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**Revision Summary**

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision History</th>
<th>Revision Class</th>
<th>Comments</th>
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<tbody>
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<td>07/16/2012</td>
<td>0.1</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content.</td>
</tr>
</tbody>
</table>
# Table of Contents

## 1 Introduction

1.1 Glossary ............................................................................................................. 5  
1.2 References .......................................................................................................... 6  
1.2.1 Normative References ..................................................................................... 6  
1.2.2 Informative References ................................................................................... 6  
1.3 Overview .............................................................................................................. 6  
1.4 Relationship to Other Protocols ........................................................................... 6  
1.5 Prerequisites/Preconditions .................................................................................. 7  
1.6 Applicability Statement ....................................................................................... 7  
1.7 Versioning and Capability Negotiation ................................................................. 7  
1.8 Vendor-Extensible Fields ..................................................................................... 7  
1.9 Standards Assignments ....................................................................................... 7  

## 2 Messages

2.1 Transport ............................................................................................................. 8  
2.2 Common Data Types ........................................................................................... 8  
2.2.1 Simple Data Types and Enumerations ............................................................... 8  
2.2.2 Bit Fields and Flag Structures .......................................................................... 8  
2.2.3 Binary Structures ............................................................................................ 8  
2.2.4 Result Sets ...................................................................................................... 8  
2.2.4.1 proc_Profile.ResolveAudience.ResultSet0 ................................................... 8  
2.2.4.2 proc_Profile.ResolveMemberGroup.ResultSet0 ........................................... 8  
2.2.4.3 proc_Profile.ResolveOrganization.ResultSet0 ............................................ 9  
2.2.4.4 proc_Profile.SearchUser.ResultSet0 .......................................................... 10  
2.2.4.5 proc_Profile.SearchOrganization.ResultSet0 .......................................... 11  
2.2.4.6 proc_Profile.ResolveUser.ResultSet0 .......................................................... 12  
2.2.4.7 proc_Profile.SearchAudience.ResultSet0 ............................................... 13  
2.2.4.8 proc_Profile.SearchMemberGroup.ResultSet0 ......................................... 13  
2.2.5 Tables and Views ............................................................................................ 14  
2.2.6 XML Structures .............................................................................................. 14  
2.2.6.1 Namespaces ............................................................................................... 14  
2.2.6.2 Simple Types ............................................................................................. 14  
2.2.6.3 Complex Types ......................................................................................... 14  
2.2.6.4 Elements .................................................................................................. 14  
2.2.6.5 Attributes ................................................................................................ 14  
2.2.6.6 Groups .................................................................................................... 14  
2.2.6.7 Attribute Groups ....................................................................................... 14  

## 3 Protocol Details

3.1 Common Details .................................................................................................. 15  
3.2 Server Details .................................................................................................... 15  
3.2.1 Abstract Data Model ...................................................................................... 15  
3.2.2 Timers .......................................................................................................... 15  
3.2.3 Initialization .................................................................................................. 16  
3.2.4 Higher-Layer Triggered Events ..................................................................... 16  
3.2.5 Message Processing Events and Sequencing Rules ...................................... 16  
3.2.5.1 proc_Profile.ResolveAudience ............................................................... 16  
3.2.5.2 proc_Profile.ResolveMemberGroup ......................................................... 16  
3.2.5.3 proc_Profile.ResolveOrganization ......................................................... 17  
3.2.5.4 proc_Profile.ResolveUser ......................................................................... 17
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2.5.5</td>
<td>proc_Profile_SearchAudience</td>
<td>18</td>
</tr>
<tr>
<td>3.2.5.6</td>
<td>proc_Profile_SearchAudienceFullImport</td>
<td>19</td>
</tr>
<tr>
<td>3.2.5.7</td>
<td>proc_Profile_SearchMemberGroup</td>
<td>20</td>
</tr>
<tr>
<td>3.2.5.8</td>
<td>proc_Profile_SearchMemberGroupFullImport</td>
<td>21</td>
</tr>
<tr>
<td>3.2.5.9</td>
<td>proc_Profile_SearchOrganization</td>
<td>21</td>
</tr>
<tr>
<td>3.2.5.10</td>
<td>proc_Profile_SearchOrganizationFullImport</td>
<td>23</td>
</tr>
<tr>
<td>3.2.5.11</td>
<td>proc_Profile_SearchOrganizationHierarchy</td>
<td>23</td>
</tr>
<tr>
<td>3.2.5.12</td>
<td>proc_Profile_SearchUser</td>
<td>24</td>
</tr>
<tr>
<td>3.2.5.13</td>
<td>proc_Profile_SearchUserFullImport</td>
<td>26</td>
</tr>
<tr>
<td>3.2.5.14</td>
<td>proc_Profile_SearchUserHierarchy</td>
<td>26</td>
</tr>
<tr>
<td>3.2.6</td>
<td>Timer Events</td>
<td>28</td>
</tr>
<tr>
<td>3.2.7</td>
<td>Other Local Events</td>
<td>28</td>
</tr>
<tr>
<td>3.3</td>
<td>Client Details</td>
<td>28</td>
</tr>
<tr>
<td>3.3.1</td>
<td>Abstract Data Model</td>
<td>28</td>
</tr>
<tr>
<td>3.3.2</td>
<td>Timers</td>
<td>28</td>
</tr>
<tr>
<td>3.3.3</td>
<td>Initialization</td>
<td>28</td>
</tr>
<tr>
<td>3.3.4</td>
<td>Higher-Layer Triggered Events</td>
<td>28</td>
</tr>
<tr>
<td>3.3.5</td>
<td>Message Processing Events and Sequencing Rules</td>
<td>28</td>
</tr>
<tr>
<td>3.3.6</td>
<td>Timer Events</td>
<td>28</td>
</tr>
<tr>
<td>3.3.7</td>
<td>Other Local Events</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>Protocol Examples</td>
<td>29</td>
</tr>
<tr>
<td>4.1</td>
<td>Search User</td>
<td>29</td>
</tr>
<tr>
<td>4.2</td>
<td>Search Organization</td>
<td>30</td>
</tr>
<tr>
<td>4.3</td>
<td>Search Audience</td>
<td>31</td>
</tr>
<tr>
<td>4.4</td>
<td>Search Member Group</td>
<td>31</td>
</tr>
<tr>
<td>5</td>
<td>Security</td>
<td>33</td>
</tr>
<tr>
<td>5.1</td>
<td>Security Considerations for Implementers</td>
<td>33</td>
</tr>
<tr>
<td>5.2</td>
<td>Index of Security Parameters</td>
<td>33</td>
</tr>
<tr>
<td>6</td>
<td>Appendix A: Product Behavior</td>
<td>34</td>
</tr>
<tr>
<td>7</td>
<td>Change Tracking</td>
<td>35</td>
</tr>
<tr>
<td>8</td>
<td>Index</td>
<td>36</td>
</tr>
</tbody>
</table>
1 Introduction

This document specifies the User Profile Search Stored Procedures protocol. This protocol enables a protocol client to search for different types of profiles (such as user profiles) based on search terms. A typical scenario for using this protocol is to search for one or more profiles to grant access to associated objects in the system.

Sections 1.8, 2, and 3 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. Sections 1.5 and 1.9 are also normative but cannot contain those terms. All other sections and examples in this specification are informative.

1.1 Glossary

The following terms are defined in [MS-GLOS]:

- Active Directory
- Coordinated Universal Time (UTC)
- distinguished name (DN)
- GUID
- LDAP
- security identifier (SID)

The following terms are defined in [MS-OFCGLOS]:

- audience
- back-end database server
- display name
- hierarchy
- index data
- member group
- organization
- partition
- phonetic display name
- prefix match
- profile subtype
- record identifier
- request identifier
- result set
- return code
- searchable profile properties
- searchable profile property
- Session Initiation Protocol (SIP) address
- Transact-Structured Query Language (T-SQL)
- Uniform Resource Identifier (URI)
- Uniform Resource Locator (URL)
- user profile
- user profile store

The following terms are specific to this document:

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

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

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information. Please check the archive site, http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624, as an additional source.


1.2.2 Informative References


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

1.3 Overview

This protocol enables the protocol client to search for a user, an organization, an audience or a member group stored in a user profile store on the back-end database server. In the user profile store, each user, organization, audience and member group can have multiple profile properties. Some of these properties can be identified as searchable profile properties. This protocol facilitates searching for users, organizations, audiences or member groups by looking up values in those searchable profile properties. This protocol also provides a way for the protocol client to clear and re-create all index data on searchable profile properties.

Other than search, this protocol allows protocol clients to resolve users’ display names by providing part of their display names, e-mail addresses or user names. It allows protocol clients to resolve names of organizations, audiences or member groups by providing part of their display names.

1.4 Relationship to Other Protocols

The following diagram shows the transport stack for this protocol and relationship to other protocols:
1.5 Prerequisites/Preconditions

This protocol operates between a client and a back-end database server on which the back-end databases are stored. The protocol client is expected to know the location and connection information for the databases.

This protocol requires that the protocol client has appropriate permissions to call the stored procedures in the required databases on the protocol server.

1.6 Applicability Statement

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

- 2 million user profiles
- 100 member groups per user profile

There is no hard limit on the number of audiences or organizations a user profile store can support.

1.7 Versioning and Capability Negotiation

None.

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

---

Figure 1: This protocol in relation to other protocols
2 Messages

2.1 Transport

[MS-TDS] specifies the transport protocol used to call the stored procedures, query SQL tables, get return codes, and return result sets.

2.2 Common Data Types

2.2.1 Simple Data Types and Enumerations

No common simple data types or enumerations are defined in this protocol.

2.2.2 Bit Fields and Flag Structures

No common bit field or flag structures are defined in this protocol.

2.2.3 Binary Structures

No common binary structures are defined in this protocol.

2.2.4 Result Sets

The following lists the result sets returned to the protocol clients.

2.2.4.1 proc_Profile_ResolveAudience.ResultSet0

The proc_Profile_ResolveAudience.ResultSet0 result set contains data about audiences. The result set MUST contain one row for each audience. The result set MUST be ordered in ascending order on the AudienceName field.

ProfileType nvarchar(7),
AudienceID uniqueidentifier,
AudienceName nvarchar(200),
AudienceDescription nvarchar(1500),

ProfileType: MUST be set to 'MOSSAud'.
AudienceID: GUID identifier of the audience. MUST NOT be NULL.
AudienceName: MUST be ignored.
AudienceDescription: MUST be ignored.

2.2.4.2 proc_Profile_ResolveMemberGroup.ResultSet0

The proc_Profile_ResolveMemberGroup.ResultSet0 result set contains data about member groups. This result set MUST return one row for each member group. This result set MUST be ordered in ascending order on the DisplayName field.

ProfileType nvarchar(9),
MemberGroupId bigint,
LastUpdate datetime,

ProfileType: nvarchar(9),
MemberGroupId: bigint,
LastUpdate: datetime,
MemberCount bigint,
Source uniqueidentifier,
SID varbinary(512),
Url nvarchar(2048),
SourceReference nvarchar(2048),
DisplayName nvarchar(250),
MailNickName nvarchar(250),
Description nvarchar(1500),
DSGroupType bigint,
DataSource nvarchar(400),

**ProfileType**: MUST be set to ‘MOSSGroup’.

**MemberGroupId**: Record identifier of the member group. MUST NOT be NULL.

**LastUpdate**: Contains the last UTC datetime of the member group that was updated. MUST NOT be NULL.

**MemberCount**: Contains the count of members that are in this member group. MUST NOT be NULL.

**Source**: MUST be set to ‘A88B9DCB-5B82-41E4-8A19-17672F307B95’.

**SID**: Security identifier (SID) of the member group.

**Url**: Contains the URL of the member group.

**SourceReference**: Contains the distinguished name (DN) of the member group if this is an Active Directory group or unique identifier of the member group if it originates outside of Active Directory.

**DisplayName**: Contains the display name of the member group.

**MailNickName**: Contains the alternate mail name of the entity as defined in member group.

**Description**: Contains the description of the entity as defined in member group.

**DSGroupType**: A group type identifier from the data source (such as Active Directory, LDAP etc...).

**DataSource**: Contains the value specifying the source domain of the member group, if any.

### 2.2.4.3 proc_Profile.ResolveOrganization.ResultSet0

The proc_Profile.ResolveOrganization.ResultSet0 result set contains data about organizations. The result set MUST contain one row for each organization. The result set MUST be ordered in ascending order on the **OrganizationDisplay_Name** field.

ProfileType nvarchar(7),
ProfileSubtypeID int,
OrganizationID bigint,
OrganizationDisplayName nvarchar(400),
OrganizationGuid uniqueidentifier,
ParentType smallint,
ParentRecordID bigint,
ChildrenCount int,
ProfileType: MUST be set to "MOSSOrg".

ProfileSubtypeID: Contains the value identifier of the profile subtype of the organization. MUST NOT be NULL.

OrganizationID: Record identifier of the organization. MUST not be NULL.

OrganizationDisplayName: The display name of the organization.

OrganizationGuid: GUID identifier of the organization. MUST not be NULL.

ParentType: The type of the profile that is the parent of this organization. MUST be "1" if the parent user profile is a user, MUST be "2" if the parent user profile is an organization. MUST be NULL if this organization has no parent.

ParentRecordID: Record identifier of the parent user profile.

ChildrenCount: Contains the count of organizations whose parent user profile is this organization.

2.2.4.4 proc_Profile_SearchUser.ResultSet0

The proc_Profile_SearchUser.ResultSet0 result set contains data about users. The result set MUST contain one row for each user. The result set MUST be in ascending order based on the value of the users’ display order profile property if the value exists, on the value of users' phonetic display name, and then on the value of the PreferredName field.

```sql
PROFILETYPE nvarchar(1),
RecordID int,
UserID int,
NTName int,
PreferredName nvarchar(1),
Email nvarchar(1),
SipAddress nvarchar(1),
ProfileSubtypeID int,
PictureUrl nvarchar(1),
PersonTitle nvarchar(1),
OrganizationID int,
OrganizationGuid int,
OrganizationProfileSubtypeID int,
OrganizationDisplayName nvarchar(1),
ParentType int,
ParentRecordID int,
ChildrenCount int,
```

ProfileType: MUST be set to "MOSSUser".

RecordID: Record identifier of the user. MUST NOT be NULL.

UserID: GUID identifier of the user. MUST NOT be NULL.

NTName: Account name of the user. MUST NOT be NULL or empty.

PreferredName: The name of the entity as defined in the user profile. Contains a display name.

Email: The e-mail address of the user.

SipAddress: The Session Initiation Protocol (SIP) address of the user.
ProfileSubtypeID: The value identifier of the profile subtype of the user.

PictureUrl: The picture URI profile property value for the current profile entity.

PersonTitle: The value of the title profile property for the current profile entity.

OrganizationID: Record identifier of the organization of which the user is a member.

OrganizationGuid: GUID identifier of the organization of which the user is a member.

OrganizationProfileSubtypeID: The value identifier of the profile subtype of the organization of which the user is a member.

OrganizationDisplayName: The display name of the organization of which the user is a member.

ParentType: The value specifying the type of profile that is the parent of the organization of which the user is a member. MUST be "1" if the parent user profile is a user, MUST be "2" if the parent user profile is an organization. MUST be NULL if this organization has no parent.

ParentRecordID: The record identifier of the profile that is the parent of the organization of which the user is a member.

ChildrenCount: The count of organizations whose parent user profile is the organization of which the user is a member.

2.2.4.5 proc_Profile_SearchOrganization.ResultSet0

The proc_Profile_SearchOrganization.ResultSet0 result set contains data about organizations. The result set MUST contain one row for each organization.

ProfileType nvarchar(1),
ProfileSubtypeID int,
OrganizationID int,
OrganizationDisplayName nvarchar(1),
OrganizationGuid int,
ParentType int,
ParentRecordID int,
ChildrenCount int,

ProfileType: MUST be set to "MOSSOrg".

ProfileSubtypeID: The value identifier of the profile subtype of the organization. MUST NOT be NULL.

OrganizationID: The record identifier of the organization. MUST not be NULL.

OrganizationDisplayName: The display name of the organization.

OrganizationGuid: GUID identifier of the organization. MUST not be NULL.

ParentType: The type of the profile that is the parent of this organization. MUST be "1" if the parent user profile is a user, MUST be "2" if the parent user profile is an organization. MUST be NULL if this organization has no parent.

ParentRecordID: The record identifier of the parent user profile.

ChildrenCount: The count of organizations whose parent user profile is this organization.
2.2.4.6 proc_Profile.ResolveUser.ResultSet0

The proc_Profile.ResolveUser.ResultSet0 result set contains data about users. The result set MUST contain one row for each user. The result set MUST be in ascending order on the value of users Display Order profile property if the value exists, then on the value of users phonetic display name if the value exists, and then on the value of the PreferredName field.

ProfileType nvarchar(8),
RecordId bigint,
UserID uniqueidentifier,
NTName nvarchar(400),
PreferredName nvarchar(256),
Email nvarchar(256),
SipAddress nvarchar(250),
ProfileSubtypeID int,
PictureUrl nvarchar(max),
PersonTitle nvarchar(255),
OrganizationID bigint,
OrganizationGuid uniqueidentifier,
OrganizationProfileSubtypeID int,
OrganizationDisplayName nvarchar(400),
ParentType smallint,
ParentRecordID bigint,
ChildrenCount int,
OrderName nvarchar(256),

ProfileType: MUST be set to "MOSSUser".
RecordId: The record identifier of the user. MUST NOT be NULL.
UserID: GUID of the user. MUST NOT be NULL or empty.
NTName: The user name. MUST NOT be NULL or empty.
PreferredName: The name of the entity as defined in the user profile. Contains the display name.
Email: The e-mail address of the user.
SipAddress: The Session Initiation Protocol (SIP) address of the user.
ProfileSubtypeID: The value identifier of the profile subtype of the user.
PictureUrl: The picture URI profile property value for the entity the profile specifies.
PersonTitle: The title profile property for the entity the profile specifies.
OrganizationID: The record identifier of the organization the user is a member of.
OrganizationGuid: GUID of the organization the user is a member of.
OrganizationProfileSubtypeID: The value identifier of the profile subtype of the organization the user is a member of.
OrganizationDisplayName: The display name of the organization the user is a member of.
ParentType: The value specifying the type of profile that is the parent of the organization the user is a member of. MUST be "1" if the parent is a user profile, MUST be "2" if the parent profile is an organization. MUST be NULL if this organization has no parent.
**ParentRecordID:** The record identifier of the profile that is the parent of the organization the user is a member of.

**ChildrenCount:** Contains the count of organizations whose parent user profile is the organization of which the user is a member.

**OrderName:** MUST be ignored.

### 2.2.4.7 proc_Profile_SearchAudience.ResultSet0

The proc_Profile_SearchAudience.ResultSet1 result set contains data about audiences. The result set MUST contain one row for each audience.

```sql
ProfileType nvarchar(1),
AudienceID int,
AudienceName nvarchar(1),
AudienceDescription nvarchar(1),
```

**ProfileType:** MUST be set to 'MOSSAud'.

**AudienceID:** GUID identifier of the audience. MUST NOT be NULL.

**AudienceName:** MUST be ignored.

**AudienceDescription:** MUST be ignored.

### 2.2.4.8 proc_Profile_SearchMemberGroup.ResultSet0

The proc_Profile_SearchMemberGroup.ResultSet0 result set contains data about member groups. This result set MUST return one row for each member group.

```sql
ProfileType nvarchar(1),
MemberGroupId int,
LastUpdate int,
MemberCount int,
Source int,
SID int,
Url nvarchar(1),
SourceReference nvarchar(1),
DisplayName nvarchar(1),
MailNickName nvarchar(1),
Description nvarchar(1),
DSGroupType int,
DataSource nvarchar(1),
```

**ProfileType:** MUST be set to 'MOSSGroup'.

**MemberGroupId:** Record identifier of the member group. MUST NOT be NULL.

**LastUpdate:** Contains the last UTC datetime of the member group that was updated. MUST NOT be NULL.

**MemberCount:** Contains the count of members that are in this member group. MUST NOT be NULL.

**Source:** MUST be set to 'A88B9DCB-5B82-41E4-8A19-17672F307B95'.
**SID:** Security identifier (SID) of the member group.

**Url:** Contains the URL of the member group.

**SourceReference:** Contains the DN (2) of the member group if this is an Active Directory group or unique identifier of the member group if it originates outside of Active Directory.

**DisplayName:** Contains the display name of the member group.

**MailNickName:** Contains the alternate mail name of the entity as defined in member group.

**Description:** Contains the description of the entity as defined in member group.

**DSGroupType:** A group type identifier from the data source (such as Active Directory, LDAP etc...).

**DataSource:** Contains the value specifying the source domain of the member group, if any.

### 2.2.5 Tables and Views

No common table or view structures are defined in this protocol.

### 2.2.6 XML Structures

No common XML structures are defined in this protocol.

#### 2.2.6.1 Namespaces

This specification does not define any common XML schema namespaces.

#### 2.2.6.2 Simple Types

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

#### 2.2.6.3 Complex Types

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

#### 2.2.6.4 Elements

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

#### 2.2.6.5 Attributes

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

#### 2.2.6.6 Groups

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

#### 2.2.6.7 Attribute Groups

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

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

3.1 Common Details

None.

3.2 Server Details

3.2.1 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 describes how the protocol behaves. This document does not require that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

**Figure 2: Abstract Data Model**

**Searchable profile properties**: A protocol server maintains metadata about each user profile, audience, member group or organization in the form of profile properties. The protocol server also maintains its own internal list of properties that can be searched against and provides default profile properties in addition to those specified by the protocol client if the full list is not specified.

The protocol server does not allow searching across **partition (1)** boundaries and the protocol client specifies the identifier of the partition for the search.

3.2.2 Timers

None.
3.2.3 Initialization

Before using this protocol, a connection that uses underlying protocol layers specified in section 1.4, "Relationship to Other Protocols," MUST be established as specified in [MS-TDS].

3.2.4 Higher-Layer Triggered Events

None.

3.2.5 Message Processing Events and Sequencing Rules

3.2.5.1 proc_Profile.ResolveAudience

The proc_Profile.ResolveAudience stored procedure is invoked to retrieve audiences whose names begin with the search term.

```plaintext
PROCEDURE proc_Profile.ResolveAudience(
    @partitionID uniqueidentifier,
    @Term1 nvarchar(255),
    @MaxRows int = 200,
    @correlationId uniqueidentifier = null
);
```

@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@Term1: Specifies the search input text for matching audiences. This parameter MUST be specified and MUST NOT be NULL.

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and the value MUST NOT be negative.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets:

This stored procedure MUST return a proc_Profile.ResolveAudience.ResultSet0.

3.2.5.2 proc_Profile.ResolveMemberGroup

The proc_Profile.ResolveMemberGroup is invoked to retrieve member groups whose e-mail name or display name begins with the search term.

```plaintext
PROCEDURE proc_Profile.ResolveMemberGroup(
    @partitionID uniqueidentifier,
    @Term1 nvarchar(255),
    @MaxRows int = 200,
    @correlationId uniqueidentifier = null
);
```

@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.
@Term1: Specifies the search input text used for prefix matching the display name or nickname of member groups. This parameter MUST be specified and MUST NOT be NULL.

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and the value MUST NOT be negative.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets:
This stored procedure MUST return a proc_Profile.ResolveMemberGroup.ResultSet0.

3.2.5.3 proc_Profile.ResolveOrganization

The proc_Profile.ResolveOrganization stored procedure is invoked to retrieve organizations whose display name begins with the search term.

PROCEDURE proc_Profile.ResolveOrganization (  
    @partitionID uniqueidentifier  
    ,@Term1 nvarchar(255)  
    ,@MaxRows int = 200  
    ,@correlationId uniqueidentifier = null  
);  

@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@Term1: Specifies the search input text for matching organizations. This parameter MUST be specified and MUST NOT be NULL.

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and the value MUST NOT be negative.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets:
This stored procedure MUST return a proc_Profile.ResolveOrganization.ResultSet0.

3.2.5.4 proc_Profile.ResolveUser

The proc_Profile.ResolveUser is invoked to retrieve users whose user name, preferred name, or username prefix match the search term.

PROCEDURE proc_Profile.ResolveUser (  
    @partitionID uniqueidentifier  
    ,@Term1 nvarchar(255)  
    ,@propertyID1 int = 3  
    ,@propertyID2 int = 7  
    ,@propertyID3 int = 17  
    ,@MaxRows int = 200  
    ,@bActiveOnly bit = null  
);
@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@Term1: Specifies the search input text for matching users. This parameter MUST be specified and MUST NOT be NULL.

@PropertyID1: Specifies the identifier of the property whose values are used in the search. The value of this parameter MUST be "3".

@PropertyID2: Specifies the identifier of the property whose values are used in the search. The value of this parameter MUST be "7".

@PropertyID3: Specifies the identifier of the property whose values are used in the search. The value of this parameter MUST be "17".

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and the value MUST NOT be negative.

@bActiveOnly: If set to "1", the protocol server MUST return only active users. If set to zero ("0"), the protocol server MUST return all users.

@Debug: This value MUST be ignored.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets:
This stored procedure MUST return a proc_Profile_ResolveUser.ResultSet0

3.2.5.5 proc_Profile_SearchAudience

The proc_Profile_SearchAudience stored procedure is invoked to retrieve audiences whose searchable profile properties values prefix match any words in the search terms.

PROCEDURE proc_Profile_SearchAudience (
@partitionID uniqueidentifier,
@Term1 nvarchar(255),
@Term2 nvarchar(255) = '',
@Term3 nvarchar(255) = '',
@Term4 nvarchar(255) = '',
@Term5 nvarchar(255) = '',
@Term6 nvarchar(255) = '',
@Term7 nvarchar(255) = '',
@Term8 nvarchar(255) = '',
@Term9 nvarchar(255) = '',
@Term10 nvarchar(255) = '',
@MaxRows int = 200,
@Debug bit = 0,
@correlationId uniqueidentifier = null
);
@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@Term1: Specifies the search input text for matching audience. This parameter MUST be specified and MUST NOT be NULL.

@Term2: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@Term3: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@Term4: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@Term5: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@Term6: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@Term7: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@Term8: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@Term9: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@Term10: Specifies the optional search input text for matching audience. This parameter MUST have a default value and MUST be ignored if not specified.

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and the value MUST NOT be negative.

@Debug: This value MUST be ignored.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets:
This stored procedure MUST return a proc_Profile_SearchAudience.ResultSet0

3.2.5.6 proc_Profile_SearchAudienceFullImport

The proc_Profile_SearchAudienceFullImport is invoked to clear and re-create all index data on audiences searchable profile properties. If searchable profile properties do not exist on the protocol server, this stored procedure MUST still exist and run no operation.

PROCEDURE proc_Profile_SearchAudienceFullImport (
  @partitionID uniqueidentifier,
  @correlationId uniqueidentifier = null
);
@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets: MUST NOT return any result sets.

3.2.5.7 proc_Profile_SearchMemberGroup

The proc_Profile_SearchMemberGroup stored procedure is called to retrieve member groups for which each search term prefix matches at least one searchable profile property.

```sql
PROCEDURE proc_Profile_SearchMemberGroup (  
    @partitionID uniqueidentifier,
    @Term1 nvarchar(255),
    @Term2 nvarchar(255) = '',
    @Term3 nvarchar(255) = '',
    @Term4 nvarchar(255) = '',
    @Term5 nvarchar(255) = '',
    @Term6 nvarchar(255) = '',
    @Term7 nvarchar(255) = '',
    @Term8 nvarchar(255) = '',
    @Term9 nvarchar(255) = '',
    @Term10 nvarchar(255) = '',
    @ProfileSubtypeID int = null,
    @Deleted tinyint = null,
    @MaxRows int = 200,
    @Debug bit = 0,
    @correlationId uniqueidentifier = null );
```

@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@Term1: Specifies the search input text for matching member groups. This parameter MUST be specified and MUST NOT be NULL.

@Term2: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.

@Term3: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.

@Term4: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.

@Term5: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.

@Term6: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.

@Term7: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.
@Term8: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.

@Term9: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.

@Term10: Specifies the optional search input text for matching member groups. This parameter MUST have a default value and MUST be ignored if not specified.

@ProfileSubtypeID: This value MUST be ignored.

@Deleted: This value MUST be ignored.

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and the value MUST NOT be negative.

@Debug: This value MUST be ignored.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets:
This stored procedure MUST return a proc_Profile_SearchMemberGroup.ResultSet0

3.2.5.8 proc_Profile_SearchMemberGroupFullImport

The proc_Profile_SearchMemberGroupFullImport is invoked to clear and re-create all index data on member groups searchable profile properties. If searchable profile properties do not exist on the protocol server, this stored procedure MUST still exist and run no operation.

PROCEDURE proc_Profile_SearchMemberGroupFullImport ( 
@partitionID uniqueidentifier 
,@correlationId uniqueidentifier = null 
);

@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets: MUST NOT return any result sets.

3.2.5.9 proc_Profile_SearchOrganization

The proc_Profile_SearchOrganization stored procedure is called to retrieve organizations whose searchable profile properties values prefix match any words in the search terms.

PROCEDURE proc_Profile_SearchOrganization ( 
@partitionID uniqueidentifier 
,@Term1 nvarchar(255) 
,@Term2 nvarchar(255) = '' 
,@Term3 nvarchar(255) = '' 
)
, @Term4 nvarchar(255) = ''
, @Term5 nvarchar(255) = ''
, @Term6 nvarchar(255) = ''
, @Term7 nvarchar(255) = ''
, @Term8 nvarchar(255) = ''
, @Term9 nvarchar(255) = ''
, @Term10 nvarchar(255) = ''
, @ProfileSubtypeID int = null
, @Deleted tinyint = null
, @MaxRows int = 200
, @Debug bit = 0
, @correlationId uniqueidentifier = null
);

@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@Term1: Specifies the search input text for matching organizations. This parameter MUST be specified and MUST NOT be NULL.

@Term2: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term3: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term4: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term5: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term6: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term7: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term8: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term9: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term10: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@ProfileSubtypeID: If this value is set to NULL, the protocol server MUST return all the organizations found. If this value is not NULL, the protocol server MUST return only organizations whose profile subtype identifier matches this value.

@Deleted: This value MUST be ignored.

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and the value MUST NOT be negative.

@Debug: This value MUST be ignored.
@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets:
This stored procedure MUST return a proc_Profile_SearchOrganization.ResultSet0

3.2.5.10 proc_Profile_SearchOrganizationFullImport

The proc_Profile_SearchOrganizationFullImport is invoked to clear and re-create all the index data on organizations searchable profile properties. If searchable profile properties do not exist on the protocol server, this stored procedure MUST still exist and run no operation.

PROCEDURE proc_Profile_SearchOrganizationFullImport (  
@partitionID uniqueidentifier  
,@correlationId uniqueidentifier = null  
);

@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets: MUST NOT return any result sets.

3.2.5.11 proc_Profile_SearchOrganizationHierarchy

The proc_Profile_SearchOrganizationHierarchy stored procedure is invoked to retrieve organizations whose searchable profile properties prefix match any words in the search terms and within the organization hierarchy of the specified organization.

PROCEDURE proc_Profile_SearchOrganizationHierarchy (  
@partitionID uniqueidentifier  
,@OrgID bigint  
,@Term1 nvarchar(255)  
,@Term2 nvarchar(255) = ''  
,@Term3 nvarchar(255) = ''  
,@Term4 nvarchar(255) = ''  
,@Term5 nvarchar(255) = ''  
,@Term6 nvarchar(255) = ''  
,@Term7 nvarchar(255) = ''  
,@Term8 nvarchar(255) = ''  
,@Term9 nvarchar(255) = ''  
,@Term10 nvarchar(255) = ''  
,@ProfileSubtypeID int = null  
,@MaxRows int = 200  
,@Debug bit = 0  
,@correlationId uniqueidentifier = null  
);}
@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@OrgID: The record identifier of the organization within whose organization hierarchy the search is performed or "-1" to include all organizations in the search. MUST NOT be NULL.

@Term1: Specifies the search input text for matching organizations. This parameter MUST be specified and MUST NOT be NULL.

@Term2: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term3: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term4: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term5: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term6: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term7: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term8: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term9: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@Term10: Specifies the optional search input text for matching organizations. This parameter MUST have a default value and MUST be ignored if not specified.

@ProfileSubtypeID: If this value is set to NULL, the protocol server MUST return all the organizations found. If this value is not NULL, the protocol server MUST return only organizations whose profile subtype identifier matches this value.

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and the value MUST NOT be negative.

@Debug: This value MUST be ignored.

@correlationId: The optional request identifier for the current request.

Return Values: An integer that MUST be zero.

Result Sets:
This stored procedure MUST return a proc_Profile_SearchOrganization.ResultSet0.

3.2.5.12 proc_Profile_SearchUser

The proc_Profile_SearchUser stored procedure is invoked to retrieve users for whom each search term prefix matches at least one searchable profile property.
PROCEDURE proc_Profile_SearchUser (  
@partitionID uniqueidentifier  
,@Term1 nvarchar(255)  
,@Term2 nvarchar(255) = ''  
,@Term3 nvarchar(255) = ''  
,@Term4 nvarchar(255) = ''  
,@Term5 nvarchar(255) = ''  
,@Term6 nvarchar(255) = ''  
,@Term7 nvarchar(255) = ''  
,@Term8 nvarchar(255) = ''  
,@Term9 nvarchar(255) = ''  
,@Term10 nvarchar(255) = ''  
,@ProfileSubtypeID int = null  
,@Deleted tinyint = null  
,@MaxRows int = 200  
,@Debug bit = 0  
,@correlationId uniqueidentifier = null  
);  

@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@Term1: Specifies the search input text for matching user. This parameter MUST be specified and MUST NOT be NULL.

@Term2: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term3: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term4: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term5: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term6: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term7: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term8: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term9: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term10: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@ProfileSubtypeID: If this value is set to NULL, the protocol server MUST return all the users found. If this value is not NULL, the protocol server MUST return only users whose profile subtype identifier matches this value.
**@Deleted**: Specifies whether deleted users should be in the result set. If this value is NULL, both deleted and non-deleted users MUST be returned. If this value is not NULL, the protocol server MUST return only users that match this value, and the value MUST be in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;0&quot;</td>
<td>The user has not been deleted.</td>
</tr>
<tr>
<td>&quot;1&quot;</td>
<td>The user has been deleted.</td>
</tr>
</tbody>
</table>

**@MaxRows**: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value of "200" and this parameter MUST NOT be negative.

**@Debug**: This value MUST be ignored.

**@correlationId**: This value MUST be ignored.

**Return Values**: An integer that MUST be zero.

**Result Sets**: This stored procedure MUST return a proc_Profile_SearchUser.ResultSet0

### 3.2.5.13 proc_Profile_SearchUserFullImport

The proc_Profile_SearchUserFullImport stored procedure is invoked to clear and re-create all index data on users searchable profile properties. If searchable profile properties do not exist on the protocol server, this stored procedure MUST still exist and run no operation.

```sql
PROCEDURE proc_Profile_SearchUserFullImport (    @partitionID uniqueidentifier    ,@correlationId uniqueidentifier = null);
```

**@partitionID**: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

**@correlationId**: The optional request identifier for the current request.

**Return Values**: An integer that MUST be zero.

**Result Sets**: MUST NOT return any result sets.

### 3.2.5.14 proc_Profile_SearchUserHierarchy

The proc_Profile_SearchUserHierarchy stored procedure is invoked to retrieve users within the organization hierarchy of the specified organization for whom each search term prefix matches at least one searchable profile property.

```sql
PROCEDURE proc_Profile_SearchUserHierarchy (    @partitionID uniqueidentifier    ,@OrgID bigint    ,@Term1 nvarchar(255)    ,@Term2 nvarchar(255) = ''    ,@Term3 nvarchar(255) = ''    ,@Term4 nvarchar(255) = ''
```
'@partitionID: A GUID used to filter the current request. The stored procedure MUST only return results that are in the identified partition (1). This value MUST NOT be NULL or empty.

@OrgID: Specifies value identifier of the organization within whose organization hierarchy the search is performed.

@Term1: Specifies the search input text for matching users. This parameter MUST be specified and MUST NOT be NULL.

@Term2: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term3: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term4: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term5: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term6: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term7: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term8: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term9: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@Term10: Specifies the optional search input text for matching users. This parameter MUST have a default value and MUST be ignored if not specified.

@MaxRows: Specifies the maximum number of rows returned by this query. This parameter MUST have a default value and the value MUST NOT be negative.

@Debug: This value MUST be ignored.

@correlationId: This value MUST be ignored.

Return Values: An integer that MUST be zero.

Result Sets:
This stored procedure MUST return a `proc_Profile_SearchUser.ResultSet0`.

### 3.2.6 Timer Events

None.

### 3.2.7 Other Local Events

None.

### 3.3 Client Details

None.

#### 3.3.1 Abstract Data Model

None.

#### 3.3.2 Timers

None.

#### 3.3.3 Initialization

None.

#### 3.3.4 Higher-Layer Triggered Events

None.

#### 3.3.5 Message Processing Events and Sequencing Rules

None.

#### 3.3.6 Timer Events

None.

#### 3.3.7 Other Local Events

None.
4 Protocol Examples

The following examples show typical operations for this protocol. Prior to running of these examples, the protocol [MS-UPASP] can be used to retrieve administrative information about the protocol server, such as the partitionID parameter used in most examples.

4.1 Search User

The protocol client can search for user profiles by invoking the proc_profile_SearchUser using the following T-SQL call.

```sql
exec dbo.proc_Profile_SearchUser
@partitionID='0C37852B-34D0-418E-91C6-2AC25A54BE68',
@correlationId='00000000-0000-0000-0000-000000000000',
@Term1=N'user',
@ProfileSubtypeID=1,
@Deleted=0
```

Now consider the following result set returned by the protocol server, which contains all user profiles that match the search term. For clarity, the following columns have been omitted; all omitted columns are NULL in this example: OrganizationID, OrganizationGuid, OrganizationProfileSubtypeID, ParentType, ParentRecordID, ChildrenCount.

<table>
<thead>
<tr>
<th>Profile Type</th>
<th>RecordID</th>
<th>User ID</th>
<th>NT Name</th>
<th>PreferredName</th>
<th>Email</th>
<th>SipAddress</th>
<th>ProfileSubtypeID</th>
<th>PictureUrl</th>
<th>PersonTitle</th>
</tr>
</thead>
</table>
| MOS User     | 7        | 16F39306-7A71-4A5F-B28B-59394D78CB8 | DOMAI
N\user 6 | User 6      | User6@example.com | NUL        | 1               | http://server.example.com/my/UserPhotos/ProfilePictures/DOMAIN_USER6_MThump.jpg | Title3       |
| MOS User     | 6        | 012E1CCD-5C03-47A2-B424-A8EF2C67BC21 | DOMAI
N\user 5 | User 5      | User5@example.com | NUL        | 1               | http://server.example.com/my/UserPhotos/ProfilePictures/DOMAIN_USER5_MThump.jpg | Title2       |
| MOS User     | 5        | 123DDDF2F-E4391-BD3F-E27BBD-2B6F3A | DOMAI
N\user 4 | User 4      | User4@example.com | NUL        | 1               | http://server.example.com/my/UserPhotos/ProfilePictures/DOMAIN_USER4_MThump.jpg | Title2       |
| MOS User     | 4        | D41E3A2E-    | DOMAI
N\user 3 | User 3      | User3@example.com | NUL        | 1               | http://server.example.com/my/User                  | Title1       |
### 4.2 Search Organization

The protocol client can use this protocol to search for organizations as well. Consider the following T-SQL call that can be made to the protocol server for `proc_Profile_SearchOrganization`.

```sql
exec dbo.proc_Profile_SearchOrganization
    @partitionID='0C37852B-34D0-418E-91C6-2AC25AF4BE5B',
    @correlationId='00000000-0000-0000-0000-000000000000',
    @Term1=N'organization',
    @ProfileSubtypeID=2
```

The protocol server would then return the following result set, which contains organizations that match the search terms.

<table>
<thead>
<tr>
<th>Profile Type</th>
<th>Profile Subtype ID</th>
<th>Organizational ID</th>
<th>Organizational Name</th>
<th>Organization Guid</th>
<th>ParentType</th>
<th>ParentRecordId</th>
<th>ChildrenCount</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOS SOrg</td>
<td>2</td>
<td>2</td>
<td>Organization 2</td>
<td>13B775ED-D00D-4EDD-82D8-A213166D53A9</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>MOS SOrg</td>
<td>2</td>
<td>3</td>
<td>Organization</td>
<td>7752A9B8-9B5D-4066-87A2F8</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
### 4.3 Search Audience

This protocol can also be used to search for audiences. Consider the following example T-SQL call for `proc_Profile_SearchAudience` that the protocol client can make.

```sql
exec dbo.proc_Profile_SearchAudience
@partitionID='0C37852B-34D0-418E-91C6-2AC25AF4BE5B',
@correlationId='00000000-0000-0000-0000-000000000000',
@Term1=N'audience'
```

The protocol server returns the following result set, which includes audiences that match the specified search terms. Note that [MS-UPSAUD] is the intended protocol to use for most audience related communication between protocol client and server.

<table>
<thead>
<tr>
<th>Profile Type</th>
<th>Profile Subtype ID</th>
<th>Organization ID</th>
<th>Organization Display Name</th>
<th>Organization Guid</th>
<th>ParentType</th>
<th>ParentRecordID</th>
<th>ChildrenCount</th>
</tr>
</thead>
<tbody>
<tr>
<td>rg</td>
<td>0</td>
<td>3</td>
<td>AFA3-3C67CF847E44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOSSOrg</td>
<td>2</td>
<td>4</td>
<td>EC77437E-12C9-4DFC-8398-60EDC06D9595</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>MOSSOrg</td>
<td>2</td>
<td>5</td>
<td>CDF2A2C7-5EF9-4D5F-8B4E-E8436D8483EDC06D9595</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>MOSSOrg</td>
<td>2</td>
<td>1</td>
<td>07193C68-A8FD-4C90-BDBB-550582A574FC</td>
<td>NULL</td>
<td>-1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### 4.4 Search Member Group

This protocol can be used to search for member groups. Consider the following T-SQL syntax for a call that the protocol client can make to `proc_profile_searchmembergroup`:

```sql
exec dbo.proc_Profile_SearchMemberGroup
@partitionID='0C37852B-34D0-418E-91C6-2AC25AF4BE5B',
@correlationId='00000000-0000-0000-0000-000000000000',
```

---

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@Term1=N'Team'

The protocol server returns the following result set, which includes member groups that match the search terms. For visual clarity, the result set has been split across two tables.

<table>
<thead>
<tr>
<th>Profile Type</th>
<th>Member GroupId</th>
<th>LastUpdate</th>
<th>MemberCount</th>
<th>Source</th>
<th>SID</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOSSGroup</td>
<td>1</td>
<td>2010-01-18 22:48:03.037</td>
<td>0</td>
<td>8BB1220F-DE8B-4771-AC3A-0551242CF2BD</td>
<td>NULL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Url</th>
<th>Source Reference</th>
<th>Display Name</th>
<th>Description</th>
<th>DSGroupType</th>
<th>DataSource</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://server.example.com/">http://server.example.com/</a></td>
<td>05A080A1-A19F-4AD3-85DA-B1525974AD43</td>
<td>nickname</td>
<td>0</td>
<td>WSS</td>
<td></td>
</tr>
</tbody>
</table>
5 Security

5.1 Security Considerations for Implementers

Interactions with SQL are susceptible to tampering and other forms of security risks. Implementers are advised to sanitize input parameters for stored procedures prior to invoking the stored procedure.

5.2 Index of Security Parameters

None.
6 Appendix A: Product Behavior

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

- Microsoft® SharePoint® Server 2013 Preview

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

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

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

A
Abstract data model
  client 28
  server 15
Applicability 7
Attribute groups - overview 14
Attributes - overview 14

B
Binary structures - overview 8
Bit fields - overview 8

C
Capability negotiation 7
Change tracking 35
Client
  abstract data model 28
  details 28
  higher-layer triggered events 28
  initialization 28
  local events 28
  message processing 28
  overview 15
  sequencing rules 28
  timer events 28
  timers 28
Complex types - overview 14

D
Data model - abstract
  client 28
  server 15
Data types - simple
  overview 8

E
Elements - overview 14
Events
  local - client 28
  local - server 28
  timer - client 28
  timer - server 28
Examples
  overview 29
  search audience 31
  search member group 31
  search organization 30
  search user 29

F
Fields - vendor-extensible 7
Flag structures - overview 8

G
Glossary 5
Groups - overview 14

H
Higher-layer triggered events
  client 28
  server 16

I
Implementer - security considerations 33
Index of security parameters 33
Informative references 6
Initialization
  client 28
  server 16
Introduction 5

L
Local events
  client 28
  server 28

M
Message processing
  client 28
Messages
  attribute groups 14
  attributes 14
  binary structures 8
  bit fields 8
  complex types 14
  elements 14
  enumerations 8
  flag structures 8
  groups 14
  namespaces 14
  proc_Profile.ResolveAudience.ResultSet0 result set 8
  proc_Profile.ResolveMemberGroup.ResultSet0 result set 8
  proc_Profile.ResolveOrganization.ResultSet0 result set 9
  proc_Profile.ResolveUser.ResultSet0 result set 12
  proc_Profile.SearchAudience.ResultSet0 result set 13
  proc_Profile.SearchMemberGroup.ResultSet0 result set 13
  proc_Profile.SearchOrganization.ResultSet0 result set 11
  proc_Profile.SearchUser.ResultSet0 result set 10
  result sets 8
  simple data types 8
simple types 14

table structures 14

transport 8

view structures 14

XML structures 14

Methods

proc_Profile.ResolveAudience 16
proc_Profile.ResolveMemberGroup 16
proc_Profile.ResolveOrganization 17
proc_Profile.ResolveUser 17
proc_Profile.SearchAudience 18
proc_Profile.SearchMemberGroup 20
proc_Profile.SearchMemberGroupFullImport 21
proc_Profile.SearchOrganization 21
proc_Profile.SearchOrganizationFullImport 21
proc_Profile.SearchOrganizationHierarchy 23
proc_Profile.SearchUser 24
proc_Profile.SearchUserFullImport 26
proc_Profile.SearchUserHierarchy 26

Namespaces 14

Normative references 6

Overview (synopsis) 6

Parameters - security index 33

Preconditions 7

Prerequisites 7

proc_Profile.ResolveAudience method 16
proc_Profile.ResolveAudience.ResultSet0 result set 8
proc_Profile.ResolveMemberGroup method 16
proc_Profile.ResolveMemberGroup.ResultSet0 result set 8
proc_Profile.ResolveOrganization method 17
proc_Profile.ResolveOrganization.ResultSet0 result set 9
proc_Profile.ResolveUser method 17
proc_Profile.ResolveUser.ResultSet0 result set 12
proc_Profile.SearchAudience method 18
proc_Profile.SearchAudience.ResultSet0 result set 13
proc_Profile.SearchMemberGroup method 20
proc_Profile.SearchMemberGroup.ResultSet0 result set 13
proc_Profile.SearchMemberGroupFullImport method 21
proc_Profile.SearchOrganization method 21
proc_Profile.SearchOrganization.ResultSet0 result set 11
proc_Profile.SearchOrganizationFullImport method 23
proc_Profile.SearchOrganizationHierarchy method 23
proc_Profile.SearchUser method 24
proc_Profile.SearchUser.ResultSet0 result set 10
proc_Profile.SearchUserFullImport method 26
proc_Profile.SearchUserHierarchy method 26

Result set - messages

proc_Profile.ResolveAudience.ResultSet0 8
proc_Profile.ResolveMemberGroup.ResultSet0 8
proc_Profile.ResolveOrganization.ResultSet0 9
proc_Profile.ResolveUser.ResultSet0 12
proc_Profile.SearchAudience.ResultSet0 13
proc_Profile.SearchMemberGroup.ResultSet0 13
proc_Profile.SearchOrganization.ResultSet0 13
proc_Profile.SearchUser.ResultSet0 10

Result sets - overview 8

Search audience example 31
Search member group example 31
Search organization example 30
Search user example 29

Security

Implementer considerations 33

parameter index 33

Sequencing rules

client 28

Server

abstract data model 15
details 15

higher-layer triggered events 16

initialization 16

local events 28

overview 15

proc_Profile.ResolveAudience method 16
proc_Profile.ResolveMemberGroup method 16
proc_Profile.ResolveOrganization method 17
proc_Profile.ResolveUser method 17
proc_Profile.SearchAudience method 18
proc_Profile.SearchAudienceFullImport method 19
proc_Profile.SearchMemberGroup method 20
proc_Profile.SearchMemberGroupFullImport method 21
proc_Profile.SearchOrganization method 21
proc_Profile.SearchOrganizationFullImport method 23
proc_Profile.SearchOrganizationHierarchy method 23
proc_Profile.SearchUser method 24
proc_Profile.SearchUserFullImport method 26
proc_Profile.SearchUserHierarchy method 26
timer events 28
timers 15

References 6

informative 6

normative 6

Relationship to other protocols (section 1.4, section 3.2.3 16)

Result set - messages

proc_Profile.ResolveAudience.ResultSet0 8
proc_Profile.ResolveMemberGroup.ResultSet0 8
proc_Profile.ResolveOrganization.ResultSet0 9
proc_Profile.ResolveUser.ResultSet0 12
proc_Profile.SearchAudience.ResultSet0 13
proc_Profile.SearchMemberGroup.ResultSet0 13
proc_Profile.SearchOrganization.ResultSet0 13
proc_Profile.SearchUser.ResultSet0 10

Result sets - overview 8

Search audience example 31
Search member group example 31
Search organization example 30
Search user example 29

Security

Implementer considerations 33

parameter index 33

Sequencing rules

client 28

Server

abstract data model 15
details 15

higher-layer triggered events 16

initialization 16

local events 28

overview 15

proc_Profile.ResolveAudience method 16
proc_Profile.ResolveMemberGroup method 16
proc_Profile.ResolveOrganization method 17
proc_Profile.ResolveUser method 17
proc_Profile.SearchAudience method 18
proc_Profile.SearchAudienceFullImport method 19
proc_Profile.SearchMemberGroup method 20
proc_Profile.SearchMemberGroupFullImport method 21
proc_Profile.SearchOrganization method 21
proc_Profile.SearchOrganizationFullImport method 23
proc_Profile.SearchOrganizationHierarchy method 23
proc_Profile.SearchUser method 24
proc_Profile.SearchUserFullImport method 26
proc_Profile.SearchUserHierarchy method 26
timer events 28
timers 15

[MS-UPSCHSP2] — v20120630


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Release: July 16, 2012
Simple data types

overview 8

Simple types - overview 14

Standards assignments 7

Structures

binary 8

table and view 14

XML 14

T

Table structures - overview 14

Timer events

client 28

server 28

Timers

client 28

server 15

Tracking changes 35

Transport 8

Triggered events - higher-layer

client 28

server 16

Types

complex 14

simple 14

V

Vendor-extensible fields 7

Versioning 7

View structures - overview 14

X

XML structures 14