExportProcessSoapOut

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

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

3.1.4.4.2 Elements

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

Element	Description
InitializeProfileImportExportProcess	The input data for the InitializeProfileImportExportProcess WSDL operation .
InitializeProfileImportExportProcessResponse	The result data for the InitializeProfileImportExportProcess WSDL operation .

3.1.4.4.2.1 InitializeProfileImportExportProcess

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

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

3.1.4.4.2.2 InitializeProfileImportExportProcessResponse

The **InitializeProfileImportExportProcessResponse** element specifies the result data for the **InitializeProfileImportExportProcess WSDL operation**.

```
<xs:element name="InitializeProfileImportExportProcessResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1"
name="InitializeProfileImportExportProcessResult" type="xs:long"/>
    </xs:sequence>
  </xs:complexType>
```

</xs:element>

InitializeProfileImportExportProcessResult: importExportId integer value that uniquely identifies the current synchronization run context.

3.1.4.4.3 Complex Types

None.

3.1.4.4.4 Simple Types

None.

3.1.4.4.5 Attributes

None.

3.1.4.4.6 Groups

None.

3.1.4.4.7 Attribute Groups

None.

3.1.4.5 RetrieveBDCProfileChangeData

This operation is used to retrieve an array of **ProfileChangeData** objects for all entity objects in a **BDC** data source. This data is retrieved from the Business Data Entity that the particular BDC connection points to. This call **MUST** be done after an **InitializeProfileImportExportProcess** call has been done and a **FinalizeProfileImportExportProcess** call **MUST** be made sometime before another **InitializeProfileImportExportProcess** call is done.

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

```
<wsdl:operation name="RetrieveBDCProfileChangeData"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:RetrieveBDCProfileChangeDataSoapIn"/>
  <wsdl:output message="tns:RetrieveBDCProfileChangeDataSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **RetrieveBDCProfileChangeDataSoapIn** request message and the protocol server responds with a **RetrieveBDCProfileChangeDataSoapOut** response message.

This method returns an array of **ProfileChangeData** objects for all entity objects in an **EntityInstance** from the BDC data source. The EntityInstance and the data source information are provided as the input parameters to the method.

3.1.4.5.1 Messages

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

Message	Description
RetrieveBDCProfileChangeDataSoapIn	The request WSDL message for the RetrieveBDCProfileChangeData WSDL operation .
RetrieveBDCProfileChangeDataSoapOut	The response WSDL message for the RetrieveBDCProfileChangeData WSDL operation .

3.1.4.5.1.1 RetrieveBDCProfileChangeDataSoapIn

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

The **SOAP action** value is:

```
http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveBDCProfileChangeData
```

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

3.1.4.5.1.2 RetrieveBDCProfileChangeDataSoapOut

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

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

3.1.4.5.2 Elements

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

Element	Description
RetrieveBDCProfileChangeData	The input data for the RetrieveBDCProfileChangeData WSDL operation .
RetrieveBDCProfileChangeDataResponse	The result data for the RetrieveBDCProfileChangeData WSDL operation .

3.1.4.5.2.1 RetrieveBDCProfileChangeData

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

```
<xs:element name="RetrieveBDCProfileChangeData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="instanceName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="entityNameSpace" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="entityName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="filterName" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="mossJoinAttribute" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="bdcJoinAttribute" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="propertyList" type="tns:ArrayOfString"/>
      <xs:element minOccurs="1" maxOccurs="1" name="recordId" type="xs:long"/>
      <xs:element minOccurs="1" maxOccurs="1" name="pageSize" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```

    <xs:element minOccurs="1" maxOccurs="1" name="partitionId"
      xmlns:s1="http://microsoft.com/wsdl/types/" type="s1:guid"/>
  </xs:sequence>
</xs:complexType>
</xs:element>

```

instanceName: The name that identifies the data catalog **EntityInstance** to retrieve data from.

entityNameSpace: The string that identifies the data catalog entity **XML namespace**.

entityName: The name that identifies the **Entity** in the data catalog that contains the instance to retrieve data from.

filterName: The name of the instance filter in BDC when using a one-to-many mapping from the data source to **user profile store**. The filter is a method that would run on the initial results to narrow them down to the desired set of results. This filter is a method that is implemented in the Entity and is executed by the BDC service to get the requested data from the BDC data source.

mossJoinAttribute: The name of the property in the **user profile** that contains the value to be used as the **Identifier** of the EntityInstance when making the queries to the BDC data source.

bdcJoinAttribute: MUST be ignored by the server.

propertyList: The **propertyList** as specified in section [3.1.4.7.2.1](#).

recordId: The **recordId** is a 64-bit integer identifier of the user profile. The **recordId** supplied MUST be the starting **recordId** from which to begin retrieving the data.

pageSize: The maximum number of records to retrieve from the data source. If the number of total records is more than the **pageSize**, the result set MUST return only the first **pageSize** number of records.

partitionId: A **GUID** used to filter the current request. This value MUST NOT be null or empty. This value limits the change data returned to the data contained in the specified **partition**.

3.1.4.5.2.2 RetrieveBDCProfileChangeDataResponse

The **RetrieveBDCProfileChangeDataResponse** element specifies the result data for the **RetrieveBDCProfileChangeData WSDL operation**.

```

<xs:element name="RetrieveBDCProfileChangeDataResponse"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RetrieveBDCProfileChangeDataResult"
        type="tns:ProfileChangeDataContainer"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

RetrieveBDCProfileChangeDataResult: A **ProfileChangeDataContainer** object, which is an array of **ProfileChangeData** objects.

3.1.4.5.3 Complex Types

None.

3.1.4.5.4 Simple Types

None.

3.1.4.5.5 Attributes

None.

3.1.4.5.6 Groups

None.

3.1.4.5.7 Attribute Groups

None.

3.1.4.6 RetrieveProfileChangeDataDelta

This operation is used to retrieve an array of **ProfileChangeData** objects for user profiles that changed since the last synchronization run. There can only be one synchronization run active at any time. This call **MUST** be done after an **InitializeProfileImportExportProcess** call has been done and a **FinalizeProfileImportExportProcess** call **MUST** be made sometime before another **InitializeProfileImportExportProcess** call is done.

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

```
<wsdl:operation name="RetrieveProfileChangeDataDelta"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:RetrieveProfileChangeDataDeltaSoapIn"/>
  <wsdl:output message="tns:RetrieveProfileChangeDataDeltaSoapOut"/>
</wsdl:operation>
```

The protocol client sends a **RetrieveProfileChangeDataDeltaSoapIn** request message and the protocol server responds with a **RetrieveProfileChangeDataDeltaSoapOut** response message.

The method returns only the **ProfileChangeData** objects for profiles changed since the last synchronization run and their properties. Additionally, the method **MUST** return only profiles that belong to the **partition** specified by the **partitionId** parameter.

3.1.4.6.1 Messages

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

Message	Description
RetrieveProfileChangeDataDeltaSoapIn	The request WSDL message for the RetrieveProfileChangeDataDelta WSDL operation .
RetrieveProfileChangeDataDeltaSoapOut	The response WSDL message for the RetrieveProfileChangeDataDelta WSDL operation .

3.1.4.6.1.1 RetrieveProfileChangeDataDeltaSoapIn

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

The **SOAP action** value is:

```
http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveProfileChangeDataDelta
```

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

3.1.4.6.1.2 RetrieveProfileChangeDataDeltaSoapOut

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

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

3.1.4.6.2 Elements

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

Element	Description
RetrieveProfileChangeDataDelta	The input data for the RetrieveProfileChangeDataDelta WSDL operation .
RetrieveProfileChangeDataDeltaResponse	The result data for the RetrieveProfileChangeDataDelta WSDL operation .

3.1.4.6.2.1 RetrieveProfileChangeDataDelta

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

```
<xs:element name="RetrieveProfileChangeDataDelta"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="importExportId" type="xs:long"/>
      <xs:element minOccurs="0" maxOccurs="1" name="objectClass" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="propertyList" type="tns:ArrayOfString"/>
      <xs:element minOccurs="0" maxOccurs="1" name="changeToken" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="pageSize" type="xs:int"/>
      <xs:element minOccurs="1" maxOccurs="1" name="partitionId"
xmlns:s1="http://microsoft.com/wsdl/types/" type="s1:guid"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

importExportId: The **importExportId** as specified in section [3.1.4.7.2.1](#).

objectClass: Refers to the profile type of profile object being synchronized. MUST be set to "user".

propertyList: The **propertyList** as specified in section 3.1.4.7.2.1.

changeToken: The **ChangeToken** as specified in [\[MS-USRPCH\]](#) section 2.2.4.4

pageSize: The maximum number of records to retrieve from the data source. If the number to total records is more than the pageSize, the result set MUST return only the first pageSize number of records.

partitionId: A **GUID** used to filter the current request. This value **MUST NOT** be null or empty. This value limits the change data returned to the data contained in the specified **partition**.

3.1.4.6.2.2 RetrieveProfileChangeDataDeltaResponse

The **RetrieveProfileChangeDataDeltaResponse** element specifies the result data for the **RetrieveProfileChangeDataDelta** **WSDL operation**.

```
<xs:element name="RetrieveProfileChangeDataDeltaResponse"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RetrieveProfileChangeDataDeltaResult"
        type="tns:ProfileChangeDataContainer"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

RetrieveProfileChangeDataDeltaResult: A **ProfileChangeDataContainer** object, which is an array of **ProfileChangeData** objects.

3.1.4.6.3 Complex Types

None.

3.1.4.6.4 Simple Types

None.

3.1.4.6.5 Attributes

None.

3.1.4.6.6 Groups

None.

3.1.4.6.7 Attribute Groups

None.

3.1.4.7 RetrieveProfileChangeDataFull

This operation **MUST** return an array of **ProfileChangeData** objects for profiles that have been originally imported from Active Directory or LDAP data sources so that their properties can be synchronized with the connected data sources. This is the complete list of groups and users along with their properties. This call **MUST** be done after an **InitializeProfileImportExportProcess** call has been done and a **FinalizeProfileImportExportProcess** call **MUST** be made sometime before another **InitializeProfileImportExportProcess** call is done.

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

```
<wsdl:operation name="RetrieveProfileChangeDataFull"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:RetrieveProfileChangeDataFullSoapIn"/>
  <wsdl:output message="tns:RetrieveProfileChangeDataFullSoapOut"/>
```

</wsdl:operation>

The protocol client sends a **RetrieveProfileChangeDataFullSoapIn** request message and the protocol server responds with a **RetrieveProfileChangeDataFullSoapOut** response message.

3.1.4.7.1 Messages

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

Message	Description
RetrieveProfileChangeDataFullSoapIn	The request WSDL message for the RetrieveProfileChangeDataFull WSDL operation .
RetrieveProfileChangeDataFullSoapOut	The response WSDL message for the RetrieveProfileChangeDataFull WSDL operation .

3.1.4.7.1.1 RetrieveProfileChangeDataFullSoapIn

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

The **SOAP action** value is:

```
http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveProfileChangeDataFull
```

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

3.1.4.7.1.2 RetrieveProfileChangeDataFullSoapOut

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

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

3.1.4.7.2 Elements

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

Element	Description
RetrieveProfileChangeDataFull	The input data for the RetrieveProfileChangeDataFull WSDL operation .
RetrieveProfileChangeDataFullResponse	The result data for the RetrieveProfileChangeDataFull WSDL operation .

3.1.4.7.2.1 RetrieveProfileChangeDataFull

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

```

<xs:element name="RetrieveProfileChangeDataFull" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="importExportId" type="xs:long"/>
      <xs:element minOccurs="0" maxOccurs="1" name="objectClass" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="propertyList" type="tns:ArrayOfString"/>
      <xs:element minOccurs="1" maxOccurs="1" name="recordId" type="xs:long"/>
      <xs:element minOccurs="1" maxOccurs="1" name="pageSize" type="xs:int"/>
      <xs:element minOccurs="1" maxOccurs="1" name="partitionId"
xmlns:s1="http://microsoft.com/wsdl/types/" type="s1:guid"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

importExportId: The **importExportId** identifies the synchronization run context. A new importExportId is generated each time **InitializeProfileImportExportProcess** (section [3.1.4.4](#)) is called. The importExportId remains constant between InitializeProfileImportExportProcess and FinalizeProfileImportExportProcess for a given synchronization run.

objectClass: The **objectClass** refers to the profile type of profile object being synchronized. The object classes MUST be one of "user", "group" and "contact".

propertyList: The **propertyList** is an array of the names of properties for each profile to be retrieved from the **user profile store**. These MUST be one or more of the pre-defined Profile properties (such as Display Name, First Name, and Last Name) or custom properties. The method MUST return the **distinguished name (DN)** property even if it is not in the **propertyList**. The method returns the profile properties that are as specified in the **propertyList** array.

recordId: The **recordId** is a 64-bit integer identifier of the user profile. The **recordId** supplied MUST be the starting **recordId** from which to begin retrieving the data.

pageSize: The maximum number of records to retrieve from the data source. If the number to total records is more than the pageSize, the result set MUST return only the first **pageSize** number of records.

partitionId: A **GUID** used to filter the current request. This value MUST NOT be null or empty. This value limits the change data returned to the data contained in the specified **partition**.

3.1.4.7.2.2 RetrieveProfileChangeDataFullResponse

The **RetrieveProfileChangeDataFullResponse** element specifies the result data for the **RetrieveProfileChangeDataFull WSDL operation**.

```

<xs:element name="RetrieveProfileChangeDataFullResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="RetrieveProfileChangeDataFullResult"
type="tns:ProfileChangeDataContainer"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

RetrieveProfileChangeDataFullResult: A **ProfileChangeDataContainer** object, which is an array of **ProfileChangeData** objects.

3.1.4.7.3 Complex Types

None.

3.1.4.7.4 Simple Types

None.

3.1.4.7.5 Attributes

None.

3.1.4.7.6 Groups

None.

3.1.4.7.7 Attribute Groups

None.

3.1.4.8 UpdateWithProfileChangeData

This operation updates the **user profile store** with changes for the connected data sources. This is the list of groups and users along with their properties that have changed since the last call.

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

```
<wsdl:operation name="UpdateWithProfileChangeData"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:UpdateWithProfileChangeDataSoapIn"/>
  <wsdl:output message="tns:UpdateWithProfileChangeDataSoapOut"/>
</wsdl:operation>
```

The protocol client sends an **UpdateWithProfileChangeDataSoapIn** request message and the protocol server responds with an **UpdateWithProfileChangeDataSoapOut** response message.

This method is called by the synchronization process to export data to the user profile store after it has built a list of changes from the connected data sources that will need to be synchronized.

3.1.4.8.1 Messages

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

Message	Description
UpdateWithProfileChangeDataSoapIn	The request WSDL message for the UpdateWithProfileChangeData WSDL operation .
UpdateWithProfileChangeDataSoapOut	The response WSDL message for the UpdateWithProfileChangeData WSDL operation .

3.1.4.8.1.1 UpdateWithProfileChangeDataSoapIn

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

The **SOAP action** value is:

http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/UpdateWithProfileChangeData

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

3.1.4.8.1.2 UpdateWithProfileChangeDataSoapOut

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

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

3.1.4.8.2 Elements

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

Element	Description
UpdateWithProfileChangeData	The input data for the UpdateWithProfileChangeData WSDL operation .
UpdateWithProfileChangeDataResponse	The result data for the UpdateWithProfileChangeData WSDL operation .

3.1.4.8.2.1 UpdateWithProfileChangeData

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

```
<xs:element name="UpdateWithProfileChangeData" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="importExportId" type="xs:long"/>
      <xs:element minOccurs="0" maxOccurs="1" name="profileChangeData"
type="tns:ArrayOfProfileChangeData"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

importExportId: importExportId as specified in section [3.1.4.7.2.1](#).

profileChangeData: An array of **ProfileChangeData** objects. This array identifies the profile that need to be added, updated or deleted from the **user profile store**.

3.1.4.8.2.2 UpdateWithProfileChangeDataResponse

The **UpdateWithProfileChangeDataResponse** element specifies the result data for the **UpdateWithProfileChangeData WSDL operation**.

```
<xs:element name="UpdateWithProfileChangeDataResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="UpdateWithProfileChangeDataResult"
type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

```
</xs:complexType>
</xs:element>
```

UpdateWithProfileChangeDataResult: A Boolean that indicates if any changes were applied to the **user profile store**. A true return means that the changes were successfully applied.

3.1.4.8.3 Complex Types

None.

3.1.4.8.4 Simple Types

None.

3.1.4.8.5 Attributes

None.

3.1.4.8.6 Groups

None.

3.1.4.8.7 Attribute Groups

None.

3.1.4.9 GetProfileImportClientMode

This method retrieves the Profile Import mode for the associated User Profile Application. [<2>](#)

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

```
<wsdl:operation name="GetProfileImportClientMode"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:input message="tns:GetProfileImportClientModeSoapIn"/>
  <wsdl:output message="tns:GetProfileImportClientModeSoapOut"/>
</wsdl:operation>
```

This method is used to determine the Profile Import client engine being used by the User Profile Application. The return value is a string that is used to determine the Import Engine being used to import profile data into the **user profile store**.

3.1.4.9.1 Messages

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

Message	Description
GetProfileImportClientModeSoapIn	The request WSDL message for the GetProfileImportClientMode WSDL operation .
GetProfileImportClientModeSoapOut	The response WSDL message for the GetProfileImportClientMode WSDL operation .

3.1.4.9.1.1 GetProfileImportClientModeSoapIn

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

The **SOAP action** value is:

```
http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetProfileImportClientMode
```

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

3.1.4.9.1.2 GetProfileImportClientModeSoapOut

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

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

3.1.4.9.2 Elements

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

Element	Description
GetProfileImportClientMode	The input data for the GetProfileImportClientMode WSDL operation .
GetProfileImportClientModeResponse	The result data for the GetProfileImportClientMode WSDL operation .

3.1.4.9.2.1 GetProfileImportClientMode

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

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

3.1.4.9.2.2 GetProfileImportClientModeResponse

The **GetProfileImportClientModeResponse** element specifies the result data for the **GetProfileImportClientMode WSDL operation**.

```
<xs:element name="GetProfileImportClientModeResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="GetProfileImportClientModeResult"
type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```


GetProfileImportClientModeResult: The return value is a string that determines that is used to determine the Import Engine being used to import profile data into the **user profile store**. If a **synchronization engine** is being used for Profile Import, it returns "profileImportModeFIM". If Active Directory Import is being used, it returns "profileImportModeADImport". If an external engine is used, it will return "profileImportModeExternalFIM".

3.1.4.9.3 Complex Types

None.

3.1.4.9.4 Simple Types

None.

3.1.4.9.5 Attributes

None.

3.1.4.9.6 Groups

None.

3.1.4.9.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

In this example, a protocol client uses the protocol to export user profiles from the **user profile store**. The protocol client then lists them, changes the value of the "LastName" property for the profile "MGR2" and import the user profiles back to the profile store. It finally re-exports the user profiles to confirm the successful change.

4.1 Sample Data

There are three users in Domain as follows:

Properties	Profile1	Profile2	Profile3
PreferredName	LDAP::MGR1	LDAP::MGR2	LDAP::MGR3
FirstName	Manager 1	Manager 2	Manager 3
LastName	LastName Manager1	LastName Manager2	LastName Manager3
SPS-DistinguishedName	uid=MGR1,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com	uid=MGR2,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com	uid=MGR3,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com
UserName	MGR1	MGR2	MGR3

4.2 Operation Sequence

The protocol client executes the operation in the sequence 4.2.1 to 4.2.6 to export user profiles from the **user profile store**, change the value of the "LastName" property for the profile "MGR2" and import the user profiles back to the profile store and finally to re-export the user profiles to confirm the successful change.

4.2.1 Initialize the Process

The protocol client calls the **InitializeProfileImportExportProcess** operation to initialize and get the import export identifier which is used in subsequent operations. The protocol client sends the following request:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><InitializeProfileImportExportProcess
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService" /></soap:Body></soap:Envelope>
```

On successful completion, the protocol server returns the following response:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><InitializeProfileImportE
```

```
xportProcessResponse
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"><InitializeProfileImportExportProcessResult>14</InitializeProfileImportExportProcessResult></InitializeProfileImportExportProcessResponse></soap:Body></soap:Envelope>
```

This protocol client extracts the import export process identifier 14 from the **WSDL message** to be used in subsequent creation of WSDL messages.

4.2.2 Get the Partition Identifier

The protocol client calls the **GetPartitionIds** operation to get the **partition** identifier, which is used in subsequent operations. The protocol client sends the following request:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><GetPartitionIds
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService" /></soap:Body></soap:Envelope>
```

On successful completion, the protocol server returns the following response:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><GetPartitionIdsResponse
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"><GetPartitionIdsResult><guid>0c37852b-34d0-418e-91c6-2ac25af4be5b</guid></GetPartitionIdsResult></GetPartitionIdsResponse></soap:Body></soap:Envelope>
```

The protocol client extracts the partition identifiers from the response, to be used in construction of subsequent **WSDL messages**.

4.2.3 Retrieve the Profiles

The protocol client calls the **RetrieveProfileChangeDataFull** operation to get all the profile. The protocol client constructs the following **WSDL message** using the extracted values for importExportId and partition (1) identifier from previous operation calls.

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><RetrieveProfileChangeDataFull
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"><importExportId>14</importExportId><objectClass>user</objectClass><propertyList><string>PreferredName</string><string>ADGuid</string><string>SPS-DistinguishedName</string><string>SID</string><string>LastName</string><string>FirstName</string><string>UserName</string><string>AccountName</string></propertyList><recordId>1</recordId><pageSize>100</pageSize><partitionId>0c37852b-34d0-418e-91c6-2ac25af4be5b</partitionId></RetrieveProfileChangeDataFull></soap:Body></soap:Envelope>
```

On successful completion, the protocol server returns the following WSDL message.

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
```

```

<soap:Body>
  <RetrieveProfileChangeDataFullResponse
    xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService">
    <RetrieveProfileChangeDataFullResult>
      <ProfileChangeData>
        <ProfileChangeData>

<DistinguishedName>uid=MGR1,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</Dist
ingushedName>
      <ObjectGuid>00000000-0000-0000-0000-000000000000</ObjectGuid>
      <ObjectClass>user</ObjectClass>
      <PropertyChanges>
        <PropertyChangeData>
          <Name>Firstname</Name>
          <ChangeType>Add</ChangeType>
          <Values>
            <anyType xsi:type="xsd:string">Manager 1</anyType>
          </Values>
        </PropertyChangeData>
        <PropertyChangeData>
          <Name>SID</Name>
          <ChangeType>Add</ChangeType>
          <Values>
            <anyType
xsi:type="xsd:base64Binary">AQUAAAAAAAAUAAAAoGXPfnhLm1/nfIdw6iooAA==</anyType>
          </Values>
        </PropertyChangeData>
        <PropertyChangeData >
          <Name>UserName</Name>
          <ChangeType>Add</ChangeType>
          <Values>
            <anyType xsi:type="xsd:string">MGR1</anyType>
          </Values>
        </PropertyChangeData>
        <PropertyChangeData>
          <Name>PreferredName</Name>
          <ChangeType>Add</ChangeType>
          <Values>
            <anyType xsi:type="xsd:string">LDAP:MGR1</anyType>
          </Values>
        </PropertyChangeData>
        <PropertyChangeData>
          <Name>dn</Name>
          <ChangeType>Add</ChangeType>
          <Values>
            <anyType
xsi:type="xsd:string">uid=MGR1,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
          </Values>
        </PropertyChangeData>
        <PropertyChangeData>
          <Name>SPS-DistinguishedName</Name>
          <ChangeType>Add</ChangeType>
          <Values>
            <anyType
xsi:type="xsd:string">uid=MGR1,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
          </Values>
        </PropertyChangeData>
        <PropertyChangeData>
          <Name>LastName</Name>
          <ChangeType>Add</ChangeType>
          <Values>
            <anyType xsi:type="xsd:string">LastName Manager1</anyType>
          </Values>
        </PropertyChangeData>
        <PropertyChangeData>
          <Name>ADGUID</Name>

```

```

        <ChangeType>Add</ChangeType>
        <Values>
          <anyType xsi:type="xsd:base64Binary">AhuBersqt06TyK1TGDwHHQ==</anyType>
        </Values>
      </PropertyChangeData>
    </PropertyChanges>
  <ChangeType>Add</ChangeType>
</ProfileChangeData>
<ProfileChangeData>
  <DistinguishedName>uid=MGR2,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</DistinguishedName>
  <ObjectGuid>00000000-0000-0000-0000-000000000000</ObjectGuid>
  <ObjectClass>user</ObjectClass>
  <PropertyChanges>
    <PropertyChangeData>
      <Name>FirstName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">Manager 2</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>SID</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType
xsi:type="xsd:base64Binary">AQUAAAAAAAAUAAAAoGXPfnhLm1/nfIdwGD5OAA==</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>UserName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">MGR2</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>PreferredName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">LDAP::MGR2</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>SPS-DistinguishedName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType
xsi:type="xsd:string">uid=MGR2,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>SPS-DistinguishedName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType
xsi:type="xsd:string">uid=MGR2,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>LastName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">LastName Manager2</anyType>
      </Values>
    </PropertyChangeData>
  </PropertyChanges>

```

```

    <PropertyChangeData>
      <Name>ADGuid</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:base64Binary">mwvDn7xr8ESvMig0miA4qA==</anyType>
      </Values>
    </PropertyChangeData>
  </PropertyChanges>
  <ChangeType>Add</ChangeType>
</ProfileChangeData>
<ProfileChangeData>
  <DistinguishedName>
uid=MGR3,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com </DistinguishedName>
  <ObjectGuid>00000000-0000-0000-0000-000000000000</ObjectGuid>
  <ObjectClass>user</ObjectClass>
  <PropertyChanges>
    <PropertyChangeData>
      <Name>FirstName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">Manager 3</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>SID</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType
xsi:type="xsd:base64Binary">AQUAAAAAAAAUAAAoGXPfnhLm1/nfIdw039LAA==</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>UserName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">MGR3</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>PreferredName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">LDAP::MGR3</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>SPS-DistinguishedName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType
xsi:type="xsd:string">uid=MGR3,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>SPS-DistinguishedName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType
xsi:type="xsd:string">uid=MGR3,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>LastName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">LastName Manager3</anyType>
      </Values>
    </PropertyChangeData>
  </PropertyChanges>

```

```

        </Values>
      </PropertyChangeData>
    <PropertyChangeData>
      <Name>ADGUID</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:base64Binary">3AAG32anf0usUZfnP6/EhQ==</anyType>
      </Values>
    </PropertyChangeData>
  </PropertyChanges>
  <ChangeType>Add</ChangeType>
</ProfileChangeData>
</ProfileChangeData>
<LastId>3</LastId>
<LastChangeToken />
</RetrieveProfileChangeDataFullResult>
</RetrieveProfileChangeDataFullResponse>
</soap:Body>
</soap:Envelope>

```

4.2.4 Update a Profile

The protocol client calls the **UpdateWithProfileChangeData** operation to update a profile. The protocol client constructs the following **WSDL message** using the extracted values from previous operation calls.

```

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <UpdateWithProfileChangeData
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService">
      <importExportId>14</importExportId>
      <profileChangeData>
        <ProfileChangeData>
          <ProfileIdentifier>LDAP::MGR2</ProfileIdentifier>
          <DistinguishedName>uid=MGR2,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</DistinguishedName>
          <ObjectGuid>00000000-0000-0000-0000-000000000000</ObjectGuid>
          <ObjectClass>user</ObjectClass>
          <PropertyChanges>
            <PropertyChangeData>
              <Name>LastName</Name>
              <ChangeType>Modify</ChangeType>
              <Values>
                <anyType xsi:type="xsd:string">Edited</anyType>
              </Values>
            </PropertyChangeData>
          </PropertyChanges>
          <ChangeType>Modify</ChangeType>
        </ProfileChangeData>
      </profileChangeData>
    </UpdateWithProfileChangeData>
  </soap:Body>
</soap:Envelope>

```

On successful completion, the protocol server returns the following WSDL message.

```

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><UpdateWithProfileChangeDataResponse
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"><U

```

```
pdateWithProfileChangeDataResult>true</UpdateWithProfileChangeDataResult></UpdateWithProfileChangeDataResponse></soap:Body></soap:Envelope>
```

4.2.5 Verify the Change

The protocol client calls the **RetrieveProfileChangeDataFull** operation to get all the profiles. The protocol client constructs the following **WSDL message** using the extracted values from previous operation calls.

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><RetrieveProfileChangeDataFull
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"><importExportId>14</importExportId><objectClass>user</objectClass><propertyList><string>PreferredName</string><string>ADGuid</string><string>SPS-DistinguishedName</string><string>SID</string><string>LastName</string><string>FirstName</string><string>UserName</string><string>AccountName</string></propertyList><recordId>1</recordId><pageSize>100</pageSize><partitionId>0c37852b-34d0-418e-91c6-2ac25af4be5b</partitionId></RetrieveProfileChangeDataFull></soap:Body></soap:Envelope>
```

On successful completion, the protocol server returns the following WSDL message:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <RetrieveProfileChangeDataFullResponse
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService">
      <RetrieveProfileChangeDataFullResult>
        <ProfileChangeData>
          <ProfileChangeData>
            <DistinguishedName>uid=MGR1,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</DistinguishedName>
            <ObjectGuid>00000000-0000-0000-0000-000000000000</ObjectGuid>
            <ObjectClass>user</ObjectClass>
            <PropertyChanges>
              <PropertyChangeData>
                <Name>Firstname</Name>
                <ChangeType>Add</ChangeType>
                <Values>
                  <anyType xsi:type="xsd:string">Manager 1</anyType>
                </Values>
              </PropertyChangeData>
              <PropertyChangeData>
                <Name>SID</Name>
                <ChangeType>Add</ChangeType>
                <Values>
                  <anyType xsi:type="xsd:base64Binary">AQUAAAAAAAAUAAAAoGXPfnhLml/nfIdw6iooAA==</anyType>
                </Values>
              </PropertyChangeData>
              <PropertyChangeData >
                <Name>UserName</Name>
                <ChangeType>Add</ChangeType>
                <Values>
                  <anyType xsi:type="xsd:string">MGR1</anyType>
                </Values>
              </PropertyChangeData>
              <PropertyChangeData>
                <Name>PreferredName</Name>
                <ChangeType>Add</ChangeType>
                <Values>
                  <anyType xsi:type="xsd:string">LDAP:MGR1</anyType>
                </Values>
              </PropertyChangeData>
            </PropertyChanges>
          </ProfileChangeData>
        </ProfileChangeData>
      </RetrieveProfileChangeDataFullResult>
    </RetrieveProfileChangeDataFullResponse>
  </soap:Body>
</soap:Envelope>
```



```

        </Values>
    </PropertyChangeData>
    <PropertyChangeData>
        <Name>dn</Name>
        <ChangeType>Add</ChangeType>
        <Values>
            <anyType
xsi:type="xsd:string">uid=MGR1,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
            </Values>
        </PropertyChangeData>
    </PropertyChangeData>
    <PropertyChangeData>
        <Name>SPS-DistinguishedName</Name>
        <ChangeType>Add</ChangeType>
        <Values>
            <anyType
xsi:type="xsd:string">uid=MGR1,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
            </Values>
        </PropertyChangeData>
    </PropertyChangeData>
    <PropertyChangeData>
        <Name>LastName</Name>
        <ChangeType>Add</ChangeType>
        <Values>
            <anyType xsi:type="xsd:string">LastName Manager1</anyType>
        </Values>
    </PropertyChangeData>
    <PropertyChangeData>
        <Name>ADGuid</Name>
        <ChangeType>Add</ChangeType>
        <Values>
            <anyType xsi:type="xsd:base64Binary">AhuBersqt06TyK1TGDwHHQ==</anyType>
        </Values>
    </PropertyChangeData>
</PropertyChanges>
<ChangeType>Add</ChangeType>
</ProfileChangeData>
<ProfileChangeData>

<DistinguishedName>uid=MGR2,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</Dist
inguishedName>
    <ObjectGuid>00000000-0000-0000-0000-000000000000</ObjectGuid>
    <ObjectClass>user</ObjectClass>
    <PropertyChanges>
        <PropertyChangeData>
            <Name>FirstName</Name>
            <ChangeType>Add</ChangeType>
            <Values>
                <anyType xsi:type="xsd:string">Manager 2</anyType>
            </Values>
        </PropertyChangeData>
        <PropertyChangeData>
            <Name>SID</Name>
            <ChangeType>Add</ChangeType>
            <Values>
                <anyType
xsi:type="xsd:base64Binary">AQUAAAAAAAAUVAAAAoGXPfnhLm1/nfIdwGD5OAA==</anyType>
            </Values>
        </PropertyChangeData>
        <PropertyChangeData>
            <Name>UserName</Name>
            <ChangeType>Add</ChangeType>
            <Values>
                <anyType xsi:type="xsd:string">MGR2</anyType>
            </Values>
        </PropertyChangeData>
        <PropertyChangeData>
            <Name>PreferredName</Name>
            <ChangeType>Add</ChangeType>

```

```

        <Values>
          <anyType xsi:type="xsd:string">LDAP:MGR2</anyType>
        </Values>
      </PropertyChangeData>
    </PropertyChangeData>
    <Name>SPS-DistinguishedName</Name>
    <ChangeType>Add</ChangeType>
    <Values>
      <anyType
xsi:type="xsd:string">uid=MGR2,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
      </Values>
    </PropertyChangeData>
  </PropertyChangeData>
  <Name>SPS-DistinguishedName</Name>
  <ChangeType>Add</ChangeType>
  <Values>
    <anyType
xsi:type="xsd:string">uid=MGR2,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
    </Values>
  </PropertyChangeData>
  <Name>LastName</Name>
  <ChangeType>Add</ChangeType>
  <Values>
    <anyType xsi:type="xsd:string">Edited</anyType>
  </Values>
  </PropertyChangeData>
  <Name>ADGUID</Name>
  <ChangeType>Add</ChangeType>
  <Values>
    <anyType xsi:type="xsd:base64Binary">mwvDn7xr8ESvMig0miA4qA==</anyType>
  </Values>
  </PropertyChangeData>
</PropertyChanges>
<ChangeType>Add</ChangeType>
</ProfileChangeData>
<ProfileChangeData>
  <DistinguishedName>
uid=MGR3,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com </DistinguishedName>
  <ObjectGuid>00000000-0000-0000-0000-000000000000</ObjectGuid>
  <ObjectClass>user</ObjectClass>
  <PropertyChanges>
    <PropertyChangeData>
      <Name>FirstName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">Manager 3</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>SID</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType
xsi:type="xsd:base64Binary">AQUAAAAAAAAUVAAAAoGXPfnhLm1/nfIdw039LAA==</anyType>
      </Values>
    </PropertyChangeData>
    <PropertyChangeData>
      <Name>UserName</Name>
      <ChangeType>Add</ChangeType>
      <Values>
        <anyType xsi:type="xsd:string">MGR3</anyType>
      </Values>
    </PropertyChangeData>
  </PropertyChangeData>
  <Name>PreferredName</Name>

```

```

        <ChangeType>Add</ChangeType>
        <Values>
          <anyType xsi:type="xsd:string">LDAP::MGR3</anyType>
        </Values>
      </PropertyChangeData>
    </PropertyChangeData>
    <Name>SPS-DistinguishedName</Name>
    <ChangeType>Add</ChangeType>
    <Values>
      <anyType
xsi:type="xsd:string">uid=MGR3,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
      </Values>
    </PropertyChangeData>
  </PropertyChangeData>
  <Name>SPS-DistinguishedName</Name>
  <ChangeType>Add</ChangeType>
  <Values>
    <anyType
xsi:type="xsd:string">uid=MGR3,ou=FewUsersOU,dc=DomainName,dc=extest,dc=CompanyName,dc=com</a
nyType>
    </Values>
  </PropertyChangeData>
  <Name>LastName</Name>
  <ChangeType>Add</ChangeType>
  <Values>
    <anyType xsi:type="xsd:string">LastName Manager3</anyType>
  </Values>
</PropertyChangeData>
</PropertyChangeData>
<Name>ADGUID</Name>
<ChangeType>Add</ChangeType>
<Values>
  <anyType xsi:type="xsd:base64Binary">3AAG32anf0usUZfnP6/EhQ==</anyType>
</Values>
</PropertyChangeData>
</PropertyChanges>
<ChangeType>Add</ChangeType>
</ProfileChangeData>
</ProfileChangeData>
<LastId>3</LastId>
<LastChangeToken />
</RetrieveProfileChangeDataFullResult>
</RetrieveProfileChangeDataFullResponse>
</soap:Body>
</soap:Envelope>

```

4.2.6 Finalize the Import and Export Process

The protocol client calls the **FinalizeProfileImportExportProcess** operation to complete the process. The protocol client constructs the following **WSDL message** using the extracted values from previous operation calls.

```

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><FinalizeProfileImportExportProcess
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"><i
mportExportId>14</importExportId></FinalizeProfileImportExportProcess></soap:Body></soap:Enve
lope>

```

On successful completion, the protocol server returns the following response.

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"><soap:Body><FinalizeProfileImportExportProcessRe
sponse
xmlns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"
/></soap:Body></soap:Envelope>
```

5 Security

5.1 Security Considerations for Implementers

None.

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:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:sl="http://microsoft.com/wsdl/types/"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:tns="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <xs:schema elementFormDefault="qualified"
targetNamespace="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService">
      <xs:import namespace="http://microsoft.com/wsdl/types/" />
      <xs:element name="InitializeProfileImportExportProcess">
        <xs:complexType/>
      </xs:element>
      <xs:element name="InitializeProfileImportExportProcessResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="1"
name="InitializeProfileImportExportProcessResult" type="xs:long" />
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="FinalizeProfileImportExportProcess">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="1" name="importExportId" type="xs:long" />
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="FinalizeProfileImportExportProcessResponse">
        <xs:complexType/>
      </xs:element>
      <xs:element name="GetProfileImportClientMode">
        <xs:complexType/>
      </xs:element>
      <xs:element name="GetProfileImportClientModeResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetProfileImportClientModeResult"
type="xs:string" />
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="GetPartitionIds">
        <xs:complexType/>
      </xs:element>
      <xs:element name="GetPartitionIdsResponse">
        <xs:complexType>
          <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="GetPartitionIdsResult"
type="tns:ArrayOfGuid" />
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:complexType name="ArrayOfGuid">
        <xs:sequence>
          <xs:element minOccurs="0" maxOccurs="unbounded" name="guid" type="sl:guid" />
        </xs:sequence>
      </xs:complexType>
      <xs:element name="GetImportProperties">
```

```

    <xs:complexType/>
  </xs:element>
  <xs:element name="GetImportPropertiesResponse">
    <xs:complexType>
      <xs:sequence>
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type="tns:ArrayOfImportExportProperties"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="ArrayOfImportExportProperties">
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      <xs:element minOccurs="0" maxOccurs="unbounded" name="ImportExportProperties"
nillable="true" type="tns:ImportExportProperties"/>
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  </xs:complexType>
  <xs:complexType name="ImportExportProperties">
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type="tns:ArrayOfString"/>
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type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="RetrieveProfileChangeDataFull">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="importExportId" type="xs:long"/>
        <xs:element minOccurs="0" maxOccurs="1" name="objectClass" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="propertyList"
type="tns:ArrayOfString"/>
        <xs:element minOccurs="1" maxOccurs="1" name="recordId" type="xs:long"/>
        <xs:element minOccurs="1" maxOccurs="1" name="pageSize" type="xs:int"/>
        <xs:element minOccurs="1" maxOccurs="1" name="partitionId" type="s1:guid"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="RetrieveProfileChangeDataFullResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1"
name="RetrieveProfileChangeDataFullResult" type="tns:ProfileChangeDataContainer"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="ProfileChangeDataContainer">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ProfileChangeData"
type="tns:ArrayOfProfileChangeData"/>
      <xs:element minOccurs="1" maxOccurs="1" name="LastId" type="xs:long"/>
      <xs:element minOccurs="0" maxOccurs="1" name="LastChangeToken" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="ArrayOfProfileChangeData">
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nillable="true" type="tns:ProfileChangeData"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="ProfileChangeData">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="ProfileIdentifier" type="xs:string"/>
      <xs:element minOccurs="0" maxOccurs="1" name="DistinguishedName" type="xs:string"/>
      <xs:element minOccurs="1" maxOccurs="1" name="ObjectGuid" type="s1:guid"/>
    </xs:sequence>
  </xs:complexType>

```

```

        <xs:element minOccurs="0" maxOccurs="1" name="ObjectClass" type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="PropertyChanges"
type="tns:ArrayOfPropertyChangeData"/>
        <xs:element minOccurs="1" maxOccurs="1" name="ChangeType" type="tns:ChangeTypes"/>
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfPropertyChangeData">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="unbounded" name="PropertyChangeData"
nillable="true" type="tns:PropertyChangeData"/>
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</xs:complexType>
<xs:complexType name="PropertyChangeData">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="Name" type="xs:string"/>
        <xs:element minOccurs="1" maxOccurs="1" name="ChangeType" type="tns:ChangeTypes"/>
        <xs:element minOccurs="0" maxOccurs="1" name="Values" type="tns:ArrayOfAnyType"/>
    </xs:sequence>
</xs:complexType>
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    <xs:list>
        <xs:simpleType>
            <xs:restriction base="xs:string">
                <xs:enumeration value="None"/>
                <xs:enumeration value="Add"/>
                <xs:enumeration value="Modify"/>
                <xs:enumeration value="Delete"/>
                <xs:enumeration value="Metadata"/>
                <xs:enumeration value="All"/>
            </xs:restriction>
        </xs:simpleType>
    </xs:list>
</xs:simpleType>
<xs:complexType name="ArrayOfAnyType">
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        <xs:element minOccurs="0" maxOccurs="unbounded" name="anyType" nillable="true"/>
    </xs:sequence>
</xs:complexType>
<xs:element name="RetrieveProfileChangeDataDelta">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="1" name="importExportId" type="xs:long"/>
            <xs:element minOccurs="0" maxOccurs="1" name="objectClass" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="propertyList"
type="tns:ArrayOfString"/>
            <xs:element minOccurs="0" maxOccurs="1" name="changeToken" type="xs:string"/>
            <xs:element minOccurs="1" maxOccurs="1" name="pageSize" type="xs:int"/>
            <xs:element minOccurs="1" maxOccurs="1" name="partitionId" type="xs:guid"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="RetrieveProfileChangeDataDeltaResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1"
name="RetrieveProfileChangeDataDeltaResult" type="tns:ProfileChangeDataContainer"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="RetrieveBDCProfileChangeData">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="instanceName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="entityNameSpace" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="entityName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="filterName" type="xs:string"/>
            <xs:element minOccurs="0" maxOccurs="1" name="mossJoinAttribute"
type="xs:string"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>

```



```

        <xs:element minOccurs="0" maxOccurs="1" name="bdcJoinAttribute"
type="xs:string"/>
        <xs:element minOccurs="0" maxOccurs="1" name="propertyList"
type="tns:ArrayOfString"/>
        <xs:element minOccurs="1" maxOccurs="1" name="recordId" type="xs:long"/>
        <xs:element minOccurs="1" maxOccurs="1" name="pageSize" type="xs:int"/>
        <xs:element minOccurs="1" maxOccurs="1" name="partitionId" type="s1:guid"/>
    </xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="RetrieveBDCProfileChangeDataResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="0" maxOccurs="1" name="RetrieveBDCProfileChangeDataResult"
type="tns:ProfileChangeDataContainer"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="UpdateWithProfileChangeData">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="1" name="importExportId" type="xs:long"/>
            <xs:element minOccurs="0" maxOccurs="1" name="profileChangeData"
type="tns:ArrayOfProfileChangeData"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="UpdateWithProfileChangeDataResponse">
    <xs:complexType>
        <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="1" name="UpdateWithProfileChangeDataResult"
type="xs:boolean"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
</xs:schema>
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targetNamespace="http://microsoft.com/wsdl/types/">
    <xs:simpleType name="guid">
        <xs:restriction base="xs:string">
            <xs:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-
9a-fA-F]{12}"/>
        </xs:restriction>
    </xs:simpleType>
</xs:schema>
</wsdl:types>
<wsdl:portType name="ProfileImportExportServiceSoap">
    <wsdl:operation name="InitializeProfileImportExportProcess">
        <wsdl:input message="tns:InitializeProfileImportExportProcessSoapIn"/>
        <wsdl:output message="tns:InitializeProfileImportExportProcessSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="FinalizeProfileImportExportProcess">
        <wsdl:input message="tns:FinalizeProfileImportExportProcessSoapIn"/>
        <wsdl:output message="tns:FinalizeProfileImportExportProcessSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="GetProfileImportClientMode">
        <wsdl:input message="tns:GetProfileImportClientModeSoapIn"/>
        <wsdl:output message="tns:GetProfileImportClientModeSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="GetPartitionIds">
        <wsdl:input message="tns:GetPartitionIdsSoapIn"/>
        <wsdl:output message="tns:GetPartitionIdsSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="GetImportProperties">
        <wsdl:input message="tns:GetImportPropertiesSoapIn"/>
        <wsdl:output message="tns:GetImportPropertiesSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="RetrieveProfileChangeDataFull">
        <wsdl:input message="tns:RetrieveProfileChangeDataFullSoapIn"/>

```

```

        <wsdl:output message="tns:RetrieveProfileChangeDataFullSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="RetrieveProfileChangeDataDelta">
        <wsdl:input message="tns:RetrieveProfileChangeDataDeltaSoapIn"/>
        <wsdl:output message="tns:RetrieveProfileChangeDataDeltaSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="RetrieveBDCProfileChangeData">
        <wsdl:input message="tns:RetrieveBDCProfileChangeDataSoapIn"/>
        <wsdl:output message="tns:RetrieveBDCProfileChangeDataSoapOut"/>
    </wsdl:operation>
    <wsdl:operation name="UpdateWithProfileChangeData">
        <wsdl:input message="tns:UpdateWithProfileChangeDataSoapIn"/>
        <wsdl:output message="tns:UpdateWithProfileChangeDataSoapOut"/>
    </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="ProfileImportExportServiceSoap"
type="tns:ProfileImportExportServiceSoap">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="InitializeProfileImportExportProcess">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/InitializeProfileImportExportProcess" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="FinalizeProfileImportExportProcess">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/FinalizeProfileImportExportProcess" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetProfileImportClientMode">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetProfileImportClientMode" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetPartitionIds">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetPartitionIds" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetImportProperties">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetImportProperties" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
    </wsdl:input>

```

```

        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RetrieveProfileChangeDataFull">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveProfileChangeDataFull" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RetrieveProfileChangeDataDelta">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveProfileChangeDataDelta" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RetrieveBDCProfileChangeData">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveBDCProfileChangeData" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="UpdateWithProfileChangeData">
        <soap:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/UpdateWithProfileChangeData" style="document"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
<wsdl:binding name="ProfileImportExportServiceSoap12"
type="tns:ProfileImportExportServiceSoap">
    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="InitializeProfileImportExportProcess">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/InitializeProfileImportExportProcess" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="FinalizeProfileImportExportProcess">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/FinalizeProfileImportExportProcess" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
    </wsdl:operation>

```

```

        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetProfileImportClientMode">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetProfileImportClientMode" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetPartitionIds">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetPartitionIds" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="GetImportProperties">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/GetImportProperties" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RetrieveProfileChangeDataFull">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveProfileChangeDataFull" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RetrieveProfileChangeDataDelta">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveProfileChangeDataDelta" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="RetrieveBDCProfileChangeData">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/RetrieveBDCProfileChangeData" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>

```

```

        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="UpdateWithProfileChangeData">
        <soap12:operation
soapAction="http://microsoft.com/webservices/SharePointPortalServer/ProfileImportExportService/UpdateWithProfileChangeData" style="document"/>
        <wsdl:input>
            <soap12:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>
<wsdl:message name="FinalizeProfileImportExportProcessSoapIn">
    <wsdl:part name="parameters" element="tns:FinalizeProfileImportExportProcess"/>
</wsdl:message>
<wsdl:message name="FinalizeProfileImportExportProcessSoapOut">
    <wsdl:part name="parameters" element="tns:FinalizeProfileImportExportProcessResponse"/>
</wsdl:message>
<wsdl:message name="GetImportPropertiesSoapIn">
    <wsdl:part name="parameters" element="tns:GetImportProperties"/>
</wsdl:message>
<wsdl:message name="GetImportPropertiesSoapOut">
    <wsdl:part name="parameters" element="tns:GetImportPropertiesResponse"/>
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<wsdl:message name="GetPartitionIdsSoapIn">
    <wsdl:part name="parameters" element="tns:GetPartitionIds"/>
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<wsdl:message name="GetPartitionIdsSoapOut">
    <wsdl:part name="parameters" element="tns:GetPartitionIdsResponse"/>
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<wsdl:message name="GetProfileImportClientModeSoapIn">
    <wsdl:part name="parameters" element="tns:GetProfileImportClientMode"/>
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<wsdl:message name="RetrieveBDCProfileChangeDataSoapOut">
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</wsdl:message>
<wsdl:message name="RetrieveProfileChangeDataDeltaSoapOut">
    <wsdl:part name="parameters" element="tns:RetrieveProfileChangeDataDeltaResponse"/>
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    <wsdl:part name="parameters" element="tns:RetrieveProfileChangeDataFull"/>
</wsdl:message>
<wsdl:message name="RetrieveProfileChangeDataFullSoapOut">
    <wsdl:part name="parameters" element="tns:RetrieveProfileChangeDataFullResponse"/>
</wsdl:message>
<wsdl:message name="UpdateWithProfileChangeDataSoapIn">
    <wsdl:part name="parameters" element="tns:UpdateWithProfileChangeData"/>
</wsdl:message>
<wsdl:message name="UpdateWithProfileChangeDataSoapOut">
    <wsdl:part name="parameters" element="tns:UpdateWithProfileChangeDataResponse"/>
</wsdl:message>

```

</wsdl:definitions>

7 Appendix B: Product Behavior

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

- Microsoft SharePoint Server 2010
- Microsoft SharePoint Server 2013
- Microsoft SharePoint Server 2016
- Microsoft SharePoint Server 2019
- Microsoft SharePoint Server Subscription Edition

Exceptions, if any, are noted in this section. If an update version, service pack or Knowledge Base (KB) number appears with a product name, the behavior changed in that update. The new behavior also applies to subsequent updates 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.

[<1> Section 3.1.4](#): This operation is available only in SharePoint Server 2013.

[<2> Section 3.1.4.9](#): This operation is available only in SharePoint Server 2013.

8 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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