[MS-UPSRCHSP]:
User Profile Search Stored Procedures Protocol Specification

Revision Summary

Date	Revision History	Revision Class	Comments
07/13/2009	0.1	Major	Initial Availability
08/28/2009	0.2	Editorial	Revised and edited the technical content
11/06/2009	0.3	Editorial	Revised and edited the technical content
02/19/2010	1.0	Major	Updated and revised the technical content
03/31/2010	1.01	Editorial	Revised and edited the technical content
04/30/2010	1.02	Editorial	Revised and edited the technical content
06/07/2010	1.03	Editorial	Revised and edited the technical content
06/29/2010	1.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	1.05	Minor	Clarified the meaning of the technical content.
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07/16/2012	1.05	No change	No changes to the meaning, language, or formatting of the technical content.

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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
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.

[Iseminger] Microsoft Corporation, "SQL Server 2000 Architecture and XML/Internet Support", Volume 1 of Microsoft SQL Server 2000 Reference Library, Microsoft Press, 2001, ISBN 0-7356-1280-3, http://www.microsoft.com/mspress/books/5001.aspx

[MSDN-TSQL-Ref] Microsoft Corporation, "Transact-SQL Reference", http://msdn.microsoft.com/en-us/library/ms189826(SQL.90).aspx

[MS-TDS] Microsoft Corporation, "Tabular Data Stream Protocol Specification".

[MS-UPASP] Microsoft Corporation, "User Profile Admin Stored Procedures Protocol Specification".

[MS-UPSAUD] Microsoft Corporation, "User Profile Service Audiences Protocol Specification".

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

1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "Windows Protocols Master Glossary".

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

1.3 Protocol Overview (Synopsis)

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 account 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:

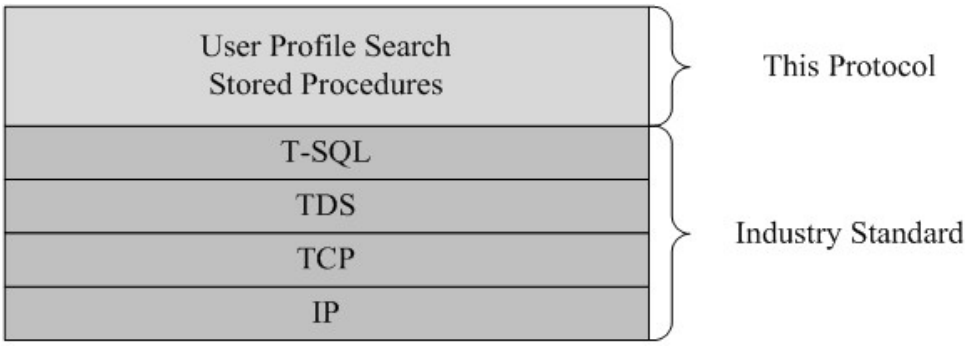

Figure 1: This protocol in relation to other protocols

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.

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

None. This protocol does not define any new data types.

2.2.1 Simple Data Types and Enumerations

None.

2.2.2 Bit Fields and Flag Structures

None.

2.2.3 Binary Structures

None.

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,
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) (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.

2.2.4.3 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 **OrganizationDisplayName** 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_SearchAudience.ResultSet1

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

```
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.

2.2.4.5 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.

```
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 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.

2.2.4.6 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.

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

2.2.4.7 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(7),
ProfileSubtypeID int,
OrganizationID bigint,
OrganizationDisplayName nvarchar(400),
OrganizationGuid uniqueidentifier,
ParentType smallint,
ParentRecordID bigint,
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.

2.2.4.8 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: Account name of the user. 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 profile is a user, 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.

2.2.5 Tables and Views

None.

2.2.6 XML Structures

No common XML Structures are defined in this protocol.

2.2.6.1 Namespaces

None.

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 definition.

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 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 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.

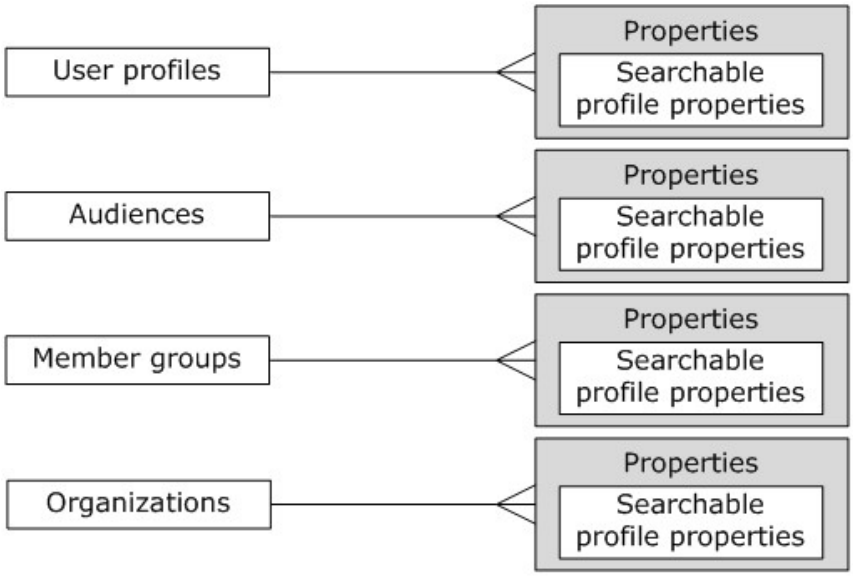

Figure 2: Abstract Data Model

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.

3.1.2 Timers

None.

3.1.3 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].

3.1.4 Higher-Layer Triggered Events

None.

3.1.5 Message Processing Events and Sequencing Rules

None.

3.1.5.1 proc_Profile_ResolveAudience

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

```
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.

3.1.5.2 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.

```
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.

3.1.5.3 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.

3.1.5.4 proc_Profile_ResolveUser

The proc_Profile_ResolveUser is invoked to retrieve users whose account 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
,@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 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

3.1.5.5 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.ResultSet1.

3.1.5.6 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 execute 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.

3.1.5.7 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**.

```
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

3.1.5.8 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 execute 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.

3.1.5.9 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

3.1.5.10 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 execute 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.

3.1.5.11 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.

3.1.5.12 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:

Value	Description
"0"	The user has not been deleted.
"1"	The user has been deleted.

@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.

3.1.5.13 proc_Profile_SearchUserFullImport

The proc_Profile_SearchUserFullImport 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 execute no operation.

```
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.

3.1.5.14 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.

```
PROCEDURE proc_Profile_SearchUserHierarchy (
@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) = ''
,@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: 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.

3.1.6 Timer Events

None.

3.1.7 Other Local Events

None.

3.2 Client Details

None.

3.2.1 Abstract Data Model

None.

3.2.2 Timers

None.

3.2.3 Initialization

None.

3.2.4 Higher-Layer Triggered Events

None.

3.2.5 Message Processing Events and Sequencing Rules

None.

3.2.6 Timer Events

None.

3.2.7 Other Local Events

None.

4 Protocol Examples

The following examples show typical operations for this protocol. Prior to execution 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.

```
exec dbo.proc_Profile_SearchUser
@partitionID='0C37852B-34D0-418E-91C6-2AC25AF4BE5B',
@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.

Profile Type	RecordId	User ID	NT Name	PreferredName	Email	Sip Address	ProfileSubTypeId	PictureUrl	PersonTitle
MOSSUser	7	16F39306-7A71-4A5F-B2B8-59394D78C9B8	DOMAIN\user6	User 6	User6@example.com	NULL	1	http://server.example.com/my/User Photos/Profile Pictures/DOMAIN_USER6_MThump.jpg	Title3
MOSSUser	6	012E1CCD-5C03-47A2-B424-A8EF2C67BC21	DOMAIN\user5	User 5	User5@example.com	NULL	1	http://server.example.com/my/User Photos/Profile Pictures/DOMAIN_USER5_MThump.jpg	Title2
MOSSUser	5	123DDD97-F2FE-4391-BD3F-E27B8DF26F3A	DOMAIN\user4	User 4	User4@example.com	NULL	1	http://server.example.com/my/User Photos/Profile Pictures/DOMAIN_USER4_MThump.jpg	Title2
MOSSUse	4	D41E3A2E-	DOMAIN\user	User 3	User3@example.com	NULL	1	http://server.example.com/my/User	Title1

Profile Type	RecordId	User ID	NT Name	PreferredName	Email	SipAddress	ProfileSubTypeId	PictureUrl	PersonTitle
r		D146-4816-B71E-1691B738A0A0	3					Photos/Profile Pictures/DOMAIN_USER3_MThump.jpg	
MOSSUser	3	3ED918ED-7949-440E-8246-DCACAAABC579	DOMAIN\user2	User 2	User2@example.com	NULL	1	http://server.example.com/my/User Photos/Profile Pictures/DOMAIN_USER2_MThump.jpg	Title1
MOSSUser	2	E4A8E804-EB68-4B19-96AC-44BF8487A2F8	DOMAIN\user1	User 1	user1@example.com	NULL	1	http://server.example.com/my/User Photos/Profile Pictures/DOMAIN_USER1_MThump.jpg	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**.

```
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.

Profile Type	Profile Subtype ID	Organization ID	Organization Display Name	Organization Guid	ParentType	ParentRecordID	ChildrenCount
MOSSOrg	2	2	Organization 2	13B775ED-D00D-4EDD-82D8-A213166D53A9	2	1	1
MOSSO	2	3	Organizati	7752A9B8-9B5D-4066-	2	1	0

Profile Type	Profile Subtype ID	Organization ID	Organization Display Name	Organization Guid	ParentType	ParentRecordID	ChildrenCount
rg			on 3	AFA3-3C67CF847E44			
MOSSOrg	2	4	Organization 4	EC77437E-12C9-4DFC-8398-60EDC06D9595	1	7	0
MOSSOrg	2	5	Organization 5	CDF2A2C7-5EF9-4D5F-8B4E-E8436D84E40B	2	2	0
MOSSOrg	2	1	Root Organization	07193C68-A8FD-4C90-BDB8-550582A574FC	NULL	-1	2

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.

```
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.

ProfileType	AudienceID	AudienceName	AudienceDescription
MOSSAud	E68012AC-446C-45C1-9AC5-474E05D67451	Audience 1	
MOSSAud	E7680244-C5AA-4DAB-BD64-9E8876275F6E	Audience 2	

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:

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

```
@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.

Profile Type	Member GroupId	LastUpdate	MemberCount	Source	SID
MOSSGroup	1	2010-01-18 22:48:03.037	0	8BB1220F-DE8B-4771-AC3A-0551242CF2BD	NULL

Url	Source Reference	Display Name	Description	DSGroupType	DataSource
http://server.example.com/	05A080A1-A19F-4AD3-85DA-B1525974AD43	nickname		0	WSS

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 2010

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.

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