Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.

- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL’s, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.

- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.

- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft’s delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft [Open Specification Promise](mailto:iplg@microsoft.com) or the [Community Promise](mailto:iplg@microsoft.com). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting iplg@microsoft.com.

- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights.

- **Fictitious Names.** The example companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

**Reservation of Rights.** All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

**Tools.** The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.
## Revision Summary

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision History</th>
<th>Revision Class</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/04/2008</td>
<td>0.1</td>
<td></td>
<td>Initial Availability</td>
</tr>
<tr>
<td>06/27/2008</td>
<td>1.0</td>
<td>Major</td>
<td>Revised and edited the technical content</td>
</tr>
<tr>
<td>12/12/2008</td>
<td>1.01</td>
<td>Editorial</td>
<td>Revised and edited the technical content</td>
</tr>
<tr>
<td>07/13/2009</td>
<td>1.02</td>
<td>Major</td>
<td>Changes made for template compliance</td>
</tr>
<tr>
<td>08/28/2009</td>
<td>1.03</td>
<td>Editorial</td>
<td>Revised and edited the technical content</td>
</tr>
<tr>
<td>11/06/2009</td>
<td>1.04</td>
<td>Editorial</td>
<td>Revised and edited the technical content</td>
</tr>
<tr>
<td>02/19/2010</td>
<td>2.0</td>
<td>Editorial</td>
<td>Revised and edited the technical content</td>
</tr>
<tr>
<td>03/31/2010</td>
<td>2.01</td>
<td>Editorial</td>
<td>Revised and edited the technical content</td>
</tr>
<tr>
<td>04/30/2010</td>
<td>2.02</td>
<td>Editorial</td>
<td>Revised and edited the technical content</td>
</tr>
<tr>
<td>06/07/2010</td>
<td>2.03</td>
<td>Editorial</td>
<td>Revised and edited the technical content</td>
</tr>
<tr>
<td>06/29/2010</td>
<td>2.04</td>
<td>Editorial</td>
<td>Changed language and formatting in the technical content</td>
</tr>
<tr>
<td>07/23/2010</td>
<td>2.04</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content</td>
</tr>
<tr>
<td>09/27/2010</td>
<td>2.04</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content</td>
</tr>
<tr>
<td>11/15/2010</td>
<td>2.04</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content</td>
</tr>
<tr>
<td>12/17/2010</td>
<td>2.04</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content</td>
</tr>
<tr>
<td>03/18/2011</td>
<td>2.04</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content</td>
</tr>
<tr>
<td>06/10/2011</td>
<td>2.04</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content</td>
</tr>
<tr>
<td>01/20/2012</td>
<td>2.04</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content</td>
</tr>
<tr>
<td>04/11/2012</td>
<td>2.04</td>
<td>No change</td>
<td>No changes to the meaning, language, or formatting of the technical content</td>
</tr>
<tr>
<td>07/16/2012</td>
<td>2.04</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** ........................................................................................................... 7  
   1.1 Glossary ................................................................................................................. 7  
   1.2 References ............................................................................................................. 8  
      1.2.1 Normative References .................................................................................. 8  
      1.2.2 Informative References .............................................................................. 9  
   1.3 Protocol Overview (Synopsis) ................................................................................ 9  
   1.4 Relationship to Other Protocols ........................................................................... 10  
   1.5 Prerequisites/Preconditions .................................................................................. 10  
   1.6 Applicability Statement ....................................................................................... 10  
   1.7 Versioning and Capability Negotiation ............................................................... 10  
   1.8 Vendor-Extensible Fields ..................................................................................... 10  
   1.9 Standards Assignments ....................................................................................... 10  

2 **Messages**............................................................................................................... 11  
   2.1 Transport ............................................................................................................. 11  
   2.2 Common Data Types ........................................................................................... 11  
      2.2.1 Simple Data Types and Enumerations ......................................................... 11  
      2.2.2 Simple Data Types ....................................................................................... 11  
         2.2.2.1 Group Type ............................................................................................ 11  
         2.2.2.2 Is Item Security Overridable Type .......................................................... 11  
         2.2.2.3 Is MLS Enabled Type ........................................................................... 11  
         2.2.2.4 Is User Created Type ............................................................................. 12  
         2.2.2.5 Name Format Type ................................................................................ 12  
         2.2.2.6 Policy Link Type .................................................................................... 12  
         2.2.2.7 Privacy Type ......................................................................................... 13  
         2.2.2.8 Privacy Policy Type ............................................................................... 13  
         2.2.2.9 Property Choice Type .......................................................................... 13  
         2.2.2.10 Property Data Type .............................................................................. 14  
         2.2.2.11 Separator Type ..................................................................................... 14  
         2.2.2.12 Short Group Type ................................................................................ 15  
         2.2.2.13 Short Link Type .................................................................................... 15  
         2.2.2.14 Visibility Type ...................................................................................... 15  
   2.2.3 Bit Fields and Flag Structures ........................................................................... 15  
   2.2.4 Binary Structures ............................................................................................. 15  
   2.2.5 Result Sets ....................................................................................................... 15  
   2.2.6 Tables and Views ............................................................................................ 16  
   2.2.7 XML Structures .............................................................................................. 16  

3 **Protocol Details** .................................................................................................... 17  
   3.1 User Profile Service Protocol Specification Server Details .............................. 17  
      3.1.1 Abstract Data Model ................................................................................... 17  
      3.1.2 Timers .......................................................................................................... 18  
      3.1.3 Initialization ................................................................................................. 18  
      3.1.4 Message Processing Events and Sequencing Rules .................................... 18  
         3.1.4.1 membership_deleteGroup ................................................................. 22  
         3.1.4.2 membership enumerateGroups ............................................................. 22  
         3.1.4.2.1 Valid Identifier Result Set ............................................................... 23  
         3.1.4.3 membership getColleagueSuggestions .............................................. 23  
         3.1.4.3.1 Suggested Colleagues Result Set ..................................................... 23  
         3.1.4.4 membership getGroup ......................................................................... 24
3.1.4.4.1 Matching Member Group Result Set ........................................................................ 25
3.1.4.5 membership_getGroupCount ............................................................................... 26
3.1.4.5.1 Count Result Set .............................................................................................. 26
3.1.4.6 membership_getGroupMemberships .................................................................. 26
3.1.4.6.1 Membership Result Set .................................................................................. 27
3.1.4.7 membership_getGroupMembershipsPaged ........................................................... 28
3.1.4.7.1 Preferred Name Paged Membership Result Set ............................................ 30
3.1.4.7.2 Title Paged Membership Result Set ................................................................. 32
3.1.4.7.3 Department Paged Membership Result Set .................................................... 34
3.1.4.8 membership_getRelatedGroups ....................................................................... 37
3.1.4.8.1 Related Member Group Result Set .................................................................. 37
3.1.4.9 membership_updateGroup ................................................................................ 38
3.1.4.10 privacy_deletePolicy ....................................................................................... 40
3.1.4.11 privacy_getAllPolicy ......................................................................................... 40
3.1.4.11.1 AllPrivacyPolicy Result Set ........................................................................ 40
3.1.4.12 privacy_getFeaturePolicy ............................................................................... 41
3.1.4.12.1 FeaturePrivacyPolicy Result Set .................................................................. 41
3.1.4.13 privacy_updatePolicy ....................................................................................... 42
3.1.4.14 profile_EnumUsers .......................................................................................... 43
3.1.4.14.1 profile_EnumUsers Result Set ..................................................................... 43
3.1.4.15 profile_FindPropertyChoiceList ..................................................................... 44
3.1.4.15.1 Choice List Values Result Set ....................................................................... 44
3.1.4.16 profile_GetCommonManager .......................................................................... 44
3.1.4.16.1 profile_GetCommonManager Result Set ..................................................... 45
3.1.4.17 profile_GetDataTypeList ............................................................................... 46
3.1.4.17.1 DataTypeList Result Set .............................................................................. 46
3.1.4.18 profile_GetMultiLoginAccounts ..................................................................... 47
3.1.4.18.1 MultiLoginAccounts Result Set ..................................................................... 47
3.1.4.19 profile_GetNextUserProfileData ....................................................................... 47
3.1.4.20 profile_GetPersonalSiteInfo ........................................................................... 48
3.1.4.20.1 ProfilePersonalSite Result Set ..................................................................... 48
3.1.4.21 profile_GetProfileCount .................................................................................. 49
3.1.4.21.1 profile_GetProfileCount Result Set .............................................................. 49
3.1.4.22 profile_GetProfileCountWithProperty ........................................................... 49
3.1.4.23 profile_GetProfilePropertyInfo ...................................................................... 49
3.1.4.23.1 Profile Property Result Set A ....................................................................... 50
3.1.4.23.2 Profile Property Result Set B ....................................................................... 51
3.1.4.23.3 Profile Property Result Set C ....................................................................... 51
3.1.4.23.4 Profile Property Result Set Columns ........................................................... 51
3.1.4.24 profile_GetProfilePropertyLoc ................................................................. 55
3.1.4.24.1 Get Localized Profile Property Result Set .................................................. 55
3.1.4.25 profile_GetPropertyChoiceList ..................................................................... 56
3.1.4.25.1 Choice List Values Result Set ....................................................................... 56
3.1.4.26 profile_GetSharedListSync ............................................................................ 56
3.1.4.26.1 Shared List Result Set .................................................................................. 56
3.1.4.27 profile_GetUserFormat .................................................................................... 57
3.1.4.27.1 ProfileGetUserFormat Result Set ................................................................. 57
3.1.4.28 profile_GetUserGUID ....................................................................................... 58
3.1.4.29 profile_GetUserProfileData .......................................................................... 58
3.1.4.29.1 UserProperties Result Set ........................................................................... 59
3.1.4.30 profile_GetUserProfilesByEmail ............................................................... 60
3.1.4.30.1 UserProfile Result Set ................................................................................ 61
3.1.4.31 profile_GetUserReportToData ....................................................................... 62

Copyright © 2012 Microsoft Corporation.

Release: July 16, 2012
3.1.4.31.1  profile_GetUserReportToDataResult Set ........................................... 63
3.1.4.32  profile_GetViewerRights................................................................. 63
3.1.4.33  profile_MigrateUserProfile ............................................................ 64
3.1.4.34  profile_OnSqlRestore ........................................................................ 65
3.1.4.35  profile_RemoveUser ............................................................................ 65
3.1.4.36  profile_ResetDeletedUser .................................................................... 66
3.1.4.37  profile_SearchUser ............................................................................. 66
3.1.4.37.1  UserInfo Result Set .......................................................................... 68
3.1.4.38  profile_UpdateOrgColleagues ............................................................ 69
3.1.4.39  profile_UpdatePersonalSiteInfo ........................................................ 69
3.1.4.40  profile_UpdatePersonalSpace ............................................................. 70
3.1.4.41  profile_UpdateProfileDisplay .............................................................. 70
3.1.4.41.1  UpdateProfileDisplay Result Set ...................................................... 70
3.1.4.41.2  UpdateList Schema ........................................................................ 71
3.1.4.41.2.1  MSPROFILE Element .................................................................... 71
3.1.4.41.2.2  PROFILE Element ........................................................................ 71
3.1.4.41.2.3  ITEM Element .............................................................................. 72
3.1.4.42  profile_UpdateProperty ....................................................................... 72
3.1.4.42.1  Update Property Result Set .............................................................. 72
3.1.4.42.2  Audience Result Set ........................................................................ 73
3.1.4.42.3  UpdateProperty Schema .................................................................. 74
3.1.4.42.3.1  MSPROFILE Element .................................................................... 74
3.1.4.42.3.2  PROFILE Element ........................................................................ 74
3.1.4.42.3.2.1  PROPERTY Element for Remove Operations ........................... 74
3.1.4.42.3.2.2  PROPERTY Element for Add Operations ................................... 75
3.1.4.42.3.2.3  PROPERTY Element for Update Operations ........................... 76
3.1.4.42.3.3  VOCABULARY Element ................................................................ 78
3.1.4.42.3.4  TERM Element ............................................................................ 78
3.1.4.43  profile_UpdatePropertyLoc ................................................................. 79
3.1.4.43.1  UpdatePropertyLoc Schema ............................................................. 80
3.1.4.43.1.1  Loc Element ................................................................................ 80
3.1.4.43.1.2  Item Element .............................................................................. 80
3.1.4.44  profile_UpdateSharedListSync ............................................................ 80
3.1.4.45  profile_UpdateUserProfileBlobData .................................................. 81
3.1.4.45.1  UpdateUserProfileBlobDataResult Result Set ................................ 82
3.1.4.46  profile_UpdateUserProfileData ........................................................... 83
3.1.4.46.1  UpdateUserProfileData schema....................................................... 83
3.1.4.46.1.1  Usage Example ............................................................................ 83
3.1.4.46.1.2  MsProfile Element ....................................................................... 83
3.1.4.46.1.3  Profile Element ............................................................................ 83
3.1.4.46.1.4  ArrayOfUser Element .................................................................. 84
3.1.4.46.1.5  ArrayOf Property Element ........................................................... 84
3.1.4.46.2  OperationResult Result Set ............................................................. 85
3.1.4.47  QuickLinksAdd ..................................................................................... 85
3.1.4.48  QuickLinksDelete ............................................................................... 86
3.1.4.49  QuickLinksDeleteUser ........................................................................ 87
3.1.4.50  QuickLinksEdit ................................................................................. 87
3.1.4.51  QuickLinksRetrieveAllItems ............................................................... 88
3.1.4.51.1  UserColleagues Result Set ............................................................... 89
3.1.4.51.2  UserLinks Result Set ....................................................................... 90
3.1.4.51.3  UserMemberships Result Set .......................................................... 91
3.1.4.52  QuickLinksRetrieveColleaguesOfColleagues ...................................... 92
3.1.4.52.1  QuickLinksRetrieveColleaguesOfColleagues Result Set .................... 93
1 Introduction

This document provides specific details of the User Profile Service Stored Procedure protocol. This protocol allows clients to perform create, read, update and delete operations on user information stored in a user profile store on a site.

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
distinguished name (DN)
GUID
language code identifier (LCID)
security identifier (SID)
Unicode
user principal name (UPN)

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

alternate account
audience
back-end database server
collation sequence
colleague
Colleague Tracker Web Part
content type
distribution list
e-mail address
language pack
login name
mailto URI
master account
membership
membership group
multivalue property
personal site
quick link
Replicable
result set
return code
section
Security Account Manager (SAM)
server-relative URL
Session Initiation Protocol (SIP) address
Shared Services Provider (SSP)
stored procedure
Uniform Resource Identifier (URI)
user display name
user name
The following terms are specific to this document:

**vocabulary identifier:** A string that specifies a database operation for a property in a user profile record. Valid vocabulary identifiers are Add, Rename, and Delete.

**vocabulary value:** The value portion of a name/value pair. The value can be associated with one or more documents in a workspace, and can include property values, document profile terms, categories, and other keywords that are used to apply categorized tags to documents.

**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 Protocol Overview (Synopsis)

In general, this protocol provides a way for a protocol client to interact with the user profile store. The user profile store holds various attribute objects which represent information about users. This protocol provides way for the client to retrieve this information, write new information or update existing information for each user.

All the information about a particular user is referred to as user profile. Each user profile contains a set of user profile properties. The protocol allows the protocol client to create a common set of user profile properties across all user profiles, and set metadata on each user profile property. This protocol facilitates the protocol clients to add new user profile properties, update existing user profile properties as well as query the protocol server for a list of all user profile properties with metadata.

In addition to user profile properties, this protocol allows the protocol client to work with the colleagues associated with a specified user, and the quick link collection associated with a specified user. It provides ways for the protocol client to retrieve, add, edit or delete a user's colleagues and quick links.

This protocol also provides a way for the protocol client to retrieve each membership belonging to the specified user, in any relevant distribution list or membership group. The protocol also allows the protocol client to identify other users who have similar memberships as the current user.

This protocol also provides a way for protocol clients to control the policy and privacy issues associated with a user profile service. Policy describes when user profile service features such as colleagues on a personal site are enabled or disabled for all users on that user profile service. In addition to features, policy also describes whether user profile properties are disabled, enabled and allowed to be null or enabled or mandatory. Privacy describes the privacy scope a user exists in to see a specified feature or user profile property. The protocol server facilitates this with any relevant stored procedure to update or delete both privacy and policy for a specified feature or user profile property. The protocol server also offers protocol clients, stored procedures to retrieve these settings.
1.4 Relationship to Other Protocols

![Diagram showing the relationship between User Profile Stored Procedures, T-SQL, TDS, TCP, and IP, with This Protocol on the right and Industry Standard on the left.]

Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

The operations described by the protocol operate between a client and a back-end database server on which the databases are stored. The 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 stored on the back-end database server.

1.6 Applicability Statement

The user profile service protocol is designed to work well with up to 5 million user profiles. For each user profile, it works well with up to 100 user profile properties.

1.7 Versioning and Capability Negotiation

Versions of the data structures or stored procedures in the database need to be the same as expected by the front-end Web Server. If the stored procedures do not provide the calling parameters or return values as expected, the results of the call are indeterminate.

The version negotiation process for this protocol is identical to the process defined in [MS-WSSFO] section 1.7.

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

This section contains common definitions used by this protocol.

2.2.1 Simple Data Types and Enumerations

None.

2.2.2 Simple Data Types

2.2.2.1 Group Type

A 1-byte integer that specifies the link group type. This value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>User Specified grouping.</td>
</tr>
<tr>
<td>1</td>
<td>Best Bet</td>
</tr>
<tr>
<td>2</td>
<td>General</td>
</tr>
<tr>
<td>5</td>
<td>Users who share the same Manager property</td>
</tr>
<tr>
<td>7</td>
<td>Distribution list default grouping.</td>
</tr>
<tr>
<td>8</td>
<td>Site default grouping.</td>
</tr>
</tbody>
</table>

2.2.2.2 Is Item Security Overridable Type

A bit specifying whether the system enables the user to override the default Privacy scope assigned to the user profile privacy policy. This value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Each User is NOT permitted to override the value of the DefaultItemSecurity parameter for the privacy policy. The value of the DefaultItemSecurity parameter MUST be applied for each User.</td>
</tr>
<tr>
<td>1</td>
<td>Each User is permitted to override the value of the DefaultItemSecurity parameter for the privacy policy. If the User has NOT specified an override value, then the value of the DefaultItemSecurity parameter MUST be applied for the User.</td>
</tr>
</tbody>
</table>

2.2.2.3 Is MLS Enabled Type

A bit that indicates whether personal sites are allowed to be created in multiple languages. This value MUST be listed in the following table:
### 2.2.2.4 Is User Created Type

A bit specifying if the membership group was created by an end user or not. This value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>This membership group was not created by an end user.</td>
</tr>
<tr>
<td>1</td>
<td>This membership group was created by an end user.</td>
</tr>
</tbody>
</table>

### 2.2.2.5 Name Format Type

A 1-byte signed integer that identifies a format used to create personal sites. The value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The personal sites MUST be created at 'user name' such as http://portal_site/location/user name. If a user attempts to create a new personal site called 'user name' and there is already a personal site with the same name, an error MUST occur and the new personal site MUST NOT be created.</td>
</tr>
<tr>
<td>2</td>
<td>The personal sites MUST be created at 'user name' such as http://portal_site/location/user name. If a user attempts to create a new personal site called 'user name' and there is already a personal site with the same name and the user is not cross-domain linked with the owner of that personal site, then 'domain_user name' MUST be used instead, unless user is the same user for whom the first site is created. In that case, a new site won't be created.</td>
</tr>
<tr>
<td>3</td>
<td>The personal sites MUST be created at 'domain_user name' such as http://portal_site/location/domain_user name.</td>
</tr>
</tbody>
</table>

### 2.2.2.6 Policy Link Type

A GUID that specifies the type of link. This value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A88B9DCB-5B82-41E4-8A19-17672F307B95</td>
<td>Specifies a distribution list sourced membership group.</td>
</tr>
<tr>
<td>8BB1220F-DE88-4771-AC3A-0551242CF2BD</td>
<td>Specifies a site sourced membership group.</td>
</tr>
<tr>
<td>861D8FB6-7012-4CD9-A7A0-A615AED038B3</td>
<td>Specifies a quick link.</td>
</tr>
<tr>
<td>EE96E8D6-FBC6-4BC1-838F-25C8F0S35E4C</td>
<td>Specifies a colleague group.</td>
</tr>
<tr>
<td>E21FE63D-0BF6-42C0-85BC-AC80315S25S8</td>
<td>Specifies a user-defined link group.</td>
</tr>
</tbody>
</table>
2.2.2.7 Privacy Type

A 32-bit signed integer that specifies the set of users who are allowed to access a resource protected by a Privacy scope. The value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All users are allowed to access the resource.</td>
</tr>
<tr>
<td>2</td>
<td>The only users allowed to access the resource are the owner of the resource and the owner’s colleagues.</td>
</tr>
<tr>
<td>4</td>
<td>The only users allowed to access the resource are the owner of the resource and the owner’s workgroup colleagues.</td>
</tr>
<tr>
<td>8</td>
<td>The only two users allowed to access the resource are the owner of the resource and the owner’s Manager property.</td>
</tr>
<tr>
<td>16</td>
<td>The only user allowed to access the resource is the owner of the resource.</td>
</tr>
</tbody>
</table>

2.2.2.8 Privacy Policy Type

A 32-bit signed integer that defines whether privacy protection is enforced for a protectable resource. The value MUST be in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Privacy protection is enabled on the definition of the resource. A user can NOT disable privacy protection on a specific instance of the resource.</td>
</tr>
<tr>
<td>2</td>
<td>Privacy protection is disabled on the definition of the resource. The user can enable privacy protection on a specific instance of the resource.</td>
</tr>
<tr>
<td>4</td>
<td>Privacy protection is enabled on the definition of the resource. The user can disable privacy protection on a specific instance of the resource.</td>
</tr>
<tr>
<td>8</td>
<td>Privacy protection is disabled on the definition of the resource. The user can NOT enable privacy protection on a specific instance of the resource.</td>
</tr>
</tbody>
</table>

2.2.2.9 Property Choice Type

A 32-bit signed integer specifying the choice type of the property which MUST be a value listed in the following table.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Off – The property does not use a choice list.</td>
</tr>
<tr>
<td>1</td>
<td>None – The property uses a choice list, but users are not able to browse choice list values.</td>
</tr>
<tr>
<td>2</td>
<td>Open – The property uses a choice list, and users are able to browse choice list values. New choice list items can be added to the list.</td>
</tr>
<tr>
<td>3</td>
<td>Closed – The property uses a choice list with browsing. New choice list items cannot be added to the list except by the administration.</td>
</tr>
</tbody>
</table>
### 2.2.2.10 Property Data Type

A 4-byte, signed integer that describes the data type of a property. **Length** indicates whether or not the protocol client is allowed to specify the length of the property value, and a maximum value for that length. This value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>integer</td>
<td>MUST NOT be specified.</td>
</tr>
<tr>
<td>2</td>
<td>big integer</td>
<td>MUST NOT be specified.</td>
</tr>
<tr>
<td>3</td>
<td>date time</td>
<td>MUST NOT be specified.</td>
</tr>
<tr>
<td>4</td>
<td>float</td>
<td>MUST NOT be specified.</td>
</tr>
<tr>
<td>5</td>
<td>HTML</td>
<td>User-defined length.</td>
</tr>
<tr>
<td>6</td>
<td>string</td>
<td>User-defined length.</td>
</tr>
<tr>
<td>7</td>
<td>binary</td>
<td>User-defined length.</td>
</tr>
<tr>
<td>8</td>
<td>unique identifier</td>
<td>MUST NOT be specified.</td>
</tr>
<tr>
<td>9</td>
<td>e-mail address</td>
<td>MUST be specified and MUST be greater than or equal to 0 and MUST be less than or equal to 3600.</td>
</tr>
<tr>
<td>10</td>
<td>URL</td>
<td>MUST be specified and MUST be greater than or equal to 0 and MUST be less than or equal to 2048.</td>
</tr>
<tr>
<td>11</td>
<td>Login name</td>
<td>MUST be specified and MUST be greater than or equal to 0 and MUST be less than or equal to 250.</td>
</tr>
<tr>
<td>12</td>
<td>date</td>
<td>MUST NOT be specified.</td>
</tr>
<tr>
<td>13</td>
<td>boolean</td>
<td>MUST NOT be specified.</td>
</tr>
<tr>
<td>14</td>
<td>date no year</td>
<td>MUST NOT be specified.</td>
</tr>
</tbody>
</table>

### 2.2.2.11 Separator Type

A 1-byte unsigned integer specifying the multiple-value separator in the user interface. The value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Comma</td>
</tr>
<tr>
<td>1</td>
<td>Semi-colon</td>
</tr>
<tr>
<td>2</td>
<td>New Line</td>
</tr>
<tr>
<td>255</td>
<td>Unknown</td>
</tr>
</tbody>
</table>
2.2.2.12 Short Group Type

A 1-byte unsigned integer that specifies a membership relationship grouping. The value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>User Specified grouping.</td>
</tr>
<tr>
<td>7</td>
<td>distribution list default grouping.</td>
</tr>
<tr>
<td>8</td>
<td>site default grouping.</td>
</tr>
</tbody>
</table>

2.2.2.13 Short Link Type

A GUID that specifies the source of a membership group. This value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A88B9DCB-5B82-41E4-8A19-17672F307B95</td>
<td>Specifies a distribution list sourced membership group.</td>
</tr>
<tr>
<td>8BB1220F-DE8B-4771-AC3A-0551242CF2BD</td>
<td>Specifies a site sourced membership group.</td>
</tr>
</tbody>
</table>

2.2.2.14 Visibility Type

A 4-byte, signed integer specifying whether a user profile has permission to view the result field value. This value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Value is not visible.</td>
</tr>
<tr>
<td>1</td>
<td>Value is visible.</td>
</tr>
<tr>
<td>2</td>
<td>Value is visible.</td>
</tr>
<tr>
<td>4</td>
<td>Value is visible.</td>
</tr>
<tr>
<td>8</td>
<td>Value is visible.</td>
</tr>
<tr>
<td>16</td>
<td>Value is visible.</td>
</tr>
</tbody>
</table>

2.2.3 Bit Fields and Flag Structures

None.

2.2.4 Binary Structures

None.

2.2.5 Result Sets

None.
2.2.6 Tables and Views

None.

2.2.7 XML Structures

None.
3 Protocol Details

3.1 User Profile Service Protocol Specification Server Details

3.1.1 Abstract Data Model

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

![Diagram showing types in the data model of the User Profile Stores Procedures Protocol]

In the preceding diagram, each table specifies a type of entity in the model, and each arrow specifies that one type of entity always contains a reference to another.

- **Memberships**: a collection of entries containing information about the user membership data for a specified user.
- **Member Group**: a collection of entries containing information about the specified entity.
- **UserProfile**: a collection of entries containing information about a user profile.
- **User Property Privacy Policies**: a collection of entries containing information about the domain of visibility for a specific property.
- **UserProfile Property Values**: a collection of entries containing information about the values associated with a pair of user profiles and a property.
- **Properties**: a collection of entries containing information about properties for user profiles.
- **Property Data Types**: a collection of entries containing information about the possible data types of a property.
- **Property Lookup Value**: a collection of entries containing information about the possible values of a property value.
- **Links**: a collection of entries containing information about a link.
- **Colleagues / Contacts**: a collection of entries containing information about colleagues and contacts.
- **Profile Changes Log**: a collection of entries containing information about changes of user profile related data
- **SharedListSync**: a collection of entries containing information about shared list synchronization.
- **ReportChain**: a collection of entries containing information about the user hierarchy of the site.

### 3.1.2 Timers

An execution timeout timer on the protocol server governs the execution time for the client's requests. The amount of time is specified by a timeout value that is configured on the protocol server for all connections.

### 3.1.3 Initialization

A connection that uses the underlying protocol layers that are specified in Relationship to Other Protocols (section 1.4) MUST be established before using this protocol as specified in [MS-TDS].

### 3.1.4 Message Processing Events and Sequencing Rules

The following table summarizes the types that are defined in this specification.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>membership_deleteGroup</td>
<td>The <code>membership_deleteGroup</code> stored procedure is called to remove a member group and its members from the database.</td>
</tr>
<tr>
<td>membershipEnumerateGroups</td>
<td>The <code>membershipEnumerateGroups</code> stored procedure is called to retrieve a subset of the set of distribution list sourced membership groups that have e-mail address and site sourced membership groups.</td>
</tr>
<tr>
<td>membership_getColleagueSuggestions</td>
<td>The <code>membership_getColleagueSuggestions</code> stored procedure is called to retrieve a set of probable Colleague property for an entity specified by a user profile.</td>
</tr>
<tr>
<td>membership_getGroup</td>
<td>The <code>membership_getGroup</code> stored procedure is called to retrieve information about a particular membership group.</td>
</tr>
<tr>
<td>membership_getGroupCount</td>
<td>The <code>membership_getGroupCount</code> stored procedure is called to retrieve the count of the distribution list sourced membership groups that have an e-mail address and site sourced membership groups.</td>
</tr>
<tr>
<td>membership_getGroupMemberships</td>
<td>The <code>membership_getGroupMemberships</code> stored procedure is called to retrieve the all membership information about a particular membership group.</td>
</tr>
<tr>
<td>membership_getGroupMembershipsPaged</td>
<td>The <code>membership_getGroupMembershipsPaged</code> stored procedure is called to retrieve a subset of the membership information about a particular membership group.</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>membership_getRelatedGroups</td>
<td>The <code>membership_getRelatedGroups</code> stored procedure is called to retrieve information about membership groups that are related to a particular membership group.</td>
</tr>
<tr>
<td>membership_updateGroup</td>
<td>The <code>membership_updateGroup</code> stored procedure is called to either create a new membership group or alter an existing membership group.</td>
</tr>
<tr>
<td>privacy_deletePolicy</td>
<td>The <code>privacy_deletePolicy</code> stored procedure is called to delete a privacy policy which is associated with a specific user profile property.</td>
</tr>
<tr>
<td>privacy_getAllPolicy</td>
<td>The <code>privacy_getAllPolicy</code> stored procedure is called to return the properties of all the privacy policies.</td>
</tr>
<tr>
<td>privacy_getFeaturePolicy</td>
<td>The <code>privacy_getFeaturePolicy</code> stored procedure is called to return the definition of all privacy policies which are not associated with a specific user profile property.</td>
</tr>
<tr>
<td>privacy_updatePolicy</td>
<td>The <code>privacy_updatePolicy</code> stored procedure is called to update the properties of a privacy policy or to create a new privacy policy.</td>
</tr>
<tr>
<td>profile_EnumUsers</td>
<td>The <code>profile_EnumUsers</code> stored procedure is called to retrieve the user profiles from the user profile store whose IDs are within the specified interval.</td>
</tr>
<tr>
<td>profile_FindPropertyChoiceList</td>
<td>The <code>profile_FindPropertyChoiceList</code> stored procedure is called to retrieve all the choice list values that match the specified search pattern for a property.</td>
</tr>
<tr>
<td>profile_GetCommonManager</td>
<td>The <code>profile_GetCommonManager</code> stored procedure is called to retrieve the common <code>Manager</code> property between 2 users.</td>
</tr>
<tr>
<td>profile_GetDataTypeList</td>
<td>The <code>profile_GetDataTypeList</code> stored procedure is called to return the properties for profile data types.</td>
</tr>
<tr>
<td>profile_GetMultiloginAccounts</td>
<td>The <code>profile_GetMultiloginAccounts</code> stored procedure is called to find each <code>login name</code> registered to the specified value of <code>@Recorded</code>.</td>
</tr>
<tr>
<td>profile_GetNextUserProfileData</td>
<td>The <code>profile_GetNextUserProfileData</code> stored procedure is called to retrieve the next user profile information: the record identifier and the GUID identifying the user.</td>
</tr>
<tr>
<td>profile_GetPersonalSiteInfo</td>
<td>The <code>profile_GetPersonalSiteInfo</code> stored procedure is called to retrieve the personal site configuration properties from the server.</td>
</tr>
<tr>
<td>profile_GetProfileCount</td>
<td>The <code>profile_GetProfileCount</code> stored procedure is called to retrieve the number of user profiles contained in the user profile store.</td>
</tr>
<tr>
<td>profile_GetProfileCountWithProperty</td>
<td>The <code>profile_GetProfileCountWithProperty</code> stored procedure is called to retrieve the number of user</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>profile_GetProfilePropertyInfo</td>
<td>The profile_GetProfilePropertyInfo stored procedure is called to retrieve property information.</td>
</tr>
<tr>
<td>profile_GetProfilePropertyLoc</td>
<td>The profile_GetProfilePropertyLoc stored procedure is called to retrieve the localized user display name and description for each property.</td>
</tr>
<tr>
<td>profile_GetPropertyChoiceList</td>
<td>The profile_GetPropertyChoiceList stored procedure is called to retrieve all the choice list values for the specified property.</td>
</tr>
<tr>
<td>profile_GetSharedListSync</td>
<td>The profile_GetSharedListSync stored procedure is called to retrieve a shared list object based on the specified @ListId.</td>
</tr>
<tr>
<td>profile_GetUserFormat</td>
<td>The profile_GetUserFormat stored procedure is called to retrieve the user display name format that is used by the Protocol server.</td>
</tr>
<tr>
<td>profile_GetUserGUID</td>
<td>The profile_GetUserGUID stored procedure is called to retrieve the GUID of a user's primary account.</td>
</tr>
<tr>
<td>profile_GetUserProfileData</td>
<td>The profile_GetUserProfileData stored procedure is called by a user who request the user profile for the user specified by any of @UserID, @NTName, @SID or @RecordId.</td>
</tr>
<tr>
<td>profile_GetUserProfilesByEmail</td>
<td>The profile_GetUserProfilesByEmail stored procedure is called to get user profile information based on the e-mail addresses specified.</td>
</tr>
<tr>
<td>profile_GetUserReportToData</td>
<td>The profile_GetUserReportToData stored procedure is called to retrieve a user's Manager property, the Colleague property of a specified user, and the reports associated with a specific user.</td>
</tr>
<tr>
<td>profile_GetViewerRights</td>
<td>The profile_GetViewerRights stored procedure is called to determine what rights the user specified by @ViewerNTName has to see items owned by the user specified by @RecordId.</td>
</tr>
<tr>
<td>profile_MigrateUserProfile</td>
<td>The profile_MigrateUserProfile stored procedure is called to update the security identifier (SID) and user display name of an existing user profile.</td>
</tr>
<tr>
<td>profile_OnSqlRestore</td>
<td>The profile_OnSqlRestore stored procedure is called to apply database changes after a restore operation</td>
</tr>
<tr>
<td>profile_RemoveUser</td>
<td>The profile_RemoveUser stored procedure is called to delete a user profile from the Protocol server.</td>
</tr>
<tr>
<td>profile_ResetDeletedUser</td>
<td>The profile_ResetDeletedUser stored procedure is called to unmark the Profile Pending Deletion Flag on a user profile and set the account to active.</td>
</tr>
<tr>
<td>profile_SearchUser</td>
<td>The profile_SearchUser stored procedure is called to</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>profile_UpdateOrgColleagues</td>
<td>The <code>profile_UpdateOrgColleagues</code> stored procedure is called to update colleagues organizational structure links for newly added users or users with updated Manager properties in the user profile store.</td>
</tr>
<tr>
<td>profile_UpdatePersonalSiteInfo</td>
<td>The <code>profile_UpdatePersonalSiteInfo</code> stored procedure is called to update the personal site configuration properties.</td>
</tr>
<tr>
<td>profile_UpdatePersonalSpace</td>
<td>The <code>profile_UpdatePersonalSpace</code> stored procedure is called to update a user's personal site URL.</td>
</tr>
<tr>
<td>profile_UpdateProfileDisplay</td>
<td>The <code>profile_UpdateProfileDisplay</code> stored procedure is called to update the display order of any property and section associated with the specified user profile.</td>
</tr>
<tr>
<td>profile_UpdateProperty</td>
<td>The <code>profile_UpdateProperty</code> stored procedure is called to add, update and remove properties.</td>
</tr>
<tr>
<td>profile_UpdatePropertyLoc</td>
<td>The <code>profile_UpdatePropertyLoc</code> stored procedure is called to update the user display names and descriptions of a property in multiple languages.</td>
</tr>
<tr>
<td>profile_updateSharedListSync</td>
<td>The <code>profile_updateSharedListSync</code> stored procedure is called to update a shared list object.</td>
</tr>
<tr>
<td>profile_UpdateUserProfileBlobData</td>
<td>The <code>profile_UpdateUserProfileBlobData</code> stored procedure is called to update the user profile properties which cannot be updated through <code>profile_UpdateUserProfileData</code> (Section 3.1.4.46).</td>
</tr>
<tr>
<td>profile_UpdateUserProfileData</td>
<td>The <code>profile_UpdateUserProfileData</code> stored procedure is called to update the user profile data.</td>
</tr>
<tr>
<td>QuickLinksAdd</td>
<td>The <code>QuickLinksAdd</code> stored procedure is called to add a new link for a user in the user profile store.</td>
</tr>
<tr>
<td>QuickLinksDelete</td>
<td>The <code>QuickLinksDelete</code> stored procedure is called to delete link for a user in the user profile store with a specified link type (<code>@PolicyId</code>) and identifier (<code>@LinkID</code>).</td>
</tr>
<tr>
<td>QuickLinksDeleteUser</td>
<td>The <code>QuickLinksDeleteUser</code> stored procedure is called to delete all link data for the specified user in the user profile store with the specified link type (specified by <code>@PolicyId</code>).</td>
</tr>
<tr>
<td>QuickLinksEdit</td>
<td>The <code>QuickLinksEdit</code> stored procedure is called to modify or add a link for a user in the user profile store. The type of link can be a Group Membership link, Colleague link, or user-defined hyperlink.</td>
</tr>
<tr>
<td>QuickLinksRetrieveAllItems</td>
<td>The <code>QuickLinksRetrieveAllItems</code> stored procedure is called to retrieve link information for the following link types: Group Membership links, Colleague links, or user-defined hyperlinks.</td>
</tr>
<tr>
<td>QuickLinksRetrieveColleaguesOfColleagues</td>
<td>The <code>QuickLinksRetrieveColleaguesOfColleagues</code> stored procedure is called to retrieve the colleagues of</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>QuickLinksRetrieveGroupList</td>
<td>The <code>QuickLinksRetrieveGroupList</code> stored procedure is called to retrieve the groups of a specified type for a user profile.</td>
</tr>
</tbody>
</table>

### 3.1.4.1 `membership_deleteGroup`

The `membership_deleteGroup` stored procedure is called to remove a member group and its members. In the event of failure, `membership_deleteGroup` rolls back transaction to restore data to the original state.

`membership_deleteGroup` is defined using T-SQL syntax as follows:

```sql
PROCEDURE membership_deleteGroup(
    @Id bigint,
    @SourceId uniqueidentifier
);
```

- **@Id**: The identifier of the Member Group to delete. The protocol client MUST specify a valid ID obtained by procedure `membership_getGroup` (Section 3.1.4.4), specified in [MS-UPSIMP].

- **@SourceId**: The GUID identifying the Member Group Source of the Member Group to delete, as specified in [MS-UPSIMP]. The protocol client MUST specify a constant GUID with the value of 'A88B9DCB-5B82-41E4-8A19-17672F307B95'.

**Return Code Values**: `membership_deleteGroup` MUST return 0.

**Result Sets**: `membership_deleteGroup` MUST NOT return any result set.

### 3.1.4.2 `membershipEnumerateGroups`

The `membershipEnumerateGroups` stored procedure is called to retrieve a subset of the set of distribution list sourced membership groups that have e-mail address and site sourced membership groups.

`membershipEnumerateGroups` is defined using T-SQL syntax as follows:

```sql
PROCEDURE membershipEnumerateGroups(
    @BeginId bigint,
    @EndId bigint,
    @MINID bigint OUTPUT,
    @MAXID bigint OUTPUT
);
```

- **@BeginId**: The value of the inclusive, minimum bound for the membership group record identifier when creating the subset of membership groups.

- **@EndId**: The value of the inclusive, maximum bound for the membership group record identifier when creating the subset of membership groups.
@MINID: Any input value MUST be ignored. The output value MUST be set to the membership group record identifier of the distribution list sourced membership group that has an e-mail address or the site sourced membership group with the smallest membership group record identifier.

@MAXID: Any input value MUST be ignored. The output value MUST be set to a number that is greater than or equal to the maximum membership group record identifier.

Return Code Values: membership_enumerateGroups MUST return 0.

Result Sets: membership_enumerateGroups MUST always return the Valid Identifier result set.

3.1.4.2.1 Valid Identifier Result Set

The Valid Identifier result set returns a set of membership group record identifiers that are both greater than or equal than the @BeginId input parameter and less than or equal than the @EndId input parameter for distribution list sourced membership groups that have e-mail address and site sourced membership groups. The Valid Identifier result set will always be returned and will contain a maximum of @EndId - (@BeginId - 1) rows. Should the value of the preceding calculation be less than or equal to 0 then 0 rows MUST be returned. Should either @BeginId or @EndId be NULL, 0 rows MUST be returned.

The Valid Identifier result set is defined using T-SQL syntax as follows:

```sql
Id bigint;
```

Id: A membership group record identifier.

3.1.4.3 membership_getColleagueSuggestions

The membership_getColleagueSuggestions stored procedure is called to retrieve a set of probable Colleague property for an entity specified by a user profile.

membership_getColleagueSuggestions is defined using T-SQL syntax as follows:

```sql
PROCEDURE membership_getColleagueSuggestions(
    @RecordId bigint
);
```

@RecordId: A user profile record identifier for the specified user profile for whom the Colleague property value is sought.

Return Code Values: membership_getColleagueSuggestions MUST return 0.

Result Sets: membership_getColleagueSuggestions MUST return the Suggested Colleagues result set.

3.1.4.3.1 Suggested Colleagues Result Set

Suggested Colleagues result set returns user profile data for Colleague property. The Suggested Colleagues result set MUST NOT contain more than 75 rows. The Suggested Colleagues result set MUST contain 0 rows when the @RecordId input parameter is NULL or when the value does not specify a valid user profile.

The Suggested Colleagues result set is defined using T-SQL syntax as follows:
RecordId                    bigint,
UserID                      uniqueidentifier,
NTName                      nvarchar(400),
PreferredName               nvarchar(256),
Email                       nvarchar(256),
SipAddress                  nvarchar(250),
PersonTitle                 nvarchar(150),
Weight                      float;

**RecordId**: A user profile record identifier.

**UserID**: A GUID for the user profile.

**NTName**: A Security Account Manager (SAM) user name for the entity specified by the user profile.

**PreferredName**: The name of the entity as defined in the user profile.

**Email**: An e-mail address for the entity the user profile specifies.

**SipAddress**: A Session Initiation Protocol (SIP) address for the entity the user profile specifies.

**PersonTitle**: The title user profile property value for the entity the user profile specifies.

**Weight**: A number indicating how likely the entity is to be a Colleague. The value ranges from 0.0328765519086464 to 1.79E+308. Larger values of Weigh indicate a greater likelihood of a relationship between the colleagues.

### 3.1.4.4 membership_getGroup

The `membership_getGroup` stored procedure is called to retrieve information about a particular membership group.

`membership_getGroup` is defined using T-SQL syntax as follows:

```sql
PROCEDURE membership_getGroup(
    @Source     uniqueidentifier = NULL,
    @DisplayName nvarchar(250) = NULL,
    @SourceReference nvarchar(2048) = NULL,
    @Id         bigint = NULL
);
```

**@Source**: MUST be a Short Link (Section 2.2.2.13) Type identifier specifying the source of the membership group. Value MUST be ignored when parameter `@Id` is not NULL.

**@DisplayName**: A descriptive name for the membership group. The **Unicode** String Trim operation MUST have been performed on the value. Value MUST be ignored when parameter `@Id` is not NULL. Value MUST be ignored when parameter `@Source` is NULL.

**@SourceReference**: Text used to distinguish the membership group within a particular `@Source`. The Unicode String Trim operation MUST have been performed on the value. The value MUST be ignored when parameter `@Id` is not NULL. Value MUST be ignored when both parameters `@Source` and `@DisplayName` are not NULL. Value MUST be ignored when parameter `@Source` is NULL.
@Id: A membership group record identifier specifying the membership group for which to retrieve information.

Return Code Values: membership_getGroup MUST return 0.

Result Sets: membership_getGroup MUST NOT return any result set when all input parameters are NULL. membership_getGroup MUST NOT return any result set when the @Source input parameter is NOT NULL but all other input parameters are NULL. In all other cases the Matching Member Group result set MUST be returned.

3.1.4.4.1 Matching Member Group Result Set

Matching Member Group result set returns the membership groups that match the input parameters.

The Matching Member Group result set MUST return 1 row if @Id corresponds to an existing membership group.

The Matching Member Group result set MUST return 1 row if @Source and @SourceReference corresponds to an existing membership group.

The Matching Member Group result set MUST return 1 or more rows if @Source and @DisplayName correspond to existing membership groups, but the second and subsequent rows MUST be ignored.

If the @Id parameter is not NULL and refers to a non existing membership group then the Matching Member Group result set MUST return 0 rows.

The Matching Member Group result set is defined using T-SQL syntax as follows:

```sql
Id                bigint,
DisplayName      nvarchar(250),
MailNickName     nvarchar(250),
Description      nvarchar(1500),
Source           uniqueidentifier,
SourceReference  nvarchar(2048),
cs_SourceReference int,
Url              nvarchar(2048),
MemberCount      bigint,
LastUpdate       datetime,
WebID            uniqueidentifier,
Type             tinyint,
UserCreated      bit;
```

Id: A membership group record identifier.

DisplayName: A descriptive name for the membership group.

MailNickName: A ms-Exch-Mail-Nickname Active Directory attribute for the membership group.

Description: A description of the membership group.

Source: MUST be a Short Link (Section 2.2.2.13) Type identifier specifying the source of the membership group.

SourceReference: A section of text used to distinguish the various membership groups within a particular Source.
cs_SourceReference: This field MUST be ignored.

Url: A URI for the membership group.

MemberCount: The count of members in this membership group.

LastUpdate: A UTC value specifying the last time membership_updateGroup (Section 3.1.4.9) was successfully called.

WebID: This field MUST be ignored.

Type: This field MUST be ignored.

UserCreated: This field MUST be ignored.

3.1.4.5 membership_getGroupCount

The membership_getGroupCount stored procedure is called to retrieve the count of the distribution list sourced membership groups that have an e-mail address and site sourced membership groups.

membership_getGroupCount is defined using T-SQL syntax as follows:

PROCEDURE membership_getGroupCount();

Return Code Values: membership_getGroupCount MUST return 0.

Result Sets: membership_getGroupCount MUST return the Count result set.

3.1.4.5.1 Count Result Set

The Count result set returns the number of the distribution list sourced membership groups that have an e-mail address and site sourced membership groups. The Count result set MUST be returned and MUST contain a 1 row.

The Count result set is defined using T-SQL syntax as follows:

    Count int;

Count: Contains the number of distribution list sourced membership groups that have an e-mail address and site sourced membership groups.

3.1.4.6 membership_getGroupMemberships

The membership_getGroupMemberships stored procedure is called to retrieve the all membership information about a particular membership group.

membership_getGroupMemberships is defined using T-SQL syntax as follows:

PROCEDURE membership_getGroupMemberships(
    @Id bigint
);
@Id: A membership group record identifier specifying the membership group to retrieve membership data for.

**Return Code Values:** `membership_getGroupMemberships` MUST return 0.

**Result Sets:** `membership_getGroupMemberships` MUST always return a Membership result set.

### 3.1.4.6.1 Membership Result Set

Membership result set returns data about all memberships in a particular membership group. The Membership result set MUST contain 1 row for each user profile that has a membership in the membership group specified by the `@Id` input parameter. The maximum number of rows is limited only by the number of memberships in the membership group. If the `@Id` parameter is NULL or if it refers to a non-existing membership group then the Membership result set MUST return 0 rows. Otherwise, each row will contain data about the user profile, the membership relationship and the membership group.

The Membership result set is defined using T-SQL syntax as follows:

```sql
Id                        bigint,
RecordId                  bigint,
MemberGroupId             bigint,
GroupType                 tinyint,
GroupTitle                nvarchar(400),
SID                       varbinary(512),
PolicyId                  uniqueidentifier,
ItemSecurity              int,
Id                        bigint,
DisplayName               nvarchar(250),
MailNickname              nvarchar(250),
Description               nvarchar(1500),
Source                    uniqueidentifier,
SourceReference           nvarchar(2048),
cs_SourceReference        int,
Url                       nvarchar(2048),
MemberCount               bigint,
LastUpdate                datetime,
WebID                     uniqueidentifier,
Type                      tinyint,
UserCreated               bit,
RecordId                  nvarchar(400),
PreferredName             nvarchar(256),
Email                      nvarchar(256),
SipAddress                nvarchar(250);
```

These fields contain information about the membership relation:

**Id:** A GUID identifying the membership relationship.

**RecordId:** A user profile record identifier for the Member.

**MemberGroupId:** A membership group record identifier for the membership group.

**GroupType:** MUST be a Short Group (Section 2.2.2.12) Type value specifying the membership relation grouping.
**GroupTitle:** A name for the grouping of which the membership is a part.

**SID:** This field MUST be ignored.

**PolicyId:** This field MUST be ignored.

**ItemSecurity:** MUST be a Privacy (Section 2.2.2.7) Type value that defines security for the membership. These fields contain information about the membership group:

**Id:** A membership group record identifier.

**DisplayName:** A descriptive name for the membership group.

**MailNickName:** A ms-Exch-Mail-Nickname Active Directory attribute for the membership group.

**Description:** A description of the membership group.

**Source:** MUST be a Short Link (Section 2.2.2.13) Type identifier specifying the source of the membership group.

**SourceReference:** A section of text used to distinguish the various membership groups within a particular Source.

**cs_SourceReference** : This field MUST be ignored.

**Url:** A URI for the membership group.

**MemberCount:** The count of members in this membership group.

**LastUpdate:** A UTC value specifying the last time membership_updateGroup (Section 3.1.4.9) was successfully called.

**WebID:** This field MUST be ignored.

**Type:** This field MUST be ignored.

**UserCreated:** This field MUST be ignored.

These fields contain information about the member's user profile:

**RecordId:** A user profile record identifier.

**NTName:** A SAM user name for the entity specified by the user profile.

**PreferredName:** The name of the entity as defined in the user profile.

**Email:** An e-mail address for the entity specified by the user profile.

**SipAddress:** A SIP address for the entity the user profile specifies.

### 3.1.4.7 membership_getGroupMembershipsPaged

The membership_getGroupMembershipsPaged stored procedure is called to retrieve a subset of the membership information about a particular membership group.

**membership_getGroupMembershipsPaged** is defined using T-SQL syntax as follows:

```sql
PROCEDURE membership_getGroupMembershipsPaged(
```
@Id                bigint,
@ViewerRecordId   bigint,
@Count            int,
@SortPropertyId   bigint = 7,
@SortDirection    bit = 0,
@ItemBeforeFirst  nvarchar(1000),
@RecordIdBeforeFirst bigint,
@Collation        nvarchar(60)
);

@Id: A membership group record identifier specifying the membership group to retrieve membership data for.

@ViewerRecordId: A user profile record identifier specifying the user profile of the individual requesting the data.

@Count: A value specifying the maximum number of records that MUST be returned by this query. This value MUST NOT be negative.

@SortPropertyId: A value specifying which field to sort the results on. This value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>The result set is sorted on the Title field.</td>
</tr>
<tr>
<td>14</td>
<td>The result set is sorted on the Department field.</td>
</tr>
<tr>
<td>7 or any other number</td>
<td>The result set is sorted on the PreferredName field.</td>
</tr>
</tbody>
</table>

@SortDirection: A value specifying the sort direction for the results. The value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Ascending sort on the @SortPropertyId field.</td>
</tr>
<tr>
<td>1</td>
<td>Descending sort on the @SortPropertyId field.</td>
</tr>
<tr>
<td>NULL</td>
<td>Ascending sort on the @SortPropertyId field.</td>
</tr>
</tbody>
</table>

@ItemBeforeFirst: A value used to determine the first membership information record to return. Records with values in the field indicated by @SortPropertyId that are larger than the value of the @ItemBeforeFirst input parameter MUST be returned if @SortDirection input parameter specifies an ascending sort. Records with values in the field that are smaller than the value of the @ItemBeforeFirst input parameter MUST be returned if @SortDirection input parameter specifies a descending sort. This value MUST be ignored if @RecordIdBeforeFirst is NULL.

@RecordIdBeforeFirst: A value used to determine the first membership information record to return. Records with values in the @SortPropertyId field that are equal to the value of the @ItemBeforeFirst input parameter MUST be returned if the value of the user profile record identifier is smaller than the value of the @RecordIdBeforeFirst input parameter. This value MUST be ignored if @ItemBeforeFirst is NULL.

@Collation: This value MUST be ignored.
Return Code Values: membership_getGroupMembershipsPaged MUST return 0.

Result Sets: membership_getGroupMembershipsPaged MUST NOT return any result set when the @Count input parameter is NULL or when the @SortPropertyId input parameter is NULL. When the @SortPropertyId input parameter is set to 13 then the Title Paged Membership result set MUST be returned. When the @SortPropertyId input parameter is set to 14 then the Department Paged Membership result set MUST be returned. For all other values of the @SortPropertyId input parameter the Preferred Name Paged Membership result set MUST be returned.

3.1.4.7.1 Preferred Name Paged Membership Result Set

Preferred Name Paged Membership result set returns data about memberships in a particular membership group. The Preferred Name Paged Membership result set MUST contain 1 row for each user profile that has a membership in the membership group specified by the @Id input parameter up to a maximum of @Count rows. If the @Id parameter is NULL or if it refers to a non-existing membership group then the Membership result set MUST return 0 rows. Each row will contain data about the member’s user profile, the membership relationship and the membership group. The Preferred Name Paged Membership result set will be ordered on the PreferredName field in the order specified by the @SortDirection input parameter and then in ascending order on the RecordId field.

The Preferred Name Paged Membership result set is defined using T-SQL syntax as follows:

```sql
PreferredName nvarchar(256),
Title sql_variant,
Department sql_variant,
RecordID bigint,
NTName nvarchar(400),
Email nvarchar(256),
SipAddress nvarchar(250),
UserId uniqueidentifier,
AboutMe sql_variant,
PictureURL sql_variant,
IsAboutMeVisible int,
IsPictureUrlVisible int,
Id bigint,
RecordId bigint,
MemberGroupId bigint,
GroupType tinyint,
GroupTitle nvarchar(400),
SID varbinary(512),
PolicyId uniqueidentifier,
ItemSecurity int,
Id bigint,
DisplayName nvarchar(250),
MailNickName nvarchar(250),
Description nvarchar(1500),
Source uniqueidentifier,
SourceReference nvarchar(2048),
cs_SourceReference int,
Url nvarchar(2048),
MemberCount bigint,
LastUpdate datetime,
WebID uniqueidentifier,
Type tinyint,
UserCreated bit;
```
These fields contain information about the user profile of the specified member.

**PreferredName:** The name of the entity as defined in the user profile.

**Title:** The title user profile property value for the entity the user profile specifies.

**Department:** The department user profile property value for the entity the user profile specifies.

**RecordID:** A user profile record identifier.

**NTName:** A SAM user name for the entity specified by the user profile.

**Email:** A e-mail address for the entity the user profile specifies.

**SipAddress:** A SIP address for the entity the user profile specifies.

**UserId:** An identifier for the user profile.

**AboutMe:** The about me user profile property value for the entity the user profile specifies.

**PictureUrl:** The picture URI user profile property value for the entity the user profile specifies.

These fields contain information about permissions:

**IsAboutMeVisible:** MUST be a Visibility (Section 2.2.2.14) Type value specifying if the user profile specified by the @ViewerRecordId input parameter has permission to view the AboutMe result field value.

**IsPictureUrlVisible:** MUST be a Visibility (Section 2.2.2.14) Type value specifying if the user profile specified by the @ViewerRecordId parameter has permission to view the PictureUrl result field.

These fields contain information about the membership relation:

**Id:** A unique identifier for the membership relationship.

**RecordId:** A user profile record identifier for the member.

**MemberGroupId:** A membership group record identifier for the membership group.

**GroupType:** MUST be a Short Group (Section 2.2.2.12) Type value specifying the membership relation grouping.

**GroupTitle:** A name for the grouping the membership is a part of.

**SID:** This field MUST be ignored.

**PolicyId:** This field MUST be ignored.

**ItemSecurity:** MUST be a Privacy (Section 2.2.2.7) Type value that defines security for the membership.

These fields contain information about the membership group:

**Id:** A membership group record identifier.

**DisplayName:** A descriptive name for the membership group.

**MailNickName:** An ms-Exch-Mail-Nickname Active Directory attribute for the membership group.
Description: A description of the membership group.

Source: MUST be a Short Link (Section 2.2.2.13) Type identifier specifying the source of the membership group.

SourceReference: An section of text used to distinguish the various membership groups within a particular Source.

cs_SourceReference: This field MUST be ignored.

Url: A URI for the membership group. For distribution list sourced membership groups this is a mailto URI. For site-sourced membership groups, the value is a URI used to reach the root of the site.

MemberCount: The count of members in this membership group.

LastUpdate: A UTC Value specifying the last time membership_updateGroup (Section 3.1.4.9) was successfully called.

WebID: This field MUST be ignored.

Type: This field MUST be ignored.

UserCreated: This field MUST be ignored.

3.1.4.7.2 Title Paged Membership Result Set

Title Paged Membership result set returns data about memberships in a particular membership group. The Title Paged Membership result set MUST contain 1 row for each user profile that has a membership in the membership group specified by the @Id input parameter up to a maximum of @Count rows. If the @Id parameter is NULL or if it refers to a non existing membership group then the Membership result set MUST return 0 rows. Each row will contain data about the member’s user profile, the membership relationship and the membership group. The Title Paged Membership result set will be ordered on the Title field in the order specified by the @SortDirection input parameter and then in ascending order on the RecordId field.

The Title Paged Membership result set is defined using T-SQL syntax as follows:

```
Title                            sql_variant,
Department                       sql_variant,
PreferredName                    nvarchar(256),
RecordID                         bigint,
NTName                           nvarchar(400),
Email                            nvarchar(256),
SipAddress                       nvarchar(250),
UserId                           uniqueidentifier,
AboutMe                          sql_variant,
PictureURL                       sql_variant,
IsAboutMeVisible                 int,
IsPictureUrlVisible              int,
Id                               bigint,
RecordId                         bigint,
MemberGroupId                    bigint,
GroupType                        tinyint,
GroupTitle                       nvarchar(400),
SID                              varbinary(512),
PolicyId                         uniqueidentifier,
```
These fields contain information about the member’s user profile:

**Title:** The occupation title user profile property value for the entity the user profile specifies.

**Department:** The department user profile property value for the entity the user profile specifies.

**PreferredName:** The name of the entity as defined in the user profile.

**RecordID:** A user profile record identifier.

**NTName:** A SAM user name for the entity specified by the user profile.

**Email:** A e-mail address for the entity the user profile specifies.

**SipAddress:** A SIP address for the entity the user profile specifies.

**UserId:** An identifier for the user profile.

**AboutMe:** The about me user profile property value for the entity the user profile specifies.

**PictureUrl:** The picture URI user profile property value for the entity the user profile specifies.

These fields contain information about permissions:

**IsAboutMeVisible:** MUST be a Visibility (Section 2.2.2.14) Type value specifying if the user profile specified by the @ViewerRecordId input parameter has permission to view the AboutMe result field value.

**IsPictureUrlVisible:** MUST be a Visibility (Section 2.2.2.14) Type value specifying if the user profile specified by the @ViewerRecordId parameter has permission to view the PictureUrl result field.

These fields contain information about the membership relation:

**Id:** A unique identifier for the membership relationship.

**RecordId:** A user profile record identifier for the member.

**MemberGroupId:** A membership group record identifier for the membership group.

**GroupType:** MUST be a Short Group Type value (Section 2.2.2.12) specifying the membership relation grouping.
**GroupTitle:** A name for the grouping the membership is a part of.

**SID:** This field MUST be ignored.

**PolicyId:** This field MUST be ignored.

**ItemSecurity:** MUST be a Privacy (Section 2.2.2.7) Type value that defines security for the membership.

These fields contain information about the membership group:

**Id:** A membership group record identifier.

**DisplayName:** A descriptive name for the membership group.

**MailNickName:** A ms-Exch-Mail-Nickname Active Directory attribute for the membership group.

**Description:** A description of the membership group.

**Source:** MUST be a Short Link (Section 2.2.2.13) Type identifier specifying the source of the membership group.

**SourceReference:** An section of text used to distinguish the various membership groups within a particular Source.

**cs_SourceReference:** This field MUST be ignored.

**Url:** A URI for the membership group. For distribution list sourced membership groups this is a mailto URI. For site sourced membership groups the value is a URI used to reach the root of the site.

**MemberCount:** The count of members in this membership group.

**LastUpdate:** A UTC Value specifying the last time membership_updateGroup (Section 3.1.4.9) was successfully called.

**WebID:** This field MUST be ignored.

**Type:** This field MUST be ignored.

**UserCreated:** This field MUST be ignored.

### 3.1.4.7.3 Department Paged Membership Result Set

Department Paged Membership result set returns data about memberships in a particular membership group. The Department Paged Membership result set MUST contain 1 row for each user profile that has a membership in the membership group specified by the @Id input parameter up to a maximum of @Count rows. If the @Id parameter is NULL or if it refers to a non-existing membership group then the Membership result set MUST return 0 rows. Each row will contain data about the member's user profile, the membership relationship and the membership group. The Department Paged Membership result set will be ordered on the Department field in the order specified by the @SortDirection input parameter and then in ascending order on the RecordId field.

The Department Paged Membership result set is defined using T-SQL syntax as follows:

```sql
Department          sql_variant,
Title               sql_variant,
PreferredName       nvarchar(256),
```
These fields contain information about the member's user profile:

**Department:** The department user profile property value for the entity the user profile specifies.

**Title:** The title user profile property value for the entity the user profile specifies.

**PreferredName:** The name of the entity as defined in the user profile.

**RecordID:** A user profile record identifier.

**NTName:** A SAM user name for entity specified by the user profile.

**Email:** A e-mail address for the entity the user profile specifies.

**SipAddress:** A SIP address for the entity the user profile specifies.

**UserId:** An identifier for the user profile.

**AboutMe:** The about me user profile property value for the entity the user profile specifies.

**PictureURL:** The picture URI user profile property value for the entity the user profile specifies.

These fields contain information about permissions:

**IsAboutMeVisible:** MUST be a Visibility (Section 2.2.2.14) Type value specifying if the user profile specified by the @ViewerRecordId input parameter has permission to view the AboutMe result field value.
**IsPictureUrlVisible:** MUST be a Visibility (Section 2.2.14) Type value specifying if the user profile specified by the @ViewerRecordId parameter has permission to view the PictureUrl result field.

These fields contain information about the membership relation:

**Id:** A unique identifier for the membership relationship.

**RecordId:** A user profile record identifier for the member.

**MemberGroupId:** A membership group record identifier for the membership group.

**GroupType:** MUST be a Short Group (Section 2.2.12) Type value specifying the membership relation grouping.

**GroupTitle:** A name for the grouping which is part of the membership.

**SID:** This field MUST be ignored.

**PolicyId:** This field MUST be ignored.

**ItemSecurity:** MUST be a Privacy (Section 2.2.7) Type value that defines security for the membership. These fields contain information about the membership group:

**Id:** A membership group record identifier.

**DisplayName:** A descriptive name for the membership group.

**MailNickName:** A ms-Exch-Mail-Nickname Active Directory attribute for the membership group.

**Description:** A description of the membership group.

**Source:** MUST be a Short Link (Section 2.2.13) Type identifier specifying the source of the membership group.

**SourceReference:** A section of text used to distinguish the various membership groups within a particular source.

**cs_SourceReference:** This field MUST be ignored.

**Url:** A URI for the membership group. For distribution list sourced membership groups this is a mailto URI. For site sourced membership groups the value is a URI used to reach the root of the site.

**MemberCount:** The count of members in this membership group.

**LastUpdate:** A UTC Value specifying the last time membership_updateGroup (Section 3.1.4.9) was successfully called.

**WebID:** This field MUST be ignored.

**Type:** This field MUST be ignored.

**UserCreated:** This field MUST be ignored.
3.1.4.8 membership_getRelatedGroups

The membership_getRelatedGroups stored procedure is called to retrieve information about membership groups that are related to a particular membership group.

`membership_getRelatedGroups` is defined using T-SQL syntax as follows:

```sql
PROCEDURE membership_getRelatedGroups(
    @Id bigint
);
```

@Id: A membership group record identifier specifying the membership group to retrieve related membership groups for.

**Return Code Values: membership_getRelatedGroups** MUST return 0.

**Result Sets:** `membership_getRelatedGroups` MUST return the Related Member Group result set.

3.1.4.8.1 Related Member Group Result Set

Related Member Group returns the set of membership groups whose ancestor is the membership group specified by the @Id input parameter. The parent-child relationship is specified by `membership_addRecursiveGroup` in [MS-UPSIMP]. The Related Member Group result set MUST contain 1 row per descendant of the input membership group if any descendants exist. The Related Member Group result set MUST contain 0 rows when the @Id input parameter is NULL or when @Id does not match a valid membership group.

The Related Member Group result set is defined using T-SQL syntax as follows:

```sql
Id bigint,
DisplayName nvarchar(250),
MailNickName nvarchar(250),
Description nvarchar(1500),
Source uniqueidentifier,
SourceReference varchar(2048),
cs_SourceReference int,
Url nvarchar(2048),
MemberCount bigint,
LastUpdate datetime,
WebID uniqueidentifier,
Type tinyint,
UserCreated bit;
```

**Id:** A membership group record identifier.

**DisplayName:** A descriptive name for the membership group.

**MailNickName:** A ms-Exch-Mail-Nickname Active Directory attribute for the membership group.

**Description:** A description of the membership group.

**Source:** MUST be a Short Link (Section 2.2.2.13) Type identifier specifying the source of the membership group.

**SourceReference:** Text used to distinguish the various membership groups within the source identified by Source.
cs_SourceReference: This field MUST be ignored.

Url: A URI for the membership group.

MemberCount: A count of Members in this membership group.

LastUpdate: A UTC Value specifying the last time membership_updateGroup (Section 3.1.4.9) was successfully called.

WebID: This field MUST be ignored.

Type: This field MUST be ignored.

UserCreated: This field MUST be ignored.

3.1.4.9 membership_updateGroup

The membership_updateGroup stored procedure is called to either create a new membership group or alter an existing membership group.

membership_updateGroup is defined using T-SQL syntax as follows:

```
PROCEDURE membership_updateGroup(
    @Id bigint = NULL,
    @Source uniqueidentifier,
    @DisplayName nvarchar(250),
    @MailNickName nvarchar(250),
    @Description nvarchar(1500),
    @Url nvarchar(2048),
    @SourceReference nvarchar(2048),
    @WebID uniqueidentifier = NULL,
    @UserCreated bit = 0,
    @Type tinyint = 0,
    @LastUpdate datetime OUTPUT,
    @NewId bigint OUTPUT,
    @Error int = NULL OUTPUT
);
```

@Id: A membership group record identifier. The value MUST be NULL when creating a membership group. @Id MUST NOT be NULL when updating a membership group.

@Source: MUST be a Short Link (Section 2.2.2.13) Type identifier specifying the source of the membership group. This value MUST NOT be NULL.

@DisplayName: A descriptive name for the membership group. This value MUST NOT be NULL. The Unicode String Trim operation MUST have been performed on the input value.

@MailNickName: The membership group’s ms-Exch-Mail-Nickname Active Directory attribute. This value MUST NOT be NULL. The Unicode String Trim operation MUST have been performed on the input value.

@Description: A description of the membership group. This value MUST NOT be NULL. The Unicode String Trim operation MUST have been performed on the input value.

@Url: A URI for the membership group. Value MUST NOT be NULL. The Unicode String Trim operation MUST have been performed on the input value. When the @Source input parameter specifies a distribution list sourced membership group this MUST be a mailto URI. When the
**@Source** input parameter specifies a site sourced membership group the value MUST be a URI used to reach the root of the site.

**@SourceReference**: A string used to distinguish the various membership groups within a particular source specified by **@Source**. The Unicode String Trim operation MUST have been performed on the input value. When the **@Source** input parameter specifies a distribution list sourced membership group the value MUST be the membership group's **distinguished name (DN)**. When the **@Source** input parameter specifies a site sourced membership group the value MUST be the site identifier.

**@WebID**: A site identifier associated with this membership group. When the **@Source** input parameter specifies a distribution list sourced membership group the value MUST be NULL. When the **@Source** input parameter specifies a site sourced membership group the value MUST be the site identifier of the specified site.

**@UserCreated**: MUST be an Is User Created (Section 2.2.2.4) Type value.

**@Type**: Flag specifies the type of the membership group. When the **@Source** input parameter specifies a site sourced membership group this value MUST be used. When the **@Source** input parameter specifies a distribution list sourced membership group, the value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The membership group MUST have an e-mail address. The <strong>@Url</strong> input parameter MUST contain a mailto URI that contains a non empty to element as defined in [RFC2368].</td>
</tr>
<tr>
<td>1</td>
<td>The membership group MUST NOT have an e-mail address. The <strong>@Url</strong> input parameter MUST contain the following text: “mailto:”. The <strong>MailNickName</strong> input parameter MUST contain the text: “(null)”.</td>
</tr>
</tbody>
</table>

**@LastUpdate**: Any input value MUST be ignored. The output value MUST be set to the UTC Value the membership group update operation was attempted.

**@NewId**: Any input value MUST be ignored. When **@Id** is NULL (indicating that the caller intended to create a new membership group) the output value MUST be set to the membership group record identifier assigned to the newly created membership group. When **@Id** is specified (indicating that the caller intended to update an existing membership group) the value MUST NOT be changed.

**@Error**: Any input value MUST be ignored. The output value MUST be set to 0 upon successful execution. The output value MUST be set to the error code of the operation upon failure.

**Return Code Values**: **membership_updateGroup** returns an integer return code which MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Possibly successful execution. Check <strong>@Error</strong> output parameter for further data.</td>
</tr>
<tr>
<td>-1</td>
<td>Returned when <strong>@Id</strong> is NULL (indicating that the caller intended to create a new membership group) and the <strong>@Source</strong> and <strong>@SourceReference</strong> pair were already in use by another membership group.</td>
</tr>
<tr>
<td>-2</td>
<td>Returned when <strong>@Id</strong> is specified (indicating that the caller intended to update an existing membership group), but no membership group was found matching the <strong>@Id</strong> input parameter.</td>
</tr>
</tbody>
</table>

**Result Sets**: **membership_updateGroup** MUST NOT return any result set.
3.1.4.10 privacy_deletePolicy

The privacy_deletePolicy stored procedure is called to delete a privacy policy which is associated with a specific user profile property.

privacy_delete policy is defined using T-SQL syntax as follows:

```
PROCEDURE privacy_deletePolicy(
    @Id uniqueidentifier
);
```

@Id: The GUID identifying the privacy policy to be deleted.

Return Code Values: privacy_deletePolicy MUST return 0.

Result Sets: privacy_deletePolicy MUST NOT return any result set.

3.1.4.11 privacy_getAllPolicy

The privacy_getAllPolicy stored procedure is called to return the properties of all the privacy policies.

privacy_getAllPolicy is defined using T-SQL syntax as follows:

```
PROCEDURE privacy_getAllPolicy();
```

Return Code Values: privacy_getAllPolicy MUST return 0.

Result Sets: privacy_getAllPolicy MUST return exactly 1 AllPrivacyPolicy result set.

3.1.4.11.1 AllPrivacyPolicy Result Set

AllPrivacyPolicy result set returns the properties associated with each privacy policy in the system. The AllPrivacyPolicy result set MUST always be returned, and MUST contain 0 or more rows where each row defines the profile property of an existing privacy policy. The result set also includes 1 row for each privacy policy that does not have an associated profile property. The result set excludes privacy policies associated with a user profile property section.

The AllPrivacyPolicy result set is defined using T-SQL syntax as follows:

```
Id uniqueidentifier,
DisplayName nvarchar(256),
GroupName nvarchar(256),
Policy int,
DefaultItemSecurity int,
IsItemSecurityOverridable bit,
PropertyId bigint,
IsPolicyOverridable bit,
FilterPrivacyItems bit,
DisplayOrder int;
```

Id: The identifier assigned to the privacy policy described by this row.

DisplayName: The descriptive name of the privacy policy.
**GroupName:** The descriptive name of the collection of privacy policies to which the privacy policy belongs.

**Policy:** The enforcement level assigned to the privacy policy. The value MUST be a Privacy Policy (Section 2.2.2.8) Type.

**DefaultItemSecurity:** The default protection level assigned to the privacy policy. The value MUST be a Privacy (Section 2.2.2.7) type.

**IsItemSecurityOverridable:** MUST be an Is Item Security Overridable (Section 2.2.2.2) Type value.

**PropertyId:** The identifier assigned to the user profile property associated with the privacy policy. If the privacy policy is not associated with a user profile property, then the value MUST be set to NULL.

**IsPolicyOverridable:** This value MUST be ignored.

**FilterPrivacyItems:** This value MUST be ignored.

**DisplayOrder:** An ascending number by which the rows in the result set MUST be ordered. For all privacy policies associated with a user profile property, the value will be the value of the DisplayOrder property defined for the user profile property. For all privacy policies NOT associated with a user profile property, the value MUST be set to -1.

### 3.1.4.12 privacy_getFeaturePolicy

The `privacy_getFeaturePolicy` stored procedure is called to return the definition of all privacy policies which are not associated with a specific user profile property.

`privacy_getFeaturePolicy` is defined using T-SQL syntax as follows:

```sql
PROCEDURE privacy_getFeaturePolicy();
```

**Return Code Values:** `privacy_getFeaturePolicy` MUST return 0.

**Result Sets:** `privacy_getFeaturePolicy` MUST return exactly 1 FeaturePrivacyPolicy result set.

### 3.1.4.12.1 FeaturePrivacyPolicy Result Set

The FeaturePrivacyPolicy result set returns the definition associated with each privacy policy that is not associated with a specific user profile property.

The FeaturePrivacyPolicy result set MUST always be returned, and MUST contain 0 or more rows where each row defines the properties of an existing privacy policy which is not associated with a specific user profile property.

The FeaturePrivacyPolicy result set is defined using T-SQL syntax as follows:

```sql
Id uniqueidentifier,
DisplayName nvarchar(256),
GroupName nvarchar(256),
Policy int,
DefaultItemSecurity int,
IsItemSecurityOverridable bit,
PropertyId bigint,
```
IsPolicyOverridable bit,
FilterPrivacyItems bit;

**Id**: The GUID assigned to the Privacy Policy defined by this row.

**DisplayName**: The descriptive name of the privacy policy.

**GroupName**: The descriptive name held in common by any Privacy Policy.

**Policy**: The enforcement level assigned to the privacy policy. The value MUST be a Privacy Policy (Section 2.2.2.8) Type.

**DefaultItemSecurity**: The default protection level assigned to the privacy policy. The value MUST be a Privacy (Section 2.2.2.7) Type.

**IsItemSecurityOverridable**: MUST be an "Is Item Security Overridable" (Section 2.2.2) Type value.

**PropertyId**: MUST be NULL.

**IsPolicyOverridable**: This value MUST be ignored.

**FilterPrivacyItems**: This value MUST be set to 1.

### 3.1.4.13 privacy_updatePolicy

The `privacy_updatePolicy` stored procedure is called to update the properties of a privacy policy or to create a new privacy policy.

`privacy_updatePolicy` is defined using T-SQL syntax as follows:

```sql
PROCEDURE privacy_updatePolicy(
    @Id uniqueidentifier = NULL,
    @PropertyId bigint = NULL,
    @DisplayName nvarchar(256),
    @GroupName nvarchar(256),
    @Policy int,
    @DefaultItemSecurity int,
    @IsItemSecurityOverridable bit,
    @FilterPrivacyItems bit = 1,
    @NewId uniqueidentifier OUTPUT
);
```

**@Id**: The identifier assigned to the privacy policy to be updated. If this value is NOT NULL, then parameter @PropertyId MUST be NULL.

**@PropertyId**: The identifier assigned to the user profile property whose privacy policy will be updated. If this value is NOT NULL, then parameter @Id MUST be NULL.

**@DisplayName**: The descriptive name of the privacy policy.

**@GroupName**: The descriptive name of the collection of privacy policies to which the privacy policy belongs.

**@Policy**: The enforcement level assigned to the privacy policy. The value MUST be a Privacy Policy (Section 2.2.2.8) type.
@DefaultItemSecurity: The default protection level assigned to the privacy policy. The value MUST be a Privacy (Section 2.2.2.7) Type.

@IsItemSecurityOverridable: MUST be an Is Item Security Overridable (Section 2.2.2.2) Type value.

@FilterPrivacyItems: This value MUST be set to 1.

@NewId: Any input value MUST be ignored. When a privacy policy is created, this output parameter MUST be set to the assigned identifier of the added privacy policy. When a privacy policy is updated @NewId MUST be NULL.

Return Code Values: privacy_updatePolicy MUST return 0.

The privacy policy to be updated MUST be specified either through its assigned identifier or through the assigned identifier of the user profile property with which it is associated. If no such privacy policy exists, a new privacy policy will be added.

Result Sets: privacy_updatePolicy MUST NOT return any result set.

3.1.4.14 profile_EnumUsers

The profile_EnumUsers stored procedure is called to retrieve the user profiles from the user profile store whose IDs are within the specified interval.

The profile_EnumUsers stored procedure is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_EnumUsers (  
    @BeginID              bigint,  
    @EndID                bigint,  
    @MINID                bigint OUTPUT,  
    @MAXID                bigint OUTPUT
  );
```

@BeginID: The value where the Protocol server starts searching for existing user profile record identifiers. This parameter MUST be specified and it MUST NOT be NULL.

@EndID: The last value that the Protocol server searches for existing user profile record identifiers. This parameter MUST be specified and it MUST NOT be NULL.

@MINID: If the user profile store is empty the protocol server MUST ignore this parameter, otherwise the Protocol server MUST set this parameter to the smallest (first) user profile record identifier that exists.

@MAXID: if the user profile store is empty the server MUST ignore this parameter, otherwise the Protocol server MUST set this parameter to the biggest (last) user profile record identifier that exists.

Return Code Values: profile_EnumUsers MUST return 0.

Result Sets: profile_EnumUsers MUST return one result set.

3.1.4.14.1 profile_EnumUsers Result Set

profile_EnumUsers MUST return a result set of 0 or more rows. For a record to be included in the result set, it MUST NOT have a NULL login name or user display name.
The **profile(EnumUsers)** result set is defined using T-SQL syntax as follows:

- **RecordID**: The user profile record identifier.
- **UserID**: The GUID of the user.

### 3.1.4.15 profile_FindPropertyChoiceList

The **profile_FindPropertyChoiceList** stored procedure is called to retrieve all the choice list values that match the specified search pattern for a property.

**profile_FindPropertyChoiceList** is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_FindPropertyChoiceList (
    @PropertyName       nvarchar(50),
    @search              nvarchar(250)
);
```

- **@PropertyName**: The name of a property. This parameter MUST be specified and MUST NOT be NULL.
- **@search**: A search pattern. This parameter MUST be specified and MUST NOT be NULL. The server MUST search the choice list values for any values that contain the search pattern.

**Return Code Values**: **profile_FindPropertyChoiceList** MUST return 0.

**Result Sets**: **profile_FindPropertyChoiceList** MUST return 1 result set.

#### 3.1.4.15.1 Choice List Values Result Set

The choice list values result set returns the existing choice list values that match the search pattern for the specified `@PropertyName` sorted in ascending order. The result set MUST contain 0 or more rows.

The choice list values result set is defined using T-SQL syntax as follows:

```sql
VocValValue            sql_variant;
```

- **VocValValue**: A choice list value that matches the search pattern for the property.

### 3.1.4.16 profile_GetCommonManager

The **profile_GetCommonManager** stored procedure is called to retrieve the common Manager property between 2 users. The stored procedure is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_GetCommonManager (
    @MyUserId                uniqueidentifier,
    @YourUserId              uniqueidentifier
);
```
@MyUserId: The GUID for the first user. This MUST NOT be NULL.

@YourUserId: The GUID for the second user. This MUST NOT be NULL.

Return Code Values: profile_GetCommonManager MUST return 1 of the following values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Successful</td>
</tr>
<tr>
<td>1</td>
<td>Encountered Manager property loop</td>
</tr>
<tr>
<td>2</td>
<td>Exceeded the maximum Manager property chain length of 40.</td>
</tr>
<tr>
<td>3</td>
<td>Encountered Manager property loop and exceeded the maximum Manager property chain length of 40.</td>
</tr>
</tbody>
</table>

profile_GetCommonManager MUST return 1 result set.

3.1.4.16.1 profile_GetCommonManager Result Set

profile_GetCommonManager returns the common Manager property between the 2 specified users. In the case that either GUID does not refer to an existing user this MUST returns 0 rows, else if successful it MUST return at least 1 row.

The profile_GetCommonManager result set is defined using T-SQL syntax as follows:

```sql
RecordID          bigint,
UserID            uniqueidentifier,
NTName            nvarchar(400),
Email             nvarchar(256),
SipAddress        nvarchar(250),
PreferredName     nvarchar(256),
Title             nvarchar(150),
FirstCommon       bit;
```

RecordID: Contains the record identifier of the Manager property. The value MUST be returned and MUST NOT be NULL.

UserID: Contains the GUID identifying the Manager property. The value MUST be returned and MUST NOT be NULL.

NTName: The login name of the Manager property. The value MUST be returned and MUST NOT be NULL.

Email: The e-mail address of the Manager property.

SipAddress: The Session Initiation Protocol (SIP) address of the manager.

PreferredName: The name of the Manager property as defined in the user profile.

Title: The title of the Manager property.

FirstCommon: This MUST be 1 if the Manager property is the lowest-level Manager property held in common between the 2 specified users. The value MUST be returned and MUST NOT be NULL.
3.1.4.17  profile_GetDataTypeList

The **profile_GetDataTypeList** stored procedure is called to return the properties for Profile Data Types.

**profile_GetDataTypeList** is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_GetDataTypeList(
    @Collation nvarchar(60)
);
```

@Collation: This parameter MUST be set to a valid SQL Collation Name. The server MUST use this collation name to sort the output by column FriendlyTypeName.

Return Code Values: **profile_GetDataTypeList** MUST NOT return a value.

Result Sets: **profile_GetDataTypeList** MUST return one result set.

3.1.4.17.1  DataTypeList Result Set

**DataTypeList** returns the list of profile data types defined in the system. The **DataTypeList** result set will return one result set.

The **DataTypeList** result set is defined using T-SQL syntax as follows:

```sql
DataTypeID int,
DataTypeName nvarchar(100),
Name nvarchar(500),
FriendlyTypeName nvarchar(500),
MaxCharCount int,
IsFulltextIndexable bit,
AllowMultiValue bit,
BlobType tinyint,
IsEmail bit,
IsURL bit,
IsPerson bit,
IsHTML bit;
```

**DataTypeID**: the unique numeric identifier of the **Profile Data Type**.

**DataTypeName**: Contains the underlying SQL data type for this Profile Data Type. Valid values are defined in the enumeration **TYPE:SQLServerDataType** as specified in [MS-UPSIMP], section 3.1.4.4.1 and section 3.1.4.5.1.

**Name**: Contains the unique name of the Profile Data Type.

**FriendlyTypeName**: Contains the user-facing description of the current Profile Data Type.

**MaxCharCount**: Contains the maximum input length for the value of a property associated with this Profile Data Type. If the value is not NULL, the client UI MUST limit input length to this value for properties associated with this Profile Data Type.

**IsFulltextIndexable**: Contains a bit value which if 1 indicates that the data type is eligible for Full-Text Indexing. The server MUST ignore this value.
AllowMultiValue: Contains a bit that if 1 indicates that a profile property associated with this Profile Data Type supports multiple values.

BlobType: Contains a TYPE:ProfilePropertyBlobType (as specified in [MS-UPSIMP] section 2.2.5) enumeration value indicating how the Blob value is stored in the database.

IsEmail: Contains a bit that if 1 indicates the value for the property associated with this Profile Data Type MUST be a valid e-mail address.

IsURL: Contains a bit that if 1 indicates the value for a profile property associated with this Profile Data Type MUST contain a value in URL format. If 1, the client MUST map the host name to match the request.

IsPerson: Contains a bit that if 1 indicates the value for the property associated with this Profile Data Type, if non-NULL, MUST be a valid Domain Account that has been validated against the Domain Controller of the referenced Account Domain.

IsHTML: Contains a bit that if 1 indicates the value this Profile Data Type stores is fully formatted HTML text data.

3.1.4.18 profile_GetMultiLoginAccounts

The profile_GetMultiLoginAccounts stored procedure is called to find all login names registered to the specified @RecordId. A single @RecordId can register 0 or more login names.

profile_GetMultiLoginAccounts is defined using T-SQL syntax as follows:

```
PROCEDURE profile_GetMultiLoginAccounts(
    @RecordId                BigInt
);
```

@RecordId: record of the user to return the list of login names for. This MUST NOT be NULL.

Return Code Values: profile_GetMultiLoginAccounts MUST return 0.

profile_GetMultiLoginAccounts MUST return a result set.

3.1.4.18.1 MultiLoginAccounts Result Set

The MultiLoginAccounts result set contains all of the login names for the user specified by @RecordId. If no login names match the specified @RecordId, the result set MUST contain 0 rows.

The MultiLoginAccounts result set is defined using T-SQL syntax as follows:

```
NTName                 nvarchar(400);
```

NTName: A SAM user name for the entity specified by the user profile.

3.1.4.19 profile_GetNextUserProfileData

The profile_GetNextUserProfileData stored procedure is called to retrieve the next user profile information: the record identifier and the GUID identifying the user.

The profile_GetNextUserProfileData stored procedure is defined using T-SQL syntax as follows:

```
```
PROCEDURE profile_GetNextUserProfileData (
    @CurrentRecordID          bigint,
    @NextCurrentRecordID      bigint OUTPUT,
    @UserID                   uniqueidentifier OUTPUT
    )

@CurrentRecordID: The current user profile record identifier. This parameter MUST be specified and it MUST NOT be NULL.

@NextCurrentRecordID: The Protocol server MUST set this parameter to the smallest record identifier that is greater than the @CurrentRecordID value, or it MUST set it to -1 if no such record identifier exists.

@UserID: The Protocol server MUST set this parameter to the GUID of the user whose profile is identified by the @NextCurrentRecordID. If the @NextCurrentRecordID is -1, the parameter MUST be NULL.

Return Code Values: profile_GetNextUserProfileData MUST return 0. profile_GetNextUserProfileData MUST NOT return any result set.

3.1.4.20 profile_GetPersonalSiteInfo

The profile_GetPersonalSiteInfo stored procedure is called to retrieve the protocol server's personal site configuration properties.

profile_GetPersonalSiteInfo is defined using T-SQL syntax as follows:

PROCEDURE profile_GetPersonalSiteInfo();

Return Code Values: profile_GetPersonalSiteInfo MUST return 0. profile_GetPersonalSiteInfo MUST return 1 result set.

3.1.4.20.1 ProfilePersonalSite Result Set

profile_GetPersonalSiteInfo returns the personal site configuration properties of the specified server. The ProfilePersonalSite result set MUST return 1 row.

The ProfilePersonalSite result set is defined using T-SQL syntax as follows:

Inclusion nvarchar(500) NOT NULL,
NameFormat smallint NOT NULL
SiteReader ntext NULL,
EnableMLS bit NOT NULL;

Inclusion: The site provider under which user personal sites are created. This value MUST be returned.

NameFormat: MUST be a Name Format (Section 2.2.2.5) type value.

SiteReader: A comma-delimited list of user display names that will be granted the permission to read content on new user personal sites. This value MUST NOT be NULL.
EnableMLS: MUST be an Is MLS Enabled (Section 2.2.3) Type value.

3.1.4.21 profile_GetProfileCount

The profile_GetProfileCount stored procedure is called to retrieve the number of user profiles contained in the user profile store.

profile_GetProfileCount is defined using T-SQL syntax as follows:

```
PROCEDURE profile_GetProfileCount();
```

Return Code Values: profile_GetProfileCount MUST return 0.
Result Sets: profile_GetProfileCount MUST return one result set.

3.1.4.21.1 profile_GetProfileCount Result Set

The profile_GetProfileCount result set MUST contain 1 row. The result set is defined using T-SQL syntax as follows:

```
CountTrack                int;
```

CountTrack: The number of user profiles contained in the user profile store.

3.1.4.22 profile_GetProfileCountWithProperty

The profile_GetProfileCountWithProperty stored procedure is called to retrieve the number of user profiles contained in the user profile store that have a value defined for a specified property.

profile_GetProfileCountWithProperty is defined using T-SQL syntax as follows:

```
PROCEDURE profile_GetProfileCountWithProperty (  
    @PropertyName                   nvarchar(50),  
    @NoOfProfiles                   int    OUTPUT,  
    @Error                          int    OUTPUT 
);  
```

@PropertyName: The name of a property. This parameter MUST be specified and MUST NOT be NULL.

@NoOfProfiles: The number of user profiles that contain the specified @PropertyName.

@Error: If @PropertyName is a valid property name the Protocol server MUST set this parameter to 0. If @PropertyName is invalid, the Protocol server MUST set this parameter to -1.

Return Code Values: profile_GetProfileCountWithProperty MUST return 0.
profile_GetProfileCountWithProperty MUST NOT return any result set.

3.1.4.23 profile_GetProfilePropertyInfo

The profile_GetProfilePropertyInfo stored procedure is called to retrieve property information. It can also be used to retrieve information about sections.
**profile_GetProfilePropertyInfo** is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_GetProfilePropertyInfo (  
@PropertyURI nvarchar(250) NULL,  
@PropertyName nvarchar(50) NULL,  
@ProfileName nvarchar(250) N'UserProfile',  
@Collation nvarchar(60) NULL,  
@Lcid int NULL,  
@ReplicableSchemaVersion int NULL OUTPUT,  
@bDebug bit 0);  

@PropertyURI: The URI of the property.
@PropertyName: The name of the property.
@ProfileName: This parameter MUST NOT be specified.
@Collation: The **collation sequence** used to determine the sort order for the result set. The Protocol server MUST use this value to sort the output by the DisplayName column in the result set.
@Lcid: The **language code identifier (LCID)** that indicates the language of the property associated with the user display name.
@ReplicableSchemaVersion: An monotonically-increasing value that indicates if changes are made to the Replicable Schema as defined in [MS-UPSSYNC], Section 3.1.1.
@bDebug: This parameter MUST be ignored.

Return Code Values: **profile_GetProfilePropertyInfo** MUST return 0.

**profile_GetProfilePropertyInfo** MUST return one of the following three user profile property result sets. These three result sets are referred to as Profile Property Result Set A (Section 3.1.4.23.1), Profile Property Result Set B (Section 3.1.4.23.2), and Profile Property Result Set C (Section 3.1.4.23.3), respectively.

If @PropertyURI is NULL and @PropertyName is NULL and either @Collation is NULL or @Lcid is NULL, then the columns specified in Profile Property Result Set A (Section 3.1.4.23.1) MUST be returned, ordered by DisplayOrder.

If @PropertyURI is NULL and @PropertyName is NULL and both @Collation and @Lcid are not NULL, then the columns specified in Profile Property Result Set B (Section 3.1.4.23.2) MUST be returned. Profile Property Result Set B (Section 3.1.4.23.2) is ordered by DisplayName according to the value of @Collation.

If either @PropertyURI is not NULL or @PropertyName is not NULL, then the columns specified in Profile Property Result Set C (Section 3.1.4.23.3) MUST be returned.

### 3.1.4.23.1 Profile Property Result Set A

**Return Code Values:** Profile Property Result Set A MUST include all rows in which the IsAuxiliary value is 0.

**Result Sets:** The T-SQL syntax for the Profile Property Result Set A is defined in Profile Property Result Set Columns (Section 3.1.4.23.4).
### 3.1.4.23.2 Profile Property Result Set B

**Return Code Values:** Profile Property Result Set B MUST include all rows in which the IsAuxiliary value is 0.

**Result Sets:** The T-SQL syntax for the Profile Property Result Set B is defined in Profile Property Result Set Columns (Section 3.1.4.23.4).

### 3.1.4.23.3 Profile Property Result Set C

**Return Code Values:** Profile Property Result Set C MUST include all rows in which either the PropertyURI value matches the @PropertyURI input parameter or the PropertyName value matches the @PropertyName input parameter.

**Result Sets:** The T-SQL syntax for the Profile Property Result Set C is defined in Profile Property Result Set Columns (Section 3.1.4.23.4).

### 3.1.4.23.4 Profile Property Result Set Columns

The three Profile Property result sets each return property information. The data columns contained by each result set are summarized in the following table.

This table includes the column name, the data type in T-SQL syntax, and an indication as to whether this column appears in Result Set A, Result Set B, or Result Set C.

<table>
<thead>
<tr>
<th>Column Name</th>
<th>T-SQL Data Type</th>
<th>ResultSet A</th>
<th>ResultSet B</th>
<th>ResultSet C</th>
</tr>
</thead>
<tbody>
<tr>
<td>PropertyID</td>
<td>bigint</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>PropertyName</td>
<td>nvarchar(250)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>PropertyURI</td>
<td>nvarchar(250)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>DataTypeID</td>
<td>int</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>DataType</td>
<td>nvarchar(50)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>VocValTypeID</td>
<td>int</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Length</td>
<td>int</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>BlobType</td>
<td>tinyint</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsSection</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsMultiValue</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsSystem</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsEditable</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsAdminEditOnly</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsImport</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsAlias</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsAuxiliary</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Column Name</td>
<td>T-SQL Data Type</td>
<td>(resultSet A)</td>
<td>resultSet B</td>
<td>resultSet C</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------</td>
<td>---------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>IsColleagueEventLog</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsUpgrade</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsUpgradePrivate</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsSearchable</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>replicable</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>ChoiceType</td>
<td>int</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>MaximumShown</td>
<td>int</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>DisplayName</td>
<td>nvarchar(512)</td>
<td></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Policy</td>
<td>int</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>DefaultItemSecurity</td>
<td>int</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsItemSecurityOverridable</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsPolicyOverridable</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsExpand</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsVisible</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsVisibleOnViewer</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>DisplayOrder</td>
<td>int</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Separator</td>
<td>tinyint</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Name</td>
<td>nvarchar(500)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>FriendlyTypeName</td>
<td>nvarchar(500)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsEmail</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsURL</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsPerson</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>IsHTML</td>
<td>bit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**PropertyID:** Contains the identifier of the property.

**PropertyName:** Contains the name of the property.

**PropertyURI:** Contains the URI for this property.

**DataTypeID:** This value MUST be ignored by the protocol client.

**DataType:** Contains the data type of the property which MUST be listed in the following table:
<table>
<thead>
<tr>
<th>T-SQL Type Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>int</td>
</tr>
<tr>
<td>bigint</td>
</tr>
<tr>
<td>datetime</td>
</tr>
<tr>
<td>float</td>
</tr>
<tr>
<td>nvarchar</td>
</tr>
<tr>
<td>varbinary</td>
</tr>
<tr>
<td>uniqueidentifier</td>
</tr>
<tr>
<td>bit</td>
</tr>
</tbody>
</table>

**VocValTypeID**: Contains the choice list identifier of the property.

**Length**: Contains the maximum length of the property's value.

**BlobType**: This value MUST be ignored by the protocol client.

**IsSection**: Contains a value that indicates whether this property is a section. This value MUST be 1 to indicate a section.

**IsMultiValue**: Contains a value that indicates whether this property is a multivalue property. This value MUST be 1 to indicate a multi-value property.

**IsSystem**: Contains a value that indicates whether this property is a reserved system property. This value MUST be 1 to indicate a reserved system property.

**IsEditable**: Contains a value that indicates whether this property is editable. This value MUST be 1 to indicate that this property is editable.

**IsAdminEditOnly**: Contains a value that indicates whether this property is a property editable only by the administration. This value MUST be 1 to indicate a property editable only by the administration.

**IsImport**: Contains a value that indicates whether this property is an imported property. This value MUST be 1 to indicate an imported property.

**IsAlias**: Contains a value that indicates whether this property serves as an e-mail alias of the user for user search purposes. This value MUST be 1 to indicate that this property serves as an e-mail alias of the user for user search purposes.

**IsAuxiliary**: Contains a value that indicates whether this property is an auxiliary property. This value MUST be 1 to indicate an auxiliary property.

**IsColleagueEventLog**: Contains a value that indicates whether this property is displayed on the Colleague Tracker Web Part. This value MUST be 1 to indicate that this property is displayed on the Colleague Tracker Web Part.

**IsUpgrade**: Contains a value that indicates whether this property exists in a previously upgraded installation. This value MUST be 1 to indicate that this property exists in a previously upgraded installation.
**IsUpgradePrivate**: Contains a value that indicates whether this property was private in a previously upgraded installation. This value MUST be 1 to indicate that this property was private in a previously upgraded installation.

**IsSearchable**: Contains a value that indicates whether this property is indexed by the search server. This value MUST be 1 to indicate that this property is indexed by Search Server.

**Replicable**: Contains a value that indicates whether this property is Replicable. This value MUST be 1 to indicate that this property is Replicable.

**ChoiceType**: MUST be a Property Choice (Section 2.2.2.9) Type value.

**MaximumShown**: Contains a value indicating the maximum number of multiple-value choice list entries to show for a property before displaying an ellipsis when rendering on a profile site.

**DisplayName**: Contains the localized user display name of the property based on the specified @Lcid.

**Policy**: MUST be a Privacy Policy (Section 2.2.2.8) Type value. The value of this attribute MUST be 0 for updated or built-in sections.

**DefaultItemSecurity**: Contains a value indicating the default Privacy (Section 2.2.2.7) Type of the property. The value of this attribute MUST be 0 for updated sections.

**IsItemSecurityOverridable**: MUST be an "Is Item Security Overridable" (Section 2.2.2.2) Type value.

**IsPolicyOverridable**: Contains a value that indicates that a policy override can be changed by administration. This value MUST be 1 to indicate that a policy override can be changed by administration.

**IsExpand**: This value MUST be ignored by the protocol client.

**IsVisible**: Contains a value that indicates whether this property is visible. This value MUST be 1 to indicate that this property is visible.

**IsVisibleOnViewer**: Contains a value that indicates whether this property is visible on the default profile site. This value MUST be 1 to indicate that this property is visible on the default profile site.

**DisplayOrder**: Contains a value specifying the display order for the property.

**Separator**: Contains the multi-value user interface separator which MUST be a value listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NULL</td>
<td>Null</td>
</tr>
<tr>
<td>0</td>
<td>Comma</td>
</tr>
<tr>
<td>1</td>
<td>Semi-colon</td>
</tr>
<tr>
<td>2</td>
<td>New Line</td>
</tr>
<tr>
<td>255</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

**Name**: Contains the name of the property's T-SQL datatype.
**FriendlyTypeName**: This value MUST be ignored by the protocol client.

**IsEmail**: This value MUST be ignored by the protocol client.

**IsURL**: This value MUST be ignored by the protocol client.

**IsPerson**: Contains a value that indicates the value for this property, if non-NULL, MUST be a valid Domain Account. This value MUST be 1 to indicate that the value for this property MUST be a valid Domain Account.

**IsHTML**: This value MUST be ignored by the protocol client.

### 3.1.4.24 `profile_GetProfilePropertyLoc`

The `profile_GetProfilePropertyLoc` stored procedure is called to retrieve all localized user display names and descriptions for each property.

`profile_GetProfilePropertyLoc` is defined using T-SQL syntax as follows:

```
PROCEDURE profile_GetProfilePropertyLoc();
```

**Return Code Values**: `profile_GetProfilePropertyLoc` MUST return 0.

**Results Sets**: `profile_GetProfilePropertyLoc` MUST return 1 result set.

#### 3.1.4.24.1 Get Localized Profile Property Result Set

The Get Localized Profile Property result set returns localized property information. The result set MUST contain 1 or more rows.

The Get Localized Profile Property result set is defined using T-SQL syntax as follows:

```
Id                        bigint,
PropertyId                bigint,
PropertyField             int,
Lcid                      int,
Text                      nvarchar(512);
```

**Id**: This value MUST be ignored.

**PropertyId**: The identifier of the property.

**PropertyField**: This value indicates if the Text value is a user display name or description. The PropertyField MUST be a value listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indicates that the Text field contains the localized value of the user display name associated with the property.</td>
</tr>
<tr>
<td>2</td>
<td>Indicates that the Text field contains the localized value of the description associated with the property.</td>
</tr>
</tbody>
</table>

**Lcid**: The LCID indicating what language the specified text is in.
The localized value of the user display name or description associated with the property.

### 3.1.4.25 profile_GetPropertyChoiceList

The `profile_GetPropertyChoiceList` stored procedure is called to retrieve all the choice list values for the specified property.

`profile_GetPropertyChoiceList` is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_GetPropertyChoiceList (  
    @PropertyName nvarchar(50)  
);
```

- **@PropertyName**: The name of a property. This parameter MUST be specified. This parameter MUST NOT be NULL.

**Return Code Values**: `profile_GetPropertyChoiceList` MUST return 0.

**Result Sets**: `profile_GetPropertyChoiceList` MUST return 1 result set.

#### 3.1.4.25.1 Choice List Values Result Set

The choice list values result set returns the existing choice list values for the `@PropertyName`. The result set MUST contain 0 or more rows.

The choice list values result set is defined using T-SQL syntax as follows:

```sql
VocValValue sql_variant;
```

- **VocValValue**: A choice list value associated with a property.

### 3.1.4.26 profile_GetSharedListSync

The `profile_GetSharedListSync` stored procedure is called to retrieve a shared list object based on the specified `@ListId`.

`profile_GetSharedListSync` is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_GetSharedListSync (  
    @ListId uniqueidentifier  
);
```

- **@ListId**: The GUID value that uniquely identifies the shared list object being retrieved.

**Return Code Values**: This MUST return 0.

**Result Sets**: `profile_GetSharedListSync` MUST return 1 shared list result set.

#### 3.1.4.26.1 Shared List Result Set

The Shared List result set returns 0 or more rows of shared list items.

The Shared List result set is defined using T-SQL syntax as follows:
ListId: Contains the GUID of the shared list. This MUST NOT be NULL.

ItemId: Contains the identifier of the specified list item from the shared list. This MUST NOT be NULL.

Title: Contains the user-friendly name of the specified list item from the shared list. This MUST NOT be NULL.

Url: Contains a URL link of the specified list item from the shared list. This MUST NOT be NULL.

TargetTo: Contains the audience information of the specified list item from the shared list. The field MUST either be empty or contain a triplet of comma-delimited audiences, comma-delimited distribution lists, and comma-delimited group. The triplet separator MUST be ";;".

Int1: Contains the type information of the specified list item from the shared list.

3.1.4.27 profile_GetUserFormat

The profile_GetUserFormat stored procedure is called to retrieve the user name format that is used by the Protocol server.

profile_GetUserFormat is defined using T-SQL syntax as follows:

    PROCEDURE profile_GetUserFormat();

Return Code Values: profile_GetUserFormat MUST return 0.

Result Sets: profile_GetUserFormat MUST return one result set.

3.1.4.27.1 ProfileGetUserFormat Result Set

profile_GetUserFormat MUST return 1 row containing the user name format that is used by the system.

The ProfileGetUserFormat result set is defined using T-SQL syntax as follows:

    PersonDBFormat    int NOT NULL;

PersonDBFormat: The user name format that is used by the system. The field MUST be a value listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indicates that the system uses login names to identify users.</td>
</tr>
<tr>
<td>2</td>
<td>Indicates that the system uses distinguished names (DN) to identify users.</td>
</tr>
</tbody>
</table>
### 3.1.4.28 profile_GetUserGUID

The **profile_GetUserGUID** stored procedure is called to retrieve the GUID of a user's primary account.

**profile_GetUserGUID** is defined using T-SQL syntax as follows:

```
PROCEDURE profile_GetUserGUID (  
    @NTName        nvarchar(120) = NULL,  
    @SID           varbinary(512) = NULL,  
    @GUID          uniqueidentifier OUTPUT,  
    @RequireValues bit = 0,  
    @Debug         bit = 0  
);  
```

- **@NTName**: A SAM user name for the entity specified by the user profile.
- **@SID**: The user's security identifier (SID).
- **@GUID**: Output parameter that specifies the GUID of a user's primary account. If a valid user is not found, **@GUID** MUST be NULL. This parameter MUST be specified.
- **@RequireValues**: This parameter MUST be set to 0 or 1.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>If set to 0, the procedure MUST look for a user Profile matching the specified parameters, including user Profiles which are corrupted.</td>
</tr>
<tr>
<td>1</td>
<td>If set to 1, the procedure MUST look for a user Profile matching the specified parameters, including only user Profiles which are not corrupted.</td>
</tr>
</tbody>
</table>

- **@Debug**: This parameter MUST be ignored.

**Return Code Values**: **profile_GetUserGUID** MUST return 0.

**Result Sets**: **profile_GetUserGUID** MUST NOT return any result set. Either **@NTName** or **@SID** MUST be specified. If both **@NTName** and **@SID** are specified, **@NTName** parameter MUST be used to identify the user and **@SID** MUST be ignored by the Protocol server.

### 3.1.4.29 profile_GetUserProfileData

The **profile_GetUserProfileData** stored procedure is called by a user who request the user profile for the user specified by any of **@UserId**, **@NTName**, **@SID** or **@RecordId**.

**profile_GetUserProfileData** is defined using T-SQL syntax as follows:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Indicates that the system uses a <strong>user principal name (UPN)</strong> to identify a specified user.</td>
</tr>
<tr>
<td>4</td>
<td>Indicates that the system uses a user display name to identify each user.</td>
</tr>
<tr>
<td>5</td>
<td>Indicates that the system uses GUIDs to identify users.</td>
</tr>
</tbody>
</table>
PROCEDURE profile_GetUserProfileData(
    @UserID uniqueidentifier,
    @NTName nvarchar(400) = NULL,
    @SID varbinary(512) = NULL,
    @RecordId bigint = NULL,
    @ViewerRights int OUTPUT,
    @ViewerNTName nvarchar(400) = NULL,
    @AllowAlternateAccountName bit = 0,
    @bQuickLoad bit = 0,
    @bDebug bit = 0
);

@UserID: Identifies the user requested.
@NTName: A SAM user name for the entity specified by the user profile.
@SID: Contains the SID for the user requested.
@RecordId: Contains the matching GUID identifying the user requested.
@ViewerRights: Contains the rights of the user requesting the information. This MUST be a Privacy (Section 2.2.2.7) type value. If this parameter is set to (0x40000000) to indicate that a privacy policy is unset, then @ViewerRights MUST be set according to the requesting user’s privacy policy based on @ViewerNTName.
@ViewerNTName: Contains the requesting NT Name. This MUST be NULL unless the @ViewerRights is set to PRIVACY_NOTSET.
@AllowAlternateAccountName: Contains a bit flag specifying whether the caller is requesting the alternate account instead of the master account. If the value of AllowAlternateAccountName is set to 1, the operation MUST be based on the alternate record identifier instead of the master account identifying the user.
@bQuickLoad: The value MUST be set to 0.
@bDebug: This value MUST be set to 0.

Return Code Values: profile_GetUserProfileData MUST return 0.

One of @UserID, @SID, @NTName, or @RecordID MUST be specified.

If @UserID is NULL then the user will be identified by @SID. If @SID is NULL then user will be identified by @NTName. If @NTName is NULL then user will be identified by @RecordId.

Result Sets: profile_GetUserProfileData MUST return 1 result set of UserProperties:

3.1.4.29.1 UserProperties Result Set

The UserProperties result set returns the available properties for the user specified. The UserProperties result set MUST contain 0 or more rows of user properties.

The UserProperties result set is defined using T-SQL syntax for the stored procedure as follows:

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>RecordID</td>
<td>bigint</td>
</tr>
<tr>
<td>PropertyID</td>
<td>bigint</td>
</tr>
<tr>
<td>PropertyVal</td>
<td>sql_variant</td>
</tr>
<tr>
<td>Image</td>
<td>image</td>
</tr>
</tbody>
</table>
3.1.4.30 profile_GetUserProfilesByEmail

The profile_GetUserProfilesByEmail stored procedure is called to get user profile information based on the e-mail addresses specified.

profile_GetUserProfilesByEmail is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_GetUserProfilesByEmail(
    @RecordId bigint,
    @Email0 nvarchar(400) = NULL,
    @Email1 nvarchar(400) = NULL,
    @Email2 nvarchar(400) = NULL,
    @Email3 nvarchar(400) = NULL,
    @Email4 nvarchar(400) = NULL,
    @Email5 nvarchar(400) = NULL,
    @Email6 nvarchar(400) = NULL,
    @Email7 nvarchar(400) = NULL,
    @Email8 nvarchar(400) = NULL,
    @Email9 nvarchar(400) = NULL,
    @Email10 nvarchar(400) = NULL,
    @Email11 nvarchar(400) = NULL,
    @Email12 nvarchar(400) = NULL,
    @Email13 nvarchar(400) = NULL,
    @Email14 nvarchar(400) = NULL,
    @Email15 nvarchar(400) = NULL,
    @Email16 nvarchar(400) = NULL,
    @Email17 nvarchar(400) = NULL,
    @Email18 nvarchar(400) = NULL,
    @Email19 nvarchar(400) = NULL,
    @Email20 nvarchar(400) = NULL,
    @Email21 nvarchar(400) = NULL,
    @Email22 nvarchar(400) = NULL,
    @Email23 nvarchar(400) = NULL,
    @Email24 nvarchar(400) = NULL,
    @Email25 nvarchar(400) = NULL,
    @Email26 nvarchar(400) = NULL,
    @Email27 nvarchar(400) = NULL,
    @Email28 nvarchar(400) = NULL,
    @Email29 nvarchar(400) = NULL,
    @Email30 nvarchar(400) = NULL,
    @Email31 nvarchar(400) = NULL,
    @Email32 nvarchar(400) = NULL,
    @Email33 nvarchar(400) = NULL,
    @Email34 nvarchar(400) = NULL,
    @Email35 nvarchar(400) = NULL,
    @Email36 nvarchar(400) = NULL,
    @Email37 nvarchar(400) = NULL,
    @Email38 nvarchar(400) = NULL,
    @Email39 nvarchar(400) = NULL,
    @Email40 nvarchar(400) = NULL,
    @Email41 nvarchar(400) = NULL,
    @Email42 nvarchar(400) = NULL,
    @Email43 nvarchar(400) = NULL,
    @Email44 nvarchar(400) = NULL,
    @Email45 nvarchar(400) = NULL,
    @Email46 nvarchar(400) = NULL,
    @Email47 nvarchar(400) = NULL,
    @Email48 nvarchar(400) = NULL,
    @Email49 nvarchar(400) = NULL,
    @Email50 nvarchar(400) = NULL,
    @Email51 nvarchar(400) = NULL,
    @Email52 nvarchar(400) = NULL,
    @Email53 nvarchar(400) = NULL,
    @Email54 nvarchar(400) = NULL,
    @Email55 nvarchar(400) = NULL,
    @Email56 nvarchar(400) = NULL,
    @Email57 nvarchar(400) = NULL,
    @Email58 nvarchar(400) = NULL,
    @Email59 nvarchar(400) = NULL,
    @Email60 nvarchar(400) = NULL,
    @Email61 nvarchar(400) = NULL,
    @Email62 nvarchar(400) = NULL,
    @Email63 nvarchar(400) = NULL,
    @Email64 nvarchar(400) = NULL,
    @Email65 nvarchar(400) = NULL,
    @Email66 nvarchar(400) = NULL,
    @Email67 nvarchar(400) = NULL,
    @Email68 nvarchar(400) = NULL,
    @Email69 nvarchar(400) = NULL,
    @Email70 nvarchar(400) = NULL,
    @Email71 nvarchar(400) = NULL,
    @Email72 nvarchar(400) = NULL,
    @Email73 nvarchar(400) = NULL,
    @Email74 nvarchar(400) = NULL,
    @Email75 nvarchar(400) = NULL,
    @Email76 nvarchar(400) = NULL,
    @Email77 nvarchar(400) = NULL,
    @Email78 nvarchar(400) = NULL,
    @Email79 nvarchar(400) = NULL,
    @Email80 nvarchar(400) = NULL,
    @Email81 nvarchar(400) = NULL,
    @Email82 nvarchar(400) = NULL,
    @Email83 nvarchar(400) = NULL,
    @Email84 nvarchar(400) = NULL,
    @Email85 nvarchar(400) = NULL,
    @Email86 nvarchar(400) = NULL,
    @Email87 nvarchar(400) = NULL,
    @Email88 nvarchar(400) = NULL,
    @Email89 nvarchar(400) = NULL,
    @Email90 nvarchar(400) = NULL,
    @Email91 nvarchar(400) = NULL,
    @Email92 nvarchar(400) = NULL,
    @Email93 nvarchar(400) = NULL,
    @Email94 nvarchar(400) = NULL,
    @Email95 nvarchar(400) = NULL,
    @Email96 nvarchar(400) = NULL,
    @Email97 nvarchar(400) = NULL,
    @Email98 nvarchar(400) = NULL,
    @Email99 nvarchar(400) = NULL,
    @Email100 nvarchar(400) = NULL,
    @Email101 nvarchar(400) = NULL,
    @Email102 nvarchar(400) = NULL,
    @Email103 nvarchar(400) = NULL,
    @Email104 nvarchar(400) = NULL,
    @Email105 nvarchar(400) = NULL,
    @Email106 nvarchar(400) = NULL,
    @Email107 nvarchar(400) = NULL,
    @Email108 nvarchar(400) = NULL,
    @Email109 nvarchar(400) = NULL
)
```
@RecordId: The record identifier of a user. The stored procedure MUST NOT return the user profile of the user corresponding to the specified e-mail address, if this user is a colleague of a user corresponding to a specified e-mail address.

@Email0-Email39: The e-mail address of the specified user for which to return the user profile. The stored procedure MUST return the profile information of all the different e-mail addresses that are not NULL.

Return Code Values: profile_GetUserProfilesByEmail MUST return 0.

Result Sets: profile_GetUserProfilesByEmail MUST return 1 result set.

3.1.4.30.1 User_Profile Result Set

profile_GetUserProfilesByEmail MUST return 0 or more rows corresponding to records that match a specified user's e-mail address.

The UserProfile result set is defined using T-SQL syntax as follows:

<table>
<thead>
<tr>
<th>Column</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>RecordID</td>
<td>bigint IDENTITY (1, 1) NOT NULL,</td>
</tr>
<tr>
<td>UserID</td>
<td>uniqueidentifier NOT NULL,</td>
</tr>
<tr>
<td>NTName</td>
<td>nvarchar(400) NOT NULL,</td>
</tr>
<tr>
<td>PreferredName</td>
<td>nvarchar(256) NULL,</td>
</tr>
<tr>
<td>Email</td>
<td>nvarchar(256) NULL,</td>
</tr>
<tr>
<td>SipAddress</td>
<td>nvarchar(250) NULL,</td>
</tr>
<tr>
<td>PersonTitle</td>
<td>nvarchar(150),</td>
</tr>
</tbody>
</table>

RecordID: Contains the record identifier associated with the specified user. This MUST NOT be NULL.

UserID: Contains the GUID for the user. This MUST NOT be NULL.
**NTName:** A SAM user name for the entity specified by the user profile. This MUST NOT be NULL.

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

**Email:** Contains the e-mail addresses for the user.

**SipAddress:** Contains the SIP address of the user.

**PersonTitle:** Contains the user title.

### 3.1.4.31 profile_GetUserReportToData

The **profile_GetUserReportToData** stored procedure is called to retrieve the Manager property associated with a specific user, the colleague properties associated with a specific user, and the reports associated with a specific user. This procedure is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_GetUserReportToData(
    @Collation nvarchar(60),
    @UserID uniqueidentifier,
    @NTName nvarchar(400) = NULL,
    @SID varbinary(512) = NULL,
    @bDebug bit = 0
);
```

**@Collation:** This is a collation sequence keyword that specifies how the results are sorted. This MUST NOT be NULL.

**@UserID:** The GUID that identifies a user.

**@NTName:** A SAM user name for the entity specified by the user profile.

**@SID:** The user's security identifier (SID).

**@bDebug:** This parameter MUST be set 0 and MUST be ignored by the Protocol server.

**Return Code Values:** **profile_GetUserReportToData** MUST return 0.

The protocol client MUST set 1 of the values; @UserID, @NTName, or @SID. If more than one value is set, the stored procedure will only use the first non-NULL value entered in @UserID, @NTName, or @SID respectively.

**Result Sets:** **profile_GetUserReportToData** MUST return three result sets when the user has a Manager property.

**profile_GetUserReportToData** MUST return two result sets when the user does not have a Manager property. All result sets are of the same structure, MUST be sorted by PreferredName on @Collation and ordered as follows:

1. Reports
2. Manager property
3. Peer
3.1.4.31.1 profile_GetUserReportToDataResult Set

The profile_GetUserReportToData result set returns user profile data pertaining to the specified user’s reports, manager, and peers.

profile_GetUserReportToData is defined using T-SQL syntax as follows:

```
RecordID                bigint,
UserID                  nvarchar(400),
PreferredName           nvarchar(256),
Email                   nvarchar(256),
SipAddress              nvarchar(250),
PersonTitle             nvarchar(150);
```

**RecordID:** Contains the record identifier for the user.

**UserID:** Contains the GUID identifying the user.

**NTName:** A SAM user name for the entity specified by the user profile.

**PreferredName:** The name of the user as defined in the user profile.

**Email:** The e-mail address of the user.

**SipAddress:** The SIP address of the user.

**PersonTitle:** The title of the user.

3.1.4.32 profile_GetViewerRights

The profile_GetViewerRights stored procedure is called to determine what rights the user specified by @ViewerNTName has to see items owned by the user specified by @RecordId.

profile_GetViewerRights is defined using T-SQL syntax as follows:

```
PROCEDURE profile_GetViewerRights(
    @RecordId                BigInt,
    @ViewerNTName            nvarchar(400),
    @ManagerNTName           nvarchar(400) = null
);
```

**@RecordId:** The @RecordId of the user who owns the items. This MUST NOT be NULL.

**@ViewerNTName:** The login name of user requesting rights. This MUST NOT be NULL.

**@ManagerNTName:** The Manager property of user specified by @RecordId parameter.

**Return Value:** profile_GetViewerRights returns a bitmask of the permission values listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Public. This bit MUST always be set.</td>
</tr>
<tr>
<td>2</td>
<td>Contacts. This bit MUST be set if @ViewerNTName corresponds to a contact of the user indicated by @RecordId.</td>
</tr>
<tr>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>4</td>
<td>Workgroup. This bit MUST be set if the @ViewerNTName corresponds to a user in the @RecordId workgroup,</td>
</tr>
<tr>
<td>8</td>
<td>Manager. This bit MUST be set if @ManagerNTName matches @ViewerNTName, then the viewer is the manager of the user indicated by @RecordId.</td>
</tr>
<tr>
<td>16</td>
<td>Self. This bit and all other bits MUST be set if the @RecordId indicated belongs to the @ViewerNTName.</td>
</tr>
</tbody>
</table>

**Result Sets:** MUST return 1 result set.

### 3.1.4.33 profile_MigrateUserProfile

The **profile_MigrateUserProfile** stored procedure is called to update the security identifier (SID) and user name of an existing user profile. The stored procedure also updates Audience, Membership and user site information by replacing any occurrence of either the SID or the user name with the updated values.

**profile_MigrateUserProfile** is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_MigrateUserProfile(
    @OldNTName nvarchar(400),
    @OldSID varbinary(512),
    @NewNTName nvarchar(400),
    @NewSID varbinary(512),
    @PersonalSiteReaders ntext
);
```

**@OldNTName:** The old user name that identifies the user profile being updated. This value MUST be specified and MUST NOT be NULL.

**@OldSID:** The SID for the user profile being updated. This value MUST be specified and MUST NOT be NULL.

**@NewNTName:** The new user name of the profile being updated. If there is already a user profile under @NewNTName, it MUST be deleted to avoid multiple profiles for a single user. This value MUST be specified and MUST NOT be NULL.

**@NewSID:** The new SID that of the profile being migrated. This value MUST be specified and MUST NOT be NULL.

**@PersonalSiteReaders:** A comma-delimited list of user names. This list MUST first be populated by the **profile_GetPersonalSiteInfo** (Section 3.1.4.20) stored procedure and then all occurrences of the @OldNTName MUST be replaced with @NewNTName prior to the call of the **profile_MigrateUserProfile** stored procedure.

**Return Code Values:** **profile_MigrateUserProfile** returns an integer return code which MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Successful execution.</td>
</tr>
<tr>
<td>Positive integer number</td>
<td>A SQL error code as defined in the SQL sysmessages table.</td>
</tr>
</tbody>
</table>
Result Sets: `profile_MigrateUserProfile` MUST NOT return any result set.

### 3.1.4.34 profile_OnSqlRestore

The `profile_OnSqlRestore` stored procedure is called to apply database changes after a restore operation as used by the specified SQL server.

`profile_OnSqlRestore` is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_OnSqlRestore(
    @NewSSP bit,
    @ClearListData bit
);
```

@NewSSP: This parameter specifies if a new Shared Services Provider (SSP) was created as part of the restore operation. It MUST be 1 of these values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A new SSP has been created as part of the restore operation.</td>
</tr>
<tr>
<td>0</td>
<td>The restore operation was performed on an existing SSP.</td>
</tr>
</tbody>
</table>

@ClearListData: Specifies whether the stored procedure deletes all shared list objects. @ClearListData MUST be one of the following values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All shared list objects MUST be deleted.</td>
</tr>
<tr>
<td>0</td>
<td>Shared list objects MUST NOT be deleted.</td>
</tr>
</tbody>
</table>

Return Code Values: `profile_OnSqlRestore` MUST return a return code of 0.

Result Sets: `profile_OnSqlRestore` MUST NOT return any result set.

### 3.1.4.35 profile_RemoveUser

The `profile_RemoveUser` stored procedure is called to delete a user profile from the Protocol server. The procedure is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_RemoveUser(
    @UserID uniqueidentifier,
    @NTName nvarchar(400) = null,
    @SID varbinary(512) = null
);
```

@UserID: Contains the GUID of the user to remove. If @UserID is specified, @NTName and @SID MUST be NULL.

@NTName: Contains the login name of the user to remove. If @NTName is specified, @UserID and @SID MUST be NULL.
@SID: Contains the SID of the user to remove. If @SID is specified, @NTName and @UserId MUST be NULL.

Return Code Values: profile_RemoveUser returns an integer return code that MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>A user was deleted.</td>
</tr>
<tr>
<td>1</td>
<td>A user could not be found to delete.</td>
</tr>
<tr>
<td>Other</td>
<td>Operation not successful.</td>
</tr>
</tbody>
</table>

Result Sets: profile_RemoveUser MUST NOT return any result set.

3.1.4.36 profile_ResetDeletedUser

The profile_ResetDeletedUser stored procedure is called to unmark the Profile Pending Deletion Flag on a user profile and set the account to active.

profile_ResetDeletedUser is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_ResetDeletedUser(
    @UserID uniqueidentifier
);```

@UserID: Contains the GUID of the user to activate. This value MUST be specified.

Return Code Values: profile_ResetDeletedUser MUST return 0.

Result Sets: profile_ResetDeletedUser MUST NOT return any result set.

3.1.4.37 profile_SearchUser

The profile_SearchUser stored procedure is called to return the users that match the search criteria.

profile_SearchUser is defined using T-SQL syntax as follows:

```sql
PROCEDURE DBO.profile_SearchUser(
    @SearchString nvarchar(250),
    @RowCountStart int,
    @RowCountEnd int,
    @AccountName bit,
    @PreferredName bit = NULL,
    @Email bit = NULL,
    @WildSearch bit = 1,
    @DoGeneralSearch bit = 0,
    @Collation nvarchar(60),
    @bActiveOnly bit = 1,
    @TotalRowCount int OUTPUT
);```
@SearchString: Specifies the search input text for matching user records. This Parameter MUST be specified and MUST NOT be NULL.

@RowCountStart: Specifies which row the protocol server starts the search from. This value MUST be specified if @DoGeneralSearch is not set to 1. If @DoGeneralSearch is set to 1, then this parameter MUST be ignored. If this value is set to 0, then the protocol server MUST return 0 records.

@RowCountEnd: Specifies which row the protocol server stops returning records after. This value MUST be specified if @DoGeneralSearch is not set to 1. If @DoGeneralSearch is set to 1, then this parameter MUST be ignored. If specified, this value MUST be greater than or equal to @RowCountStart.

@AccountName: Specifies whether the search uses the login name. If this parameter is set to 1, it specifies that search MUST use the login name accounts to match the results.

@PreferredName: Specifies whether the search uses the user display name. If this parameter is set to 1, it specifies that search MUST use the user display name to match the results.

@Email: Specifies whether the search uses the e-mail address. If this parameter is set to 1, it specifies that search MUST use the e-mail address to match the results.

@WildSearch: This parameter specifies how the protocol server does the search. This value MUST be 1 of the following values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The protocol server MUST search exactly by @SearchString.</td>
</tr>
<tr>
<td>1</td>
<td>The protocol server MUST search for values that start with @SearchString.</td>
</tr>
</tbody>
</table>

@DoGeneralSearch: Specifies whether the protocol server searches on all possible values in login name, user display name, and e-mail address.

@Collation: This specifies that the results MUST be ordered by the collation sequence specified in this parameter and not according to the collation sequence of the column as defined in the table or view. If @DoGeneralSearch and @PreferredName are 1, the protocol server MUST ignore this parameter. If @DoGeneralSearch and @PreferredName are not 1, this parameter MUST be specified and MUST NOT be NULL.

@bActiveOnly: This value specifies if the protocol server MUST search through records that are no longer active. This value MUST be 1 of the following values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The protocol server MUST search only through the records that are no longer active.</td>
</tr>
<tr>
<td>1</td>
<td>The protocol server MUST search only through the records that are active.</td>
</tr>
</tbody>
</table>

@TotalRowCount: This value specifies the total number of records found in the user profile table. This value is not related to the search criteria. If @bActiveOnly is set to 1, the protocol server MUST set this to the number all active user records in the list. If @bActiveOnly is set to 0, the protocol server MUST set this to the number of all inactive records.

Return Code Values: profile_SearchUser returns an integer return code which MUST be listed in the following table:

[MS-UPSPROF] — v20120630
User Profile Stored Procedures Protocol Specification

Copyright © 2012 Microsoft Corporation.

Release: July 16, 2012
<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Successful execution.</td>
</tr>
<tr>
<td>1</td>
<td>No search column is specified.</td>
</tr>
</tbody>
</table>

**Result Sets: profile_SearchUser** MUST NOT return any result set when the stored procedure's return code is 1. When the return code of **profile_SearchUser** is 0, the stored procedure MUST return 1 result setUserInfo which MUST have 0 or more rows:

If @SearchString is empty and @DoGeneralSearch is not set to 1, then the protocol server MUST return all rows. Note the protocol server still takes into account @bActiveOnly.

What values are searched on depends on @DoGeneralSearch, @AccountName, @PreferredName, and @Email. All values MUST be searched on if @DoGeneralSearch and @PreferredName are set to 1. In that case, the values in @Email and @AccountName MUST be ignored.

If @DoGeneralSearch is not 1, then the protocol server looks to @AccountName, @PreferredName, and @Email to see what to search on.

If @EmailAddress is set to 1, the protocol server MUST only search for matching e-mail addresses and ignores the values in @PreferredName and @AccountName.

If @EmailAddress is not set to 1 but @PreferredName is set 1 then, then the protocol server MUST only search for matching user display names.

If @EmailAddress and @PreferredName aren't set to 1 but @AccountName is set to 1, then the protocol server MUST only search for matching login names.

### 3.1.4.37.1 UserInfo Result Set

**profile_SearchUser** returns a row for each record that matches the search string.

**Return Code Values:** The UserInfo result set MUST return 0 or more rows that contain the user Info for each matching record.

**Result Sets:** The result set MUST be sorted by @RecordID if both @PreferredName and @DoGeneralSearch are set to 1. Otherwise the result set MUST be sorted by login name.

TheUserInfo result set uses T-SQL syntax, as follows:

```sql
ID                        int,
RecordID                  bigint,
UserID                    uniqueidentifier,
AccountName               nvarchar(400),
PreferredName             nvarchar(256),
Email                     nvarchar(256),
Department                nvarchar(250),
Title                     nvarchar(150);
```

**ID:** Contains the sequential Id for rows in the result set starting at 1.

**RecordID:** Contains the record identifier for the user.

**UserID:** Contains the GUID for the user.
**AccountName:** Contains the full name of the user.

**PreferredName:** The name of the user as defined in the user profile.

**Email:** Contains the e-mail address for the user.

**Department:** Contains the Department name of the user.

**Title:** Contains the user’s title.

### 3.1.4.38 profile_UpdateOrgColleagues

The `profile_UpdateOrgColleagues` stored procedure is called to update colleagues organizational structure links for newly added users or users with updated Managers in the user profile store.

`profile_UpdateOrgColleagues` is defined using T-SQL syntax as follows:

```tsql
PROCEDURE profile_UpdateOrgColleagues();
```

**Return Code Values:** `profile_UpdateOrgColleagues` returns an integer return code which MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integer number greater than zero</td>
<td>Success, the number represents the number of updated users.</td>
</tr>
<tr>
<td>0</td>
<td>Success, no users need to be updated.</td>
</tr>
<tr>
<td>-1</td>
<td>Failure; previous execution is still running.</td>
</tr>
</tbody>
</table>

**Result Sets:** `profile_UpdateOrgColleagues` MUST NOT return any result set.

### 3.1.4.39 profile_UpdatePersonalSiteInfo

The `profile_UpdatePersonalSiteInfo` stored procedure is called to update the personal site configuration properties.

`profile_UpdatePersonalSiteInfo` is defined using T-SQL syntax as follows:

```tsql
PROCEDURE profile_UpdatePersonalSiteInfo(  
    @Inclusion varchar(300),  
    @NameFormat smallint,  
    @SiteReader ntext,  
    @EnableMLS bit  
);  
```

**@Inclusion:** The site provider under which user personal sites are created. The value MUST be a valid server-relative URL.

**@NameFormat:** MUST be a Name Format (Section 2.2.2.5) Type value.

**@SiteReader:** A comma-delimited list of user names that will be granted the read permission level on new user personal sites. This parameter MUST be NULL or if it is not NULL it MUST be a list of user names with a comma character after each user name except the last user name in the list.
@EnableMLS: MUST be an Is MLS Enabled (Section 2.2.3) Type value.

Return Code Values: profile_UpdatePersonalSiteInfo MUST return 0.

Result Sets: profile_UpdatePersonalSiteInfo MUST NOT return any result set.

3.1.4.40 profile_UpdatePersonalSpace

The profile_UpdatePersonalSpace stored procedure is called to update a user's personal site URL.

profile_UpdatePersonalSpace is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_UpdatePersonalSpace(
    @UserGuid                uniqueidentifier,
    @PersonalSpaceURL        nvarchar(2048)
);
```

@UserGuid: This MUST be the GUID for the user whose personal site is being updated.

@PersonalSpaceURL: The server-relative URL of the personal site. This parameter MUST be specified and MUST be a server-relative URL.

Return Code Values: profile_UpdatePersonalSpace MUST 0.

Result Sets: profile_UpdatePersonalSpace MUST NOT return any result set.

3.1.4.41 profile_UpdateProfileDisplay

The profile_UpdateProfileDisplay stored procedure is called to update the display order of properties and sections.

profile_UpdateProfileDisplay is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_UpdateProfileDisplay(
    @UpdateList            ntext,
    @Debug                 bit = 0
);
```

@UpdateList: XML coding which lists properties and sections. This parameter MUST be specified. This parameter MUST NOT be NULL and MUST adhere to the UpdateList (Section 3.1.4.41.2) schema.

@Debug: This parameter MUST be ignored.

Return Code Values: profile_UpdateProfileDisplay MUST return 0.

Result Sets: profile_UpdateProfileDisplay MUST return 1 result set.

3.1.4.41.1 UpdateProfileDisplay Result Set

UpdateProfileDisplay result set specifies if the properties and sections could be updated and the number of properties and sections that could not be updated. The UpdateProfileDisplay result set MUST return only 1 row.
The UpdateProfileDisplay result set is defined using T-SQL syntax as follows:

```
XMLProfileErr    int,
UpdateItemCount  int,
XMLUpdateItemErr int;
```

**XMLProfileErr**: This value MUST be set to 1 if the user profile (whose ProfileName value is set to "UserProfile") could not be opened; otherwise it MUST be set to 0.

**UpdateItemCount**: This value MUST be ignored by the client.

**XMLUpdateItemErr**: Contains the number of properties and sections that could not be updated.

### 3.1.4.41.2 UpdateList Schema

The complex types, simple types, and elements that are specified in this section are used in the `profile_UpdateProfileDisplay` stored procedure.

**Usage Example:**

```
<MSPROFILE>
  <PROFILE ProfileName="UserProfile">
    <ITEM PropertyName="HomeAddress" DisplayOrder="1" />
    <ITEM PropertyName="ZipCode" DisplayOrder="2" />
  </PROFILE>
</MSPROFILE>
```

### 3.1.4.41.2.1 MSPROFILE Element

```
<s:element name="MSPROFILE">
  <s:complexType>
    <s:element type="s0:PROFILE"/>
  </s:complexType>
</s:element>
```

**PROFILE**: Must be a PROFILE (Section 3.1.4.41.2.2) Type element. This element MUST be specified.

### 3.1.4.41.2.2 PROFILE Element

```
<s:element name="PROFILE">
  <s:complexType>
    <s:sequence>
      <s:element name="ITEM" type="s0:ITEM" minOccurs="0" maxOccurs="unbounded"/>
    </s:sequence>
    <s:attribute name="ProfileName" type="s:string" use="required"/>
  </s:complexType>
</s:element>
```

**ProfileName**: This attribute MUST be specified. This attribute MUST be equal to "UserProfile".

**ITEM**: Must be an ITEM (Section 3.1.4.41.3) Type element.
3.1.4.41.2.3 ITEM Element

```xml
<s:element name="ITEM">
  <s:complexType>
    <s:attribute name="PropertyName" type="s:string" use="required"/>
    <s:attribute name="DisplayOrder" type="s:int" use="required"/>
  </s:complexType>
</s:element>
```

**PropertyName**: The name of the property or section.

**DisplayOrder**: The value specifying the order of the property or section when it is displayed. This value MUST be unique, starting at 1, and incrementing by 1 only for each property or section.

3.1.4.42 profile_UpdateProperty

The **profile_UpdateProperty** stored procedure is called to add, update and remove properties. It can also be used to update sections.

**profile_UpdateProperty** is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_UpdateProperty(
  @RemovePropertyList        ntext,
  @UpdatePropertyList        ntext,
  @Debug                     bit = 0
);
```

**@RemovePropertyList**: XML code which lists the properties to remove. This parameter MUST be specified. If this parameter is not NULL, it MUST adhere to the UpdateProperty Schema (Section 3.1.4.42.3).

**@UpdatePropertyList**: XML code which lists the properties to add or update. This parameter MUST be specified. It MUST adhere to the UpdateProperty Schema (Section 3.1.4.42.3).

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

**Return Code Values**: **profile_UpdateProperty** MUST return 0.

**Result Sets**: **profile_UpdateProperty** MUST return one or two result sets. The Update Property result set MUST always be returned. If **@RemovePropertyList** contains a property used in Audience then the Audience result set MUST be returned; otherwise it MUST NOT be returned.

3.1.4.42.1 Update Property Result Set

The Update Property result set contains the count of properties that were successfully removed, added or updated as well as the count of errors related to removing, adding or updating properties.

**Return Code Values**: The Update Property result set MUST contain only 1 row.

**Result Sets**: The Update Property result set is defined using T-SQL syntax for the stored procedure as follows:

```sql
ERROR                               int,
RemovedPropertyCount               int,
XMLRemoveProfileERR                 int,
```
XMLRemovePropertyERR int,
UpdatePropertyCount int,
XMLUpdateProfileErr int,
XMLUpdatePropertyErr int;

**ERROR:** Contains the value of the first error encountered during processing which MUST be a value in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The properties were removed, updated or added successfully, and no error occurred.</td>
</tr>
<tr>
<td>1</td>
<td>The node of the @PropertyURIPrefix parameter was NULL.</td>
</tr>
<tr>
<td>2</td>
<td>The value of the ProfileName attribute in the @RemovePropertyList XML could not be found.</td>
</tr>
<tr>
<td>4</td>
<td>The value of the PropertyName attribute in the @RemovePropertyList XML could not be found, or the specified property is a reserved system property.</td>
</tr>
<tr>
<td>50</td>
<td>The property could not be deleted because it is used in Audience.</td>
</tr>
<tr>
<td>21</td>
<td>The value of the ProfileName attribute in the @UpdatePropertyList XML could not be found.</td>
</tr>
<tr>
<td>23</td>
<td>The value of the PropertyName attribute in the @UpdatePropertyList XML could not be found during an update operation. The value of the DataTypeID attribute was not specified in the @UpdatePropertyList XML during an add operation.</td>
</tr>
<tr>
<td>24</td>
<td>The value of the PropertyName attribute in the @UpdatePropertyList XML was not specified or already exists.</td>
</tr>
<tr>
<td>5001</td>
<td>The choice list values specified were not found.</td>
</tr>
</tbody>
</table>

**RemovedPropertyCount:** This value MUST be ignored.

**XMLRemoveProfileErr:** If @RemovePropertyList is not NULL, this value MUST be set to 1 if the user profile (whose ProfileName value is set to "UserProfile") could not be opened; otherwise it MUST be set to 0.

**XMLRemovePropertyErr** MUST be set to 0 if the property was successfully deleted; otherwise, **XMLRemovePropertyErr** MUST be set to 1.

**UpdatePropertyCount:** This value MUST be ignored.

**XMLUpdateProfileErr:** This value MUST be set to 1 if the user profile (whose ProfileName value is set to "UserProfile") could not be opened; otherwise it MUST be set to 0.

**XMLUpdatePropertyErr:** MUST be set to 0 if the property was successfully added or updated; otherwise, **XMLUpdatePropertyErr** MUST be set to 1.

### 3.1.4.42.2 Audience Result Set

The Audience result set contains the name of each Audience that is currently using the property specified for deletion.

The Audience result set is defined using T-SQL syntax for the stored procedure as follows:
OrgleName: Contains the name of the Audience.

3.1.4.42.3 UpdateProperty Schema

The complex types, simple types, and elements that are specified in this section are used in the profile_UpdateProperty (Section 3.1.4.42) stored procedure.

3.1.4.42.3.1 MSPROFILE Element

The MSPROFILE element contains a PROFILE (Section 3.1.4.42.3.2) element.

```xml
<s:element name="MSPROFILE">
  <s:complexType>
    <s:element type="s0:PROFILE" />
  </s:complexType>
</s:element>
```

3.1.4.42.3.2 PROFILE Element

The PROFILE element contains a nested PROPERTY element which is used to specify a property to be added, updated, or removed.

```xml
<s:element name="PROFILE">
  <s:complexType>
    <s:element minOccurs="0" maxOccurs="1" name="PROPERTY" type="s0:PROPERTY" />
    <s:attribute name="ProfileName" type="s:string" use="required" />
  </s:complexType>
</s:element>
```

ProfileName: This value MUST be "UserProfile".

Property: This value MUST be in 1 of the 3 following forms depending on whether the protocol client is using an UpdateProperty Schema (Section 3.1.4.42.3) value to remove a property, add a property, or update a property.

3.1.4.42.3.2.1 PROPERTY Element for Remove Operations

The PROPERTY element contains XML code for removing a property. This XML contains a PropertyName attribute describing the property to be removed.

```xml
<s:element name="PROPERTY">
  <s:complexType>
    <s:attribute name="PropertyName" type="s:string" use="required" />
  </s:complexType>
</s:element>
```

PropertyName: Contains the name of a property.
3.1.4.42.3.2.2 PROPERTY Element for Add Operations

The PROPERTY element contains XML code for adding a property.

```xml
<s:element name="PROPERTY">
  <s:complexType>
    <s:element name="VOCABULARY" type="s0:VOCABULARY" minOccurs="0" maxOccurs="1" />
    <s:attribute name="PropertyName" type="s:string" use="required" />
    <s:attribute name="DataTypeId" type="s:int" use="required" />
    <s:attribute name="Length" type="s:int" />
    <s:attribute name="DefaultPrivacy" type="s:int" use="required" />
    <s:attribute name="UserOverridePrivacy" type="s:boolean" use="required" />
    <s:attribute name="Replicable" type="s:boolean" use="required" />
    <s:attribute name="PrivacyPolicy" type="s:int" use="required" />
    <s:attribute name="IsSection" type="s:boolean" use="required" />
    <s:attribute name="IsMultiValue" type="s:boolean" use="required" />
    <s:attribute name="ChoiceType" type="s:int" use="required" />
    <s:attribute name="IsEditable" type="s:boolean" use="required" />
    <s:attribute name="IsAdminEditOnly" type="s:boolean" use="required" />
    <s:attribute name="IsColleagueEventLog" type="s:boolean" use="required" />
    <s:attribute name="IsUpgrade" type="s:boolean" use="required" />
    <s:attribute name="IsUpgradePrivate" type="s:boolean" use="required" />
    <s:attribute name="IsSearchable" type="s:boolean" use="required" />
    <s:attribute name="IsAlias" type="s:boolean" use="required" />
    <s:attribute name="IsVisible" type="s:boolean" use="required" />
    <s:attribute name="IsVisibleOnViewer" type="s:boolean" use="required" />
    <s:attribute name="IsExpand" type="s:boolean" use="required" />
    <s:attribute name="Separator" type="s:string" use="required" />
    <s:attribute name="bUpdate" type="s:boolean" use="required" />
  </s:complexType>
</s:element>
```

**PropertyName**: Contains the name of a property.

**DataTypeId**: MUST contain a Property Data (Section 2.2.2.10) Type value for the property.

**Length**: Contains the maximum length of the property’s value. If IsSection is 1, the Length attribute MUST NOT be specified. Otherwise, the length MUST be a value dictated by the Property Data (Section 2.2.2.10) Type definition.

**DefaultPrivacy**: Contains a value indicating the default Privacy (Section 2.2.2.7) Type of the property.

**UserOverridePrivacy**: MUST be an Is Item Security Overridable (Section 2.2.2.2) Type value.

**Replicable**: Contains a value that indicates whether this property is Replicable. This value MUST be 1 to indicate that this property is Replicable.

**PrivacyPolicy**: MUST be a Privacy Policy (Section 2.2.2.8) Type value.

**IsSection**: Contains a value that indicates whether this property is a section. This value MUST be 1 to indicate that this property is a section.

**IsMultiValue**: Contains a value that indicates whether this property is a multi-value property. This value MUST be 1 to indicate that this property is a multi-value property.
**ChoiceType**: MUST be a Property Choice (Section 2.2.9) Type value.

**IsEditable**: Contains a value that indicates whether this property is editable. This value MUST be 1 to indicate that this property is editable.

**IsAdminEditOnly**: Contains a value that indicates whether this property is a property editable only by the administration. This value MUST be 1 to indicate that this property is a property editable only by the administration.

**IsColleagueEventLog**: Indicates whether changes to this property are displayed in a Colleague Tracker Web Part. This value MUST be 1 to indicate that changes to this property are displayed in a Colleague Tracker Web Part.

**IsUpgrade**: Contains a value that indicates whether this property exists in a previously upgraded installation. This value MUST be 1 to indicate that this property exists in a previously upgraded installation.

**IsUpgradePrivate**: Contains a value that indicates whether this property was private in a previously upgraded installation. This value MUST be 1 to indicate that this property was private in a previously upgraded installation.

**IsSearchable**: Contains a value that indicates whether this property is indexed by Search Server. This value MUST be 1 to indicate that this property is indexed by Search Server.

**IsAlias**: Contains a value that indicates whether this property serves as an alias of the user for user search purposes. This value MUST be 1 to indicate that this property serves as an alias of the user for user search purposes.

**IsVisible**: Contains a value that indicates whether this property is visible. This value MUST be 1 to indicate that this property is visible.

**IsVisibleOnViewer**: Contains a value that indicates whether this property is visible on the default profile viewer page. This value MUST be 1 to indicate that this property is visible on the default profile viewer page.

**IsExpand**: This value MUST be 1.

**Separator**: MUST be a Separator (Section 2.2.11) Type value.

**MaximumShown**: Contains a value indicating the maximum number of multiple-value choice list entries to show for a property before displaying an ellipsis.

**bUpdate**: This value MUST be 0.

### 3.1.4.42.3.2.3 PROPERTY Element for Update Operations

The PROPERTY element contains XML code for updating a property.

```xml
<s:element name="PROPERTY">
  <s:complexType>
    <s:element name="VOCABULARY" type="s0:VOCABULARY" minOccurs="0" maxOccurs="1" />
    <s:attribute name="PropertyName" type="s:string" use="required" />
    <s:attribute name="DefaultPrivacy" type="s:int" use="required" />
    <s:attribute name="UserOverridePrivacy" type="s:boolean" use="required" />
    <s:attribute name="Replicable" type="s:boolean" use="required" />
    <s:attribute name="PrivacyPolicy" type="s:int" use="required" />
  </s:complexType>
</s:element>
```

---

[MS-UPSPROF] — v20120630  
User Profile Stored Procedures Protocol Specification

Copyright © 2012 Microsoft Corporation.

Release: July 16, 2012
<s:attribute name="IsSection" type="s:boolean" use="required" />
<s:attribute name="IsMultiValue" type="s:boolean" use="required" />
<s:attribute name="ChoiceType" type="s:int" use="required" />
<s:attribute name="IsEditable" type="s:boolean" use="required" />
<s:attribute name="IsAdminEditOnly" type="s:boolean" use="required" />
<s:attribute name="IsColleagueEventLog" type="s:boolean" use="required" />
<s:attribute name="IsUpgrade" type="s:boolean" use="required" />
<s:attribute name="IsUpgradePrivate" type="s:boolean" use="required" />
<s:attribute name="IsSearchable" type="s:boolean" use="required" />
<s:attribute name="IsAlias" type="s:boolean" use="required" />
<s:attribute name="IsVisible" type="s:boolean" use="required" />
<s:attribute name="IsVisibleOnViewer" type="s:boolean" use="required" />
<s:attribute name="Separator" type="s:string" use="required" />
<s:attribute name="MaximumShown" type="s:int" use="required" />
<s:attribute name="bUpdate" type="s:boolean" use="required" />
</s:complexType>

**PropertyName**: Contains the name of a property.

**DefaultPrivacy**: Contains a value indicating the default Privacy (Section 2.2.2.7) Type of the property. The value of this attribute MUST be 0 when updating a section.

**UserOverridePrivacy**: MUST be an Is Item Security Overridable (Section 2.2.2.2) Type value.

**Replicable**: Contains a value that indicates whether this property is Replicable. This value MUST be 1 to indicate that this property is Replicable.

**PrivacyPolicy**: MUST be a Privacy Policy (Section 2.2.2.8) type value. The value of this attribute MUST be 0 when updating a section.

**IsSection**: Contains a value that indicates whether this property is a section. This value MUST be 1 to indicate that this property is a section.

**IsMultiValue**: Contains a value that indicates whether this property is a multi-value property. During an update operation, the value of IsMultiValue MUST NOT be changed.

**ChoiceType**: MUST be a Property Choice (Section 2.2.2.9) Type value.

**IsEditable**: Contains a value that indicates whether this property is editable. This value MUST be 1 to indicate that this property is editable.

**IsAdminEditOnly**: Contains a value that indicates whether this property is a property editable only by the administration. This value MUST be 1 to indicate that this property is a property editable only by the administration.

**IsColleagueEventLog**: Indicates whether changes to this property are displayed in a Colleague Tracker Web Part. This value MUST be 1 to indicate that changes to this property are displayed in a Colleague Tracker Web Part.

**IsUpgrade**: Contains a value that indicates whether this property exists in a previously upgraded installation. This value MUST be 1 to indicate that this property exists in a previously upgraded installation.
**IsUpgradePrivate**: Contains a value that indicates whether this property was private in a previously upgraded installation. This value MUST be 1 to indicate that this property was private in a previously upgraded installation.

**IsSearchable**: Contains a value that indicates whether this property is indexed by Search Server. This value MUST be 1 to indicate that this property is indexed by Search Server.

**IsAlias**: Contains a value that indicates whether this property serves as an alias of the user for user search purposes. This value MUST be 1 to indicate that this property serves as an alias of the user for user search purposes.

**IsVisible**: Contains a value that indicates whether this property is visible. This value MUST be 1 to indicate that this property is visible.

**IsVisibleOnViewer**: Contains a value that indicates whether this property is visible on the default profile viewer page. This value MUST be 1 to indicate that this property is visible on the default profile viewer page.

**IsExpand**: Contains a value that MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>This value MUST be specified when editing an existing property.</td>
</tr>
<tr>
<td>1</td>
<td>This value MUST be specified when editing an existing section.</td>
</tr>
</tbody>
</table>

**Separator**: MUST be a Separator (Section 2.2.11) Type value.

**MaximumShown**: Contains a value indicating the maximum number of multiple-value choice list entries to show for a property before displaying an ellipsis.

**bUpdate**: This value MUST be 1.

### 3.1.4.42.3.3 VOCABULARY Element

The VOCABULARY element contains 1 or more term elements that represent items in a choice list if this property is a multi-value property.

```xml
<s:element name="VOCABULARY">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="unbounded" name="TERM" type="s0:TERM" />  
    </s:sequence>
  </s:complexType>
</s:element>
```

The VOCABULARY element MUST NOT be specified unless the property is a multi-value property. Such properties will have the IsMultiValue attribute of the PROPERTY element set to 1.

### 3.1.4.42.3.4 TERM Element

The TERM element is used to specify choice list items to be updated, added or removed.

```xml
<s:element name="TERM">
  <s:complexType>
```
Type: The value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add</td>
<td>The specified term is being added to the list of choice list items.</td>
</tr>
<tr>
<td>Delete</td>
<td>The specified term is being deleted from the list of choice list items.</td>
</tr>
<tr>
<td>Rename</td>
<td>The specified term is being renamed. The original name is specified in the Value attribute and the new name is specified in the NewValue attribute. The NewValue attribute is required only if the term is being renamed.</td>
</tr>
</tbody>
</table>

**Value:** The text value of the choice list item.

**NewValue:** The renamed text value of the choice list item. This MUST be specified if Type is set to the string literal "Rename".

### 3.1.4.43 profile_UpdatePropertyLoc

The `profile_UpdatePropertyLoc` stored procedure is called to update the user display names and descriptions of a property in multiple languages. Any existing user display names and descriptions for the property will be overwritten by the new user display names and descriptions specified in `@DisplayNamesXml` and `@DescriptionsXml`.

`profile_UpdatePropertyLoc` is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_UpdatePropertyLoc(
    @PropertyName nvarchar(50),
    @DisplayNamesXml ntext,
    @DescriptionsXml ntext
);
```

**@PropertyName:** The name of a property. This parameter MUST be specified and MUST NOT be NULL.

**@DisplayNamesXml:** XML code which lists user display names. This parameter MUST be specified and MUST adhere to the UpdatePropertyLoc Schema (Section 3.1.4.43.1).

**@DescriptionsXml:** XML code which lists descriptions. This parameter MUST be specified and MUST adhere to the UpdatePropertyLoc Schema (Section 3.1.4.43.1).

**Return Code Values:** The `profile_UpdatePropertyLoc` stored procedure returns an integer return code which MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Successful execution.</td>
</tr>
<tr>
<td>Non-</td>
<td>Failure. The @PropertyName did not reference an existing property or the XML parameters</td>
</tr>
<tr>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>------------------</td>
</tr>
<tr>
<td>zero</td>
<td>could not be processed.</td>
</tr>
</tbody>
</table>

Result Sets: `profile_UpdatePropertyLoc` MUST NOT return any result set.

### 3.1.4.43.1 UpdatePropertyLoc Schema

The complex types, simple types, and elements that are described in this section are used in the `profile_UpdatePropertyLoc` stored procedure.

**Usage Example:**

```xml
<Loc>
  <Item Lcid="1033" Text="Value 1"/>
  <Item Lcid="1025" Text="Value 2"/>
  <Item Lcid="2052" Text="Value 3"/>
</Loc>
```

#### 3.1.4.43.1.1 Loc Element

```xml
<s:element name="Loc">
  <s:sequence>
    <s:element minOccurs="0" maxOccurs="unbounded" name="Item" type="s0:Item"/>
  </s:sequence>
</s:element>
```

**Item:** An **Item** (Section 3.1.4.43.1.2) element (from the UpdatePropertyLoc schema) that MUST be specified in the `@DisplayNamesXml` input parameter.

#### 3.1.4.43.1.2 Item Element

```xml
<s:element name="Item">
  <s:complexType>
    <s:attribute name="Lcid" type="s:int" use="required"/>
    <s:attribute name="Text" type="s:string" use="required"/>
  </s:complexType>
</s:element>
```

**Lcid:** The LCID of the specified text.

**Text:** Descriptive value for the specified **Lcid**. For user display names, the value MUST NOT exceed 50 characters. For the description, the text SHOULD NOT exceed 256 characters but MAY be up to 512 characters.

### 3.1.4.44 profile_UpdateSharedListSync

The `profile_updateSharedListSync` stored procedure is called to update a shared list object.

**profile_updateSharedListSync** is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_updateSharedListSync(
    @ListId uniqueidentifier,
```
@ItemsXml  ntext
}

@ListId: The GUID value that uniquely identifies the shared list object being updated. This value MUST be specified and MUST NOT be NULL.

@ItemsXml: XML code that that MUST conform to the following XML schema. For more information about XML schemas, see [XML10], [XMLNS], [XMLINFOSET], [XMLSCHEMA1], and [XMLSCHEMA2].

This value MUST be specified.

Any shared list item not present in the @ItemsXml parameter MUST be deleted by the server. If @ItemsXml is NULL, the protocol server MUST delete all shared list items.

ItemId: Contains the identifier of the shared list item. This MUST NOT be NULL.

Title: Contains the user-friendly name of the shared list item. This MUST NOT be NULL.

Url: Contains a URL link of the shared list item. This MUST NOT be NULL.

Owner: This parameter MUST be ignored.

TargetTo: Contains the Audience information for the shared list item. The field MUST either be empty or contain a triplet of comma-delimited Audiences, comma-delimited Distribution Lists, and comma-delimited Groups. The triplet separator MUST be ";;".

Int1: Contains the shared item Type information for the shared list item.

Return Code Values: profile_updateSharedListSync MUST return 0.

Result Sets: profile_updateSharedListSync MUST NOT return any result set.

3.1.4.45 profile_UpdateUserProfileBlobData

The profile_UpdateUserProfileBlobData stored procedure is called to update the user profile properties which can't be updated through profile_UpdateUserProfileData (Section 3.1.4.46).

profile_UpdateUserProfileBlobData is defined using T-SQL syntax as follows:
PROCEDURE profile_UpdateUserProfileBlobData(
    @UserID                        uniqueidentifier,
    @NTName                        nvarchar(400),
    @PropertyName                  nvarchar(250),
    @PropertyValVarbinary          varbinary(7500) = null,
    @PropertyValText              ntext = null,
    @PropertyValImage             image = null,
    @Debug                         bit = 0
);

@UserID: Contains the GUID for the user. If this value is NULL then the user MUST be identified by
@NTName.

@NTName: The NTName for the user. This parameter MUST NOT be NULL if @UserId is NULL.

@PropertyName: Contains the property name to be updated.

@PropertyValVarbinary: Contains the binary data value for the property to be updated.

@PropertyValText: Contains the text value of the to be updated.

@PropertyValImage: Contains the image value of the property to be updated.

@Debug: This parameter MUST be ignored.

Return Code Values: profile_UpdateUserProfileBlobData MUST return 0.

Result Sets: profile_UpdateUserProfileBlobData MUST return one result set.

If both @UserId and @NTName are specified, @UserId is used by the protocol server.

If @UserId and @NTName don’t match an existing user, the protocol server creates a new user with
the specified information.

For a property to be updated, the value corresponding to the property's type MUST be specified in
@PropertyValbinary, @PropertyValText, or @PropertyValImage

3.1.4.45.1 UpdateUserProfileBlobDataResult Result Set

profile_UpdateUserProfileBlobData returns a UpdateUserProfileBlobDataResult that MUST
contain 1 row if the property specified by @PropertyName is valid. If the property does not exist, a
result set MUST NOT be returned.

The profile_UpdateUserProfileBlobData result set is defined using T-SQL syntax as follows:

    UserID                  uniqueidentifier,
    RecordId                bigint,
    UpdateCount             int;

UserID: The GUID of the user whose property was updated.

RecordID: The record identifier of the user.

UpdateCount: The count of the properties updated. This MUST be 1 if the property was successfully
updated. If the property wasn’t successfully updated, this MUST be 0.
3.1.4.46  profile_UpdateUserProfileData

The profile_UpdateUserProfileData stored procedure is called to update the user profile data.

profile_UpdateUserProfileData is defined using T-SQL syntax as follows:

```sql
PROCEDURE profile_UpdateUserProfileData(
    @UpdatePropertyList ntext,
    @Debug bit = 0
);
```

@UpdatePropertyList: Contains the list of properties that need to be updated. It MUST contain XML code. This parameter MUST be specified and MUST adhere to the UpdateUserProfileData schema (Section 3.1.4.46.1).

@Debug: This parameter MUST be ignored.

Return Code Values: profile_UpdateUserProfileData MUST return 0.

Result Sets: profile_UpdateUserProfileData MUST return 1 result set OperationResult. This result set MUST contain 1 row.

3.1.4.46.1  UpdateUserProfileData schema

The complex types, simple types, and elements that are described in this section are used in the profile_UpdateUserProfileData stored procedure.

3.1.4.46.1.1  Usage Example

```xml
<MSPROFILE>
    <PROFILE ProfileName="UserProfile">
        <USER UserID="12345" NTAccount="redmond\user">
            <PROPERTY PropertyName="Home Address" PropertyValue="18530 Redmond" Privacy="1"/>
            <PROPERTY PropertyName="Work Address" PropertyValue="18530 Redmond" Privacy="1"/>
            <PROPERTY PropertyName="Work Address" RemoveFlag=1/>
        </USER>
    </PROFILE>
</MSPROFILE>
```

3.1.4.46.1.2  MsProfile Element

```xml
<xs:element name="MSPROFILE" type="s0:Profile">
    <xs:complexType>
        <xs:element name="PROFILE" type="s0:Profile"/>
    </xs:complexType>
</xs:element>
```

PROFILE: A Profile (Section 3.1.4.46.1.3) Type element.

3.1.4.46.1.3  Profile Element

```xml
<xs:element name="PROFILE" type=""/>
```
<xs:complexType>
  <xs:element minOccurs="1" maxOccurs="unbounded" name="USER"
    type="s0:ArrayOfUser" />
</xs:complexType>
</xs:element>

**USER:** An ArrayOfUser (Section 3.1.4.46.1.4) Type element.

### 3.1.4.46.1.4 ArrayOfUser Element

<xs:element minOccurs="1" maxOccurs="unbounded" name="USER">
  <xs:attribute name="UserID" type="xs:unsignedShort" use="required" />
  <xs:attribute name="NTAccount" type="xs:string" use="required" />
  <s:sequence>
    <xs:element minOccurs="1" maxOccurs="unbounded" name="PROPERTY"
      type="s0:ArrayOfProperty" />
  </s:sequence>
</xs:element>

**UserID:** The GUID of the user

**NTAccount:** A SAM user name for the entity specified by the user profile.

**PROPERTY:** An ArrayOfProperty (Section 3.1.4.46.1.5) Type element.

### 3.1.4.46.1.5 ArrayOf Property Element

<xs:element minOccurs="1" maxOccurs="unbounded" name="PROPERTY">
  <xs:complexType>
    <xs:simpleContent>
      <xs:extension base="xs:string">
        <xs:attribute name="PropertyName" type="xs:string" use="required" />
        <xs:attribute name="PropertyValue" type="xs:string" use="optional" />
        <xs:attribute name="Privacy" type="xs:unsignedByte" use="optional" />
        <xs:attribute name="RemoveFlag" type="xs:unsignedByte" use="optional" />
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
</xs:element>

**PropertyName:** The name of the property.

**PropertyValue:** The value of the property.

**Privacy:** The privacy policy setting for the property.

**RemoveFlag:** A bit flag specifying that the property MUST be removed, if the property has multiple values, then all values will be removed.

If the PROPERTY element attribute name PropertyValue is empty, then the property value MUST be set to NULL.

If PROPERTY element attribute RemoveFlag is 1 then the property record MUST be removed; in a multiple values field, all values MUST be removed.
If USER element attribute UserID is empty then a new user MUST be created with the specified property information.

If the property list contains multiple values, the protocol server MUST compose the list of values in sequence and MUST NOT be interwoven with other properties.

### 3.1.4.46.2 OperationResult Result Set

profile_UpdateUserProfileData returns OperationResult that contains Error information in case of failure or the count of properties updated in the case of a success.

The profile_UpdateUserProfileData result set is defined using T-SQL syntax as follows:

```
ERROR int,
XMLUpdateUserErr int,
XMLUpdatePropertyErr int,
UpdatePropertyCount int,
NEWUSERGUID uniqueidentifier;
```

**ERROR:** Contains the SQL process error not including the XML document error. This MUST be set if there is a SQL error.

**XMLUpdateUserErr:** The count of the users that were not able to be updated by this procedure.

**XMLUpdatePropertyErr:** The count of properties that were not able to be updated by this procedure.

**UpdatePropertyCount:** The count of properties which have been successfully updated by this procedure.

**NEWUSERGUID:** This MUST always be NULL.

### 3.1.4.47 QuickLinksAdd

The QuickLinksAdd stored procedure is called to add a new link for a user in the user profile store. The link can be of types membership, Colleague, or quick link.

QuickLinksAdd is defined using T-SQL syntax as follows:

```
PROCEDURE QuickLinksAdd(
    @RecordId bigint,
    @PageURL nvarchar(1250) NULL,
    @Title nvarchar(500) NULL,
    @ContentClass nvarchar(200) NULL,
    @Group nvarchar(400),
    @GroupType int,
    @ItemSecurity int,
    @PolicyId uniqueidentifier,
    @ColleagueRecordId bigint NULL,
    @LinkUserIdIsWorkgroup bit NULL,
    @LinkMemberGroupId bigint NULL
);
```

**@RecordId:** The ID of a user. This parameter MUST be specified and it MUST NOT be NULL.
@PageURL: The URL for a link. This parameter MUST be specified and MUST NOT be NULL if @LinkMemberGroupId and @ColleagueRecordId are NULL.

@Title: The text to display for the hyperlink specified in @PageURL. This parameter MUST be specified and MUST NOT be NULL if @LinkMemberGroupId and @ColleagueRecordId are NULL.

@ContentClass: The content type for the hyperlink specified in @PageURL. This parameter MUST be specified and MUST NOT be NULL if @LinkMemberGroupId and @ColleagueRecordId are NULL and @PolicyId is not a user defined link group (E21FE63D-0BF6-42C0-85BC-AC8031552558).

@Group: The group name for a link. This parameter MUST be specified and it MUST NOT be NULL. It MUST NOT be an empty string if GroupType is 0. It MUST be an empty string if GroupType is not 0.

@GroupType: MUST be a Group (Section 2.2.2.1) Type value that specifies the link group type. This parameter MUST be specified.

@ItemSecurity: MUST be a v Type value that defines security for the link.

@PolicyId: MUST be a Policy Link (Section 2.2.2.6) Type value that specifies the link type. This parameter MUST be specified.

@ColleagueRecordId: The ID of a colleague of the specified user. If this parameter is not NULL, it specifies that the link data is a colleague link, and the parameter @LinkUserIdIsWorkgroup MUST NOT be NULL.

@LinkUserIdIsWorkgroup: A flag indicating whether @RecordId is a workgroup identifier. If this parameter is not NULL, it specifies that the link data is a colleague link, and the parameter @ColleagueRecordId MUST NOT be NULL.

@LinkMemberGroupId: The group identifier for a user. If this parameter is not NULL, it specifies that the link data is a Membership link.

Return Code Values: QuickLinksAdd returns an integer return code which MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A positive number</td>
<td>Success. This is the identifier of the link that was added.</td>
</tr>
<tr>
<td>-1</td>
<td>Failure – Duplicate information exists. No data is added.</td>
</tr>
</tbody>
</table>

Result Sets: QuickLinksAdd MUST NOT return any result set.

3.1.4.48 QuickLinksDelete

The QuickLinksDelete stored procedure is called to delete the link for a user in the user profile store with the specified link type (specified by @PolicyId) and ID (specified by @LinkID).

QuickLinksDelete is defined using T-SQL syntax as follows:

```sql
PROCEDURE QuickLinksDelete(
    @RecordId bigint,
    @LinkID bigint,
    @PolicyId uniqueidentifier,
    @RemoveCount int OUTPUT
```

[MS-UPSPROF] — v20120630
User Profile Stored Procedures Protocol Specification

Copyright © 2012 Microsoft Corporation.

Release: July 16, 2012
@RecordId: The record identifier of a user. This parameter MUST be specified and it MUST NOT be NULL.

@LinkID: The ID of a link. This parameter MUST be specified and it MUST NOT be NULL.

@PolicyId: MUST be a Policy Link (Section 2.2.2.6) Type value that specifies the link type. This parameter MUST be specified.

@RemoveCount: This is an output parameter specifying the number of data rows being deleted. If a link is deleted @RemoveCount MUST be 1.

Return Code Values: QuickLinksDelete MUST return 0.

Result Sets: QuickLinksDelete MUST NOT return any result set.

3.1.4.49 QuickLinksDeleteUser

The QuickLinksDeleteUser stored procedure is called to delete all link data for the specified user in the user profile store with the specified link type (specified by @PolicyId).

QuickLinksDeleteUser is defined using T-SQL syntax as follows:

```
PROCEDURE QuickLinksDeleteUser ( 
    @RecordId bigint, 
    @PolicyId uniqueidentifier
);
```

@RecordId: The ID of a user. This parameter MUST be specified and it MUST NOT be NULL.

@PolicyId: MUST be a Policy Link (Section 2.2.2.6) Type value that specifies the link type.

Return Code Values: QuickLinksDeleteUser MUST return 0.

Result Sets: QuickLinksDeleteUser MUST NOT return any result set.

3.1.4.50 QuickLinksEdit

The QuickLinksEdit stored procedure is called to modify or add a link for a user in the user profile store. The type of link can be a Group Membership Link, Colleague link, or user-defined hyperlink.

QuickLinksEdit is defined using T-SQL syntax as follows:

```
PROCEDURE QuickLinksEdit ( 
    @RecordId bigint, 
    @LinkID bigint, 
    @PageURL nvarchar(1250) NULL, 
    @Title nvarchar(500) NULL, 
    @ContentClass nvarchar(200) NULL, 
    @Group nvarchar(400), 
    @GroupType int, 
    @ItemSecurity int, 
    @PolicyId uniqueidentifier, 
    @ColleagueRecordId bigint NULL,
```
@RecordId: The ID of a user. This parameter MUST be specified and it MUST NOT be NULL.

@LinkID: The ID of a link. This parameter MUST be specified and it MUST NOT be NULL. If @LinkID does not reference an existing link ID, the protocol server MUST create the link.

@PageURL: The URL for a link. This parameter MUST be specified and MUST NOT be NULL if @LinkMemberGroupId and @ColleagueRecordId are NULL.

@Title: The text to display for the hyperlink specified in @PageURL. This parameter MUST be specified and MUST NOT be NULL if @LinkMemberGroupId and @ColleagueRecordId are NULL.

@ContentClass: The Content type for the hyperlink specified in @PageURL. This parameter MUST be specified and MUST NOT be NULL if @LinkMemberGroupId and @ColleagueRecordId are NULL and @PolicyId is not a user-defined link group (E21FE63D-0BF6-42C0-85BC-AC8031552558).

@Group: The group name for a link. This parameter MUST be specified and it MUST NOT be NULL. It MUST NOT be an empty string if @GroupType is 0. It MUST be an empty string if @GroupType is not 0.

@GroupType: MUST be a Group (Section 2.2.2.1) Type value that specifies the link group type. This parameter MUST be specified.

@ItemSecurity: MUST be a Privacy (Section 2.2.2.7) Type value that defines security for the item.

@PolicyId: MUST be a Policy Link (Section 2.2.2.6) Type value that specifies the link type. This parameter MUST be specified.

@ColleagueRecordId: The ID of a colleague of the specified user. If this parameter is not NULL, it specifies that the link data is a colleague link, and the parameter @LinkUserIdIsWorkgroup MUST NOT be NULL.

@LinkUserIdIsWorkgroup: A flag indicating whether @RecordId is a Workgroup ID. If this parameter is not NULL, it specifies that the link data is a colleague link, and the parameter @ColleagueRecordId MUST NOT be NULL.

@LinkMemberGroupId: The group ID for a user. If this parameter is not NULL, it specifies that the link data is a Membership link.

Return Code Values: QuickLinksEdit MUST return 0.

Result Sets: QuickLinksEdit MUST NOT return any result set.

3.1.4.51 QuickLinksRetrieveAllItems

The QuickLinksRetrieveAllItems stored procedure is called to retrieve link information for the following link types: Group Membership Links, Colleague links, or user-defined hyperlinks.

QuickLinksRetrieveAllItems is defined using T-SQL syntax as follows:

```sql
PROCEDURE QuickLinksRetrieveAllItems(
    @RecordId                  bigint,
    @ViewerItemSecurity        int,
```

[MS-UPSPROF] — v20120630
User Profile Stored Procedures Protocol Specification

Copyright © 2012 Microsoft Corporation.

Release: July 16, 2012
@RequestedItemSecurity: The identifier of a user. This parameter MUST be specified and it MUST NOT be NULL.

@ViewerItemSecurity: A value indicating the rights of the user who is requesting to see this user's personal data. Each bit corresponds to a privacy level. This parameter MUST be specified and its value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All users are allowed to access the resource.</td>
</tr>
<tr>
<td>2</td>
<td>The only users allowed to access the resource are the owner of the resource and the owner's colleagues.</td>
</tr>
<tr>
<td>4</td>
<td>The only users allowed to access the resource are the owner of the resource and the owner's workgroup colleagues.</td>
</tr>
<tr>
<td>8</td>
<td>The only two users allowed to access the resource are the owner of the resource and the owner's manager.</td>
</tr>
<tr>
<td>16</td>
<td>The only user allowed to access the resource is the owner of the resource.</td>
</tr>
</tbody>
</table>

@RequestedItemSecurity: This value defines the maximum level of privacy for returned data as a Privacy (Section 2.2.2.7) Type. This parameter MUST be specified.

Return Code Values: QuickLinksRetrieveAllItems MUST return 0.

Result Sets: QuickLinksRetrieveAllItems MUST return three result sets defined in the following section.

3.1.4.51.1 UserColleagues Result Set

UserColleagues result set returns property data about colleagues.

The UserColleagues result set is defined using T-SQL syntax as follows:

```sql
PolicyId          uniqueidentifier,
Id                bigint,
RecordId          bigint,
GroupType         tinyint,
GroupTitle        nvarchar(400),
ItemSecurity      int,
IsWorkgroup       bit,
ColleagueRecordId bigint,
UserId            uniqueidentifier,
NTName            nvarchar(400),
Email             nvarchar(256),
SipAddress        nvarchar(250),
PreferredName     nvarchar(256),
PersonTitle       nvarchar(150);
```

PolicyId: Contains the link type, the value MUST be listed in the following table:
<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE96E8D6-FBC6-4BC1-838F-25C8F0535E4C</td>
<td>PolicyId_Colleague</td>
</tr>
</tbody>
</table>

**Id**: Contains the unique ID for the colleague / user pair.

**RecordId**: Contains the record ID of the user's Colleague.

**GroupType**: MUST be a Group (Section 2.2.2.1) Type value which specifies the group type of the Colleague.

**GroupTitle**: Contains the group title of the colleague.

**ItemSecurity**: MUST be a Privacy (Section 2.2.2.7) Type value that defines security for the item.

**IsWorkgroup**: Contains a flag specifying whether the record is a workgroup.

**ColleagueRecordId**: Contains the ID of the user.

**UserId**: Contains the GUID of the user.

**NTName**: A SAM user name for the entity specified by the user profile.

**Email**: Contains the e-mail address for the user.

**SipAddress**: Contains the SIP address for the user.

**PreferredName**: The name of the user as defined in the user profile.

**PersonTitle**: This MUST always be NULL.

**Return Code Values**: MUST return 0.

**Result Sets**: The result set MUST contain 0 or more rows,

### 3.1.4.51.2 UserLinks Result Set

UserLinks returns user-defined link data.

The UserLinks result set is defined using T-SQL syntax as follows:

```sql
PolicyId uniqueidentifier,
Id bigint,
RecordId bigint,
GroupType tinyint,
GroupTitle nvarchar(400),
ItemSecurity int,
Title bit,
Url nvarchar(2048),
ContentClass nvarchar(200);
```

**PolicyId**: Contains the link type, the value MUST be listed in the following table:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>861D8FB6-7012-4CD9-A7A0-A615AED038B3</td>
<td>PolicyId_QuickLink</td>
</tr>
<tr>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>E21FE63D-0BF6-42C0-85BC-AC8031552558</td>
<td>PolicyId_PersonalizationLink</td>
</tr>
</tbody>
</table>

**Id:** Contains the unique ID for the link / user pair.

**RecordId:** Contains the record ID of the user.

**GroupType:** MUST be a Group (Section 2.2.2.1) Type value that specifies the link group type.

**GroupTitle:** Contains the group title for the link associated with the specified user.

**ItemSecurity:** MUST be a Privacy (Section 2.2.2.7) Type value that defines security for the user.

**Title:** Contains the title for the user's link.

**Url:** Contains the URL for the user's link.

**ContentClass:** Contains the content class for the user's link.

**Return Code Values:** MUST return 0.

**Result Sets:** The result set MUST contain 0 or more rows.

### 3.1.4.51.3 UserMemberships Result Set

UserMemberships result set returns a user’s membership data. The result set is defined using T-SQL syntax as follows:

```sql
PolicyId uniqueidentifier,
Id bigint,
RecordId bigint,
GroupType tinyint,
GroupTitle nvarchar(400),
ItemSecurity int,
MemberGroupId bigint,
Id bigint,
DisplayName nvarchar(250),
MailNickName nvarchar(250),
Description nvarchar(1500),
Source uniqueidentifier,
SourceReference nvarchar(2048),
cs_SourceReference int,
Url nvarchar(2048),
MemberCount bigint,
LastUpdate datetime,
WebID uniqueidentifier,
Type tinyint,
UserCreated bit;
```

**PolicyId:** Contains a Short Link (Section 2.2.2.13) Type identifier specifying the link type.

**Id:** Contains the unique ID for the Membership / user pair.

**RecordId:** Contains the ID for the user.
**GroupType**: MUST be a Group (Section 2.2.1) Type value that specifies the Membership Group type.

**GroupTitle**: Contains the group title for the membership associated with the specified user.

**ItemSecurity**: MUST be a Privacy (Section 2.2.2) Type value that defines security for the membership of the specified user.

**MemberGroupId**: Contains the membership group ID for the user.

**Id**: Contains the Membership Group ID for the user.

**DisplayName**: Contains the user display name for the Membership Group.

**MailNickName**: Contains the mail nickname for the Membership Group.

**Description**: Contains the description for the Membership Group.

**Source**: Contains the Short Link (Section 2.2.13) Type identifier for the Membership Group.

**SourceReference**: Contains the source reference for the Membership Group.

**cs_SourceReference**: Contains the source reference checksum for the Membership Group.

**Url**: Contains the URL for the Membership Group.

**MemberCount**: Contains the members count for the Membership Group.

**LastUpdate**: A UTC Value specifying the last time the Membership Group was updated.

**WebID**: Contains the unique web ID for the Membership Group.

**Type**: Contains the type for the Membership Group.

**UserCreated**: MUST be an Is User Created (Section 2.2.4) Type value.

**Return Code Values**: MUST return 0.

**Result Sets**: The result set MUST contain 0 or more rows

### 3.1.4.52 QuickLinksRetrieveColleaguesOfColleagues

The `QuickLinksRetrieveColleaguesOfColleagues` stored procedure is called to retrieve the specified user's colleagues' colleagues.

QuickLinksRetrieveColleaguesOfColleagues is defined using T-SQL syntax as follows:

```sql
PROCEDURE QuickLinksRetrieveColleaguesOfColleagues (  
    @RecordId bigint
);  
```

@RecordID: The user profile record identifier. This parameter identifies the user for which the colleague properties of colleague properties are returned. It MUST NOT be NULL.

**Return Code Values**: `QuickLinksRetrieveColleaguesOfColleagues` MUST return 0.

**Result Sets**: `QuickLinksRetrieveColleaguesOfColleagues` MUST return 1 result set.
3.1.4.52.1 QuickLinksRetrieveColleaguesOfColleagues Result Set

QuickLinksRetrieveColleaguesOfColleagues returns each user that is a colleague of any of the colleague properties of the specified user.

In order for a colleague's colleague to be returned in the result set, 1 of the following conditions MUST be met:

1. The privacy setting between the colleague and the specified colleague MUST be 2 (Contacts) and the user indicated by @RecordId MUST be a colleague of the colleague.

2. The privacy setting between the colleague and the specified colleague of the colleague MUST be 4 (Organization) and the user indicated by @RecordId MUST be flagged by the colleague as part of the specified workgroup of the colleague, by setting the @LinkUserIdIsWorkgroup parameter to 1 when calling the QuickLinksAdd stored procedure to add the colleague.

3. The privacy setting between the colleague and the colleague property of the specified colleague MUST be 8 (manager) and the user indicated by @RecordId MUST be the Manager property of the colleague.

4. The privacy setting between the colleague and the specified colleague property of the colleague MUST be 1 (Public).

Each row in the result set contains user profile information about a different colleague of a colleague. Each row MUST reference a unique user profile.

The QuickLinksRetrieveColleaguesOfColleagues result set is defined using T-SQL syntax as follows:

```sql
RecordID      bigint,
UserID        uniqueidentifier,
SipAddress    nvarchar(250),
NTName        nvarchar(400),
Email         nvarchar(256),
PreferredName nvarchar(256),
PersonTitle   nvarchar(150);
```

**RecordID:** The record identifier of the user profile.

**UserID:** The GUID of the user.

**SipAddress:** Contains the SIP address of the colleague.

**NTName:** A SAM user name for the entity specified by the user profile.

**Email:** The e-mail address of the user.

**PreferredName:** The name of the user as defined in the specified user profile.

**PersonTitle:** The user specified title.

**Return Code Values:** MUST return 0.

**Result Sets:** MUST return a result set of 0 or more rows, containing 1 row for each user that is a colleague of any of the colleague properties of the user specified through the @RecordId parameter.
3.1.4.53 QuickLinksRetrieveGroupList

The QuickLinksRetrieveGroupList stored procedure is called to retrieve the groups of a specified type for a user profile.

QuickLinksRetrieveGroupList is defined using T-SQL syntax as follows:

```sql
PROCEDURE QuickLinksRetrieveGroupList (  
    @RecordID bigint,  
    @PolicyID uniqueidentifier = NULL
);
```

@RecordID: The user profile record identifier for which the groups are retrieved. This parameter MUST be specified and it MUST NOT be NULL.

@PolicyID: MUST be a Policy Link (Section 2.2.2.6) Type value that specifies the link type.

Return Code Values: QuickLinksRetrieveGroupList MUST return 0.

Result Sets: QuickLinksRetrieveGroupList MUST return one result set.

3.1.4.53.1 QuickLinksRetrieveGroupList Result Set

QuickLinksRetrieveGroupList stored procedure is called to retrieve the groups of a specified type for a group list.

The QuickLinksRetrieveGroupList result set is defined using T-SQL syntax as follows:

```sql
GroupTitle nvarchar(400);  
```

GroupTitle: The name of each group returned by the stored procedure according to the specified input criteria.

Return Code Values: MUST return 0.

Result Sets: MUST return 1 result set of 0 or more rows.

3.1.5 Timer Events

No timer events impact the operation of this protocol.

3.1.6 Other Local Events

No other local events impact the operation of this protocol.

3.2 User Profile Service Protocol Specification Client Details

3.2.1 Abstract Data Model

None.

3.2.2 Timers

None.
3.2.3 Initialization
None.

3.2.4 Message Processing Events and Sequencing Rules
None.

3.2.5 Timer Events
None.

3.2.6 Other Local Events
None.
4 Protocol Examples

This section provides specific example scenarios for managing user profiles, managing user profile properties, enumerating types of user data (links, colleagues, memberships), and managing service-level settings pertaining to policy. In conjunction with the detailed protocol documentation described in the reference documents, this information is intended to provide a comprehensive view of these topics.

4.1 Creating and updating a User Profile Property

The following examples show how to create and update a user profile property in the user profile store. Then the example shows how to update the user display name and description in different languages associated with a property.

4.1.1 Creating a Property

To create a property, the protocol client uses the profile_UpdateProperty stored procedure by setting the @RemovePropertyList parameter to NULL and the @UpdatePropertyList to valid XML code that adheres to the appropriate schema. The property will have a choice list with "High", "Medium" and "Low" as choice list values. The T-SQL syntax is:

```sql
exec dbo.profile_UpdateProperty
@RemovePropertyList=NULL,
@UpdatePropertyList=N'<?xml version="1.0" encoding="utf-16"?><MSPROFILE>
<PROFILE ProfileName="UserProfile">
<PROPERTY PropertyName="TestProperty" DataTypeID="6" Length="25" DefaultPrivacy="16" UserOverridePrivacy="0" Replicable="0" PrivacyPolicy="2" IsSection="0" IsMultiValue="0" ChoiceType="2" IsEditable="1" IsAdminEditOnly="1" IsColleagueEventLog="0" IsUpgrade="0" IsUpgradePrivate="0" IsSearchable="1" IsAlias="0" IsVisible="1" IsVisibleOnViewer="0" IsExpand="1" Separator="0" MaximumShown="10" bUpdate="0">
<VOCABULARY>
<TERM Type="Add" Value="High"/>
<TERM Type="Add" Value="Medium"/>
<TERM Type="Add" Value="Low"/>
</VOCABULARY>
</PROPERTY>
</PROFILE>
</MSPROFILE>'
```

4.1.2 Reading a Property

To read all information about a property the protocol client uses the profile_GetProfilePropertyInfo stored procedure. The T-SQL syntax is:

```sql
exec dbo.profile_GetProfilePropertyInfo @PropertyName=N'TestProperty'
```

4.1.3 Modifying Choice List Values

This property uses a choice list as possible values. The profile_GetPropertyChoiceList stored procedure is used to read all choice list values available. The T-SQL syntax is:

```
exec dbo.profile_GetPropertyChoiceList @PropertyName=N'TestProperty'
```
exec dbo.profile_GetPropertyChoiceList @PropertyName=N'TestProperty'

In the next example, the `profile_UpdateProperty` stored procedure is used to remove the "High" choice list value, rename "Medium" to "Moderate" and add "Extreme" as a new choice list value. The T-SQL syntax is:

```sql
exec dbo.profile_UpdateProperty
@RemovePropertyList=NULL,
@UpdatePropertyList=N'<?xml version="1.0" encoding="utf-16"?>
  <MSPROFILE>
    <PROFILE ProfileName="UserProfile">
      <PROPERTY PropertyName="John" DefaultPrivacy="16" UserOverridePrivacy="0"
                    Replicable="0" PrivacyPolicy="2" IsSection="0" IsMultiValue="0"
                    ChoiceType="2" IsEditable="1" IsAdminEditOnly="1"
                    IsColleagueEventLog="0" IsUpgrade="0" IsUpgradePrivate="0"
                    IsSearchable="1" IsAlias="0" IsVisible="1"
                    IsVisibleOnViewer="0" IsExpand="0" Separator="0" MaximumShown="10"
                    bUpdate="1">
        <VOCABULARY>
          <TERM Type="Add" Value="Extreme" />
          <TERM Type="Delete" Value="High" />
          <TERM Type="Rename" Value="Medium" NewValue="Moderate" />
        </VOCABULARY>
      </PROPERTY>
    </PROFILE>
  </MSPROFILE>'
```

4.1.4 Localizing The User Display Name and Description

The protocol server allows for the User Display Names and descriptions to be localized in different languages. The `profile_GetProfilePropertyLoc` stored procedure can be used to get all localized user display names and descriptions for all properties and sections. The T-SQL syntax is:

```sql
exec dbo.profile_GetProfilePropertyLoc
```

The `profile_UpdatePropertyLoc` stored procedure is called to add new localized User Display Names or Descriptions. The T-SQL syntax is:

```sql
exec dbo.profile_UpdatePropertyLoc
@PropertyName=N'TestProperty',
@DisplayNamesXml=N'<?xml version="1.0" encoding="utf-16"?>
  <Loc>
    <Item Lcid="1033" Text="Test Property Display Name" />
    <Item Lcid="1036" Text="Test Property Display Name in French" />
    <Item Lcid="1031" Text="Test Property Display Name in German" />
  </Loc>',
@DescriptionsXml=N'<?xml version="1.0" encoding="utf-16"?>
  <Loc>
    <Item Lcid="1033" Text="Description in English" />
    <Item Lcid="1036" Text="Description in French" />
    <Item Lcid="1031" Text="Description in German" />
  </Loc>'
```
4.2 Enumerating Users

A protocol client can enumerate the users with Paging.

To do that the protocol client would call the `profile_EnumUsers` stored procedure, passing the following parameters:

@BeginId = 0

@EndID = desired page size

Each call to this method will return to parameters @MINID and @MAXID that can be used to determine when the end of the users list is reached. The protocol client will need to keep calling this stored procedure, incrementing the @BeginId and @EndID parameters to get the next page of users:

@BeginId = @EndID + 1

@EndID = @BeginId + desired page size

The `profile_EnumUsers` stored procedure returns the GUID identifying the user and the user profile record identifier for each user in the specified page.

There is a chance that the protocol client will get fewer rows in the result that the page size, if there are gaps in user profile record identifiers. This can happen if some user profiles were deleted.

Then the protocol client can use those values to read the user profile data for each user returned by the preceding call(s).

To obtain user profile details, the protocol client calls the `profile_GetUserProfileData` stored procedure setting the parameter @UserId to the GUID identifying the user returned by the `profile_EnumUsers` stored procedure.

4.3 Managing Links between Users

4.3.1 Adding User Colleagues

A protocol client can define new colleagues for a specific user. To do this the protocol client would call the `QuickLinksAdd` stored procedure, passing in the following parameters:

@RecordId = The user profile record identifier for which the colleague is added. For this a protocol client can simply use a user profile record identifier retrieved through the method described in example 4.2.

@PageURL = Not specified. NULL by default.

@Title = Not specified. NULL by default.

@ContentClass = not specified (it will be NULL by default).

@Group = 'General' (string value).

@GroupType = 0 (integer value).
@ItemSecurity = 16 (integer value).
@PolicyId = 'EE96E8D6-FBC6-4BC1-838F-25C8F0535E4C' (GUID value)
@ColleagueRecordId = the user profile record identifier of the desired colleague.
@LinkUserIdIsWorkgroup = 0 (integer value)
@LinkMemberGroupId = not specified (it will be NULL by default)

This call will create a link between the two users, making the user specified by @ColleagueRecordId
a colleague of the user specified by @RecordId.

The owner of this link is the user profile identified by @RecordId.
The colleague is added to the "General" group.
The link has a privacy setting of 'Private' because @ItemSecurity was set to 16.
The stored procedure returns the @LinkID of the newly created link.

4.3.2 Deleting User site Memberships

A protocol client can delete a user site membership. Before deleting the membership, a protocol
client can list all the site memberships. To do this, the protocol client needs to call the
QuickLinksRetrieveAllItems stored procedure with the following parameters:

@RecordId = the user profile record identifier for which the list of memberships is to be retrieved.
@ViewerItemSecurity = 31 (integer value – representing the rights of the user making the request.)
@RequestedItemSecurity = 16 (integer value – representing the maximum level of privacy for the
returned data)

This call will return all the specified user site memberships. Then the protocol client can find among
those the 1 that needs to be deleted and call the QuickLinksDelete stored procedure and pass the
following parameters:

@RecordId = the user profile record identifier for which the membership will be deleted.
@LinkID = the ID of the site membership link (integer value) to be deleted. Here the protocol client
will need to pass the value found in the column "ID" in the third result set of the previously
described stored procedure call.
@PolicyId = 8BB1220F-DE8B-4771-AC3A-0551242CF2BD (GUID value)
@RemoveCount = 1 (integer value)

The stored procedure will try to delete in this case a site membership, because the specified
@PolicyId identifies a site membership. If the stored procedure returns 0 the site membership has
been successfully deleted.

4.3.3 Retrieving All Colleagues of Colleagues

A protocol client can retrieve the list of colleague properties of colleague properties, for example to
search for a contact in another department. To do this the protocol client will have to call
QuickLinksRetrieveColleaguesOfColleagues stored procedure and pass the following parameter:
@RecordId: The user profile record identifier of the user for which the list of colleague properties colleague properties is obtained.

The stored procedure will return a list with user profile information about each user that is a colleague of any of the colleague properties of the specified user.

The protocol client can then call the `profile_GetUserProfileData` stored procedure, setting the parameter `@UserId` to any of the GUIDs identifying the users returned by the `QuickLinksRetrieveColleaguesOfColleagues` stored procedure, to obtain the user’s Department or other user profile details.

### 4.4 Managing Membership

#### 4.4.1 Enumerating Member Groups

In this example the store contains these membership groups:

<table>
<thead>
<tr>
<th>ID</th>
<th>Source</th>
<th>Display Name</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>distribution list</td>
<td>Group A</td>
<td><a href="mailto:groupA@contoso.com">groupA@contoso.com</a></td>
</tr>
<tr>
<td>22</td>
<td>distribution list</td>
<td>Group B</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>distribution list</td>
<td>Group C</td>
<td><a href="mailto:groupC@contoso.com">groupC@contoso.com</a></td>
</tr>
<tr>
<td>25</td>
<td>site</td>
<td>Group D</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>site</td>
<td>Group E</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>distribution list</td>
<td>Group F</td>
<td><a href="mailto:groupF@contoso.com">groupF@contoso.com</a></td>
</tr>
</tbody>
</table>

In the group enumeration example the protocol client begins by obtaining the maximum and minimum bounds of the enumeration. The protocol client does this by invoking `membership_enumerateGroups(NULL, NULL, @LowerBound, @UpperBound)`. This results in the protocol client receiving no result set but with the value of `@LowerBound` being set to 21 and the value of `@UpperBound` being set to 29.

From there, the protocol client enumerate selects an enumeration set size. This example uses a set size of 4. The protocol client then calculates bound using the value of `@LowerBound`, the selected enumeration set size and the value of `@UpperBound`. The protocol client then establishes an enumeration set. The protocol client does this by invoking `membership_enumerateGroups(21, 25, NULL, NULL)`<2>. This results in the protocol client obtaining the following result set:

<table>
<thead>
<tr>
<th>Id</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
</tr>
<tr>
<td>23</td>
</tr>
<tr>
<td>25</td>
</tr>
</tbody>
</table>

Note that Group B is not included as it does not have an e-mail address. The protocol client can then use these Member Group Identifiers to perform most membership group operations.

Once the protocol client has exhausted the enumeration it then calculates new bound using the previous bounds, the enumeration set size and value of `@UpperBound`. The protocol client then
refreshes the enumeration set. The protocol client does this by invoking
membership_enumerateGroups(26, 29, NULL, NULL). This results in the protocol client obtaining
following result set:

<table>
<thead>
<tr>
<th>Id</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
</tr>
<tr>
<td>29</td>
</tr>
</tbody>
</table>

Note that at this point the enumeration set upper bound has equaled the @UpperBound value. All
that remains if for the protocol client to exhaust this enumeration set and the enumeration of all
membership groups is complete.

### 4.4.2 Retrieving Member Group Data

In this example the store contains this membership group <3>:

<table>
<thead>
<tr>
<th>Id</th>
<th>DisplayName</th>
<th>MailNickName</th>
<th>Source</th>
<th>SourceReference</th>
<th>Url</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Group G</td>
<td>groupG</td>
<td>A88B9DCB-5B82-41E4-8A19-17672F307B95</td>
<td>CN=groupG,OU=Distribution Lists,DC=contoso,DC=com</td>
<td>mailto: <a href="mailto:groupG@contoso.com">groupG@contoso.com</a></td>
</tr>
</tbody>
</table>

To retrieve membership group information the protocol client calls membership_getGroup. This can
be done in 3 different ways.

The first method is for the protocol client to specify the membership group with its Member Group
Identifier. The protocol client does this by invoking membership_getGroup(NULL, NULL, NULL, 321).

The second method is for the protocol client to specify the membership group with its source
reference and source. The protocol client does this by invoking membership_getGroup('A88B9DCB-
5B82-41E4-8A19-17672F307B95', NULL, 'CN=GroupG,OU=Distribution Lists,DC=contoso,DC=com',
NULL).

The third method is for the protocol client to specify the membership group with its user display
name and source. The protocol client does this by invoking membership_getGroup('A88B9DCB-
5B82-41E4-8A19-17672F307B95', 'Group G', NULL, NULL).

All three methods result in the protocol client obtaining following result set <4>:

<table>
<thead>
<tr>
<th>Id</th>
<th>DisplayName</th>
<th>MailNickName</th>
<th>Source</th>
<th>SourceReference</th>
<th>Url</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Group G</td>
<td>groupG</td>
<td>A88B9DCB-5B82-41E4-8A19-17672F307B95</td>
<td>CN=groupG,OU=Distribution Lists,DC=contoso,DC=com</td>
<td>mailto: <a href="mailto:groupG@contoso.com">groupG@contoso.com</a></td>
</tr>
</tbody>
</table>

Because the Member Group Identifier is guaranteed to be unique and uniqueness is enforced on the
source reference field within a particular source it is recommended that the protocol client use the
first and second methods when invoking this procedure.
4.4.3 Creating a Member Group

A protocol client creates the following membership group<5>:

<table>
<thead>
<tr>
<th>DisplayName</th>
<th>MailNickName</th>
<th>Source</th>
<th>SourceReference</th>
<th>Url</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Q</td>
<td>groupQ</td>
<td>A8BB9DCB-5BB2-41E4-8A19-17672F307B95</td>
<td>cn=GroupQ,OU=Distribution Lists,DC=contoso,DC=com</td>
<td><a href="mailto:groupQ@contoso.com">mailto:groupQ@contoso.com</a></td>
<td>0</td>
</tr>
</tbody>
</table>

To create the membership group, the protocol client calls `membership_updateGroup` using NULL as the value of the `@Id` input parameter and with all other input parameters set appropriately.

The protocol client makes the following call.

```
membership_updateGroup(NULL, 'A8BB9DCB-5BB2-41E4-8A19-17672F307B95',
'groupQ', 'groupQ', 'This is a group with name Q',
'mailto:groupQ@contoso.com',
'CN=GroupQ,OU=Distribution Lists,DC=contoso,DC=com',
NULL, 0, 0, NULL, @CreatedMemberGroupId, @PossibleErrorCode)
```

This results in the protocol client receiving no result set but with the values of `@CreatedMemberGroupId` and `@PossibleErrorCode` being set. The protocol client then examines the value of the return code and the value of `@PossibleErrorCode`. If both are 0 then the value of `@CreatedMemberGroupId` can be used by the protocol client for further membership group operations. If they are not both 0, then the protocol client can take appropriate action.

When creating a membership group, there is no requirement for unique user display names. However, not having a unique user display name can make invoking `membership_getGroup` more difficult.

4.4.4 Updating a Member Group

In this example the store contains this membership group<6>:

<table>
<thead>
<tr>
<th>Id</th>
<th>DisplayName</th>
<th>MailNickName</th>
<th>Source</th>
<th>SourceReference</th>
<th>Url</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>439</td>
<td>Group U</td>
<td>(null)</td>
<td>A8BB9DCB-5BB2-41E4-8A19-17672F307B95</td>
<td>cn=groupU,ou=useraccounts,dc=contoso,dc=com</td>
<td><a href="mailto:groupU@contoso.com">mailto:groupU@contoso.com</a></td>
<td>1</td>
</tr>
</tbody>
</table>

To update a membership group the protocol client calls `membership_updateGroup` using the Member Group Identifier as the value of the `@Id` input parameter. All other input parameters are set to either their updated values or their current values. In this example, an e-mail address is assigned to the group.

To make the desired change the protocol client calls `membership_updateGroup(439, 'A8BB9DCB-5BB2-41E4-8A19-17672F307B95', 'Group U', 'groupU', 'This is a group with name U',
'mailto:groupU@contoso.com', 'CN=GroupU,OU=Distribution Lists,DC=contoso,DC=com', NULL, 0,
0, NULL, NULL, @PossibleErrorCode). This results in the protocol client receiving no result set but with the values of @PossibleErrorCode being set.

The protocol client then examines the value of the return code and the value of @PossibleErrorCode. If both are 0 then the group has been updated to have an e-mail address. If they are not both 0 then the protocol client can take appropriate action.

It is crucial when assigning an e-mail address to a group to remember to also update the group's type from 1 to 0. If this is not done then inconsistent behavior can result.

When updating a membership group be aware that there is no requirement for uniqueness of user display names but not having a unique user display name can make invoking membership_getGroup more difficult.

### 4.4.5 Retrieving Membership Data

In this example the data is as follows:

- The user profile store contains these 5 user profiles representing 5 different accounts:

<table>
<thead>
<tr>
<th>RecordID</th>
<th>PreferredName</th>
</tr>
</thead>
<tbody>
<tr>
<td>4312453</td>
<td>Bob Robertson</td>
</tr>
<tr>
<td>3452432</td>
<td>Ed Williams</td>
</tr>
<tr>
<td>1434312</td>
<td>Fred Fleinhart</td>
</tr>
<tr>
<td>5432525</td>
<td>Fred Fleinhart</td>
</tr>
<tr>
<td>6635545</td>
<td>Fred Fleinhart</td>
</tr>
<tr>
<td>2341241</td>
<td>Steve Steveson</td>
</tr>
</tbody>
</table>

- The store contains this member group:

<table>
<thead>
<tr>
<th>Id</th>
<th>DisplayName</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>Group M</td>
</tr>
</tbody>
</table>

To retrieve a partial list of members of a membership group the protocol client calls membership_getGroupMembershipsPaged. For this example the protocol client will set the @Count parameter to 3 to illustrate the use of the @ItemBeforeFirst and @RecordIdBeforeFirst parameters. The protocol client, initially, calls membership_getGroupMembershipsPaged(72, 4312453, 3, 7, 0, NULL, NULL, NULL). This results in the protocol client obtaining following result set:<7>:

<table>
<thead>
<tr>
<th>PreferredName</th>
<th>RecordID</th>
<th>DisplayName</th>
<th>MemberCount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bob Robertson</td>
<td>4312453</td>
<td>Group M</td>
<td>6</td>
</tr>
<tr>
<td>Ed Williams</td>
<td>3452432</td>
<td>Group M</td>
<td>6</td>
</tr>
<tr>
<td>Fred Fleinhart</td>
<td>1434312</td>
<td>Group M</td>
<td>6</td>
</tr>
</tbody>
</table>
The protocol client then calls membership_getGroupMembershipsPaged(72, 4312453, 3, 7, 0, 'Fred Fleinhart', 1434312, NULL) to obtain the remaining memberships. This results in the protocol client obtaining following result set <8>:

<table>
<thead>
<tr>
<th>PreferredName</th>
<th>RecordID</th>
<th>DisplayName</th>
<th>MemberCount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fred Fleinhart</td>
<td>5432525</td>
<td>Group M</td>
<td>6</td>
</tr>
<tr>
<td>Fred Fleinhart</td>
<td>6635545</td>
<td>Group M</td>
<td>6</td>
</tr>
<tr>
<td>Steve Steveson</td>
<td>2341241</td>
<td>Group M</td>
<td>6</td>
</tr>
</tbody>
</table>

To retrieve a full list of members of a membership group the protocol client calls membership_getGroupMemberships. The protocol client calls membership_getGroupMemberships(72). This results in the protocol client obtaining following result set <9>:

<table>
<thead>
<tr>
<th>RecordId</th>
<th>DisplayName</th>
<th>MemberCount</th>
<th>PreferredName</th>
</tr>
</thead>
<tbody>
<tr>
<td>4312453</td>
<td>Group M</td>
<td>6</td>
<td>Bob Robertson</td>
</tr>
<tr>
<td>3452432</td>
<td>Group M</td>
<td>6</td>
<td>Ed Williams</td>
</tr>
<tr>
<td>1434312</td>
<td>Group M</td>
<td>6</td>
<td>Fred Fleinhart</td>
</tr>
<tr>
<td>5432525</td>
<td>Group M</td>
<td>6</td>
<td>Fred Fleinhart</td>
</tr>
<tr>
<td>6635545</td>
<td>Group M</td>
<td>6</td>
<td>Fred Fleinhart</td>
</tr>
<tr>
<td>2341241</td>
<td>Group M</td>
<td>6</td>
<td>Steve Steveson</td>
</tr>
</tbody>
</table>

### 4.5 Managing User Profile Data

#### 4.5.1 Retrieving a User Guid

A protocol client can obtain a GUID identifying the user for a user's primary account.

To achieve this the protocol client calls profile_GetUserGUID stored procedure passing at least 1 of the following parameters:

@NTName

@SID

The profile_GetUserGUID stored procedure will take as input either the user's login name or SID. If login name is specified then its value will be used and the SID will be ignored, otherwise the SID will be used.

The call to profile_GetUserGUID returns output parameter GUID (@GUID) that will specify the GUID value of the user's userID. This value can be used later to call other stored procedures. Note: If a valid user is not found, the output parameter @GUID will be NULL.

#### 4.5.2 Retrieving User Profile Data

A protocol client can obtain the user profile data for the user. Profile data could be a user's home address, telephone number, and so forth.
To achieve this the protocol client calls **profile_GetUserProfileData** stored procedure passing at least 1 of the following parameters:

@UserId, @NTName, @SID, and @RecordId.

The **profile_GetUserProfileData** stored procedure will take as input either a GUID, login name, SID or matching record identifier for the requested user. If @UserId is NULL, then the user will be identified by @SID. If @SID is also NULL, then the user will be identified by @NTName. If @NTName is also NULL, then the user will be identified by @RecordId.

The call to **profile_GetUserProfileData** returns a result set describing the available properties for the specified user. If no properties are found for a specified user, then the result set will contain 0 rows. Otherwise it will contain as many rows as there are properties for the specified user.

### 4.5.3 Updating User Profile Data

A protocol client can add, update or delete the user profile data for a user. Profile data could be a user's home address, telephone number, and so forth.

To achieve this, the protocol client calls **profile_UpdateUserProfileData** stored procedure passing the @UpdatePropertyList parameter. @UpdatePropertyList parameter contains only the XML text describing the list of properties that need to be updated. This can be used for 1 or more users.

The @UpdatePropertyList XML parameter can be constructed in such a way to either add, update or delete properties. If the PROPERTY xml element attribute "RemoveFlag" is 1, then the property record is removed; in a multiple values field, all values are removed. If the USER xml element attribute "UserID" is empty, then a new user is created with the specified property information.

The following is an example of XML code which adds a user.

```xml
@UpdatePropertyList=N'<?xml version="1.0" encoding="utf-16"?>
<MSPROFILE>
  <PROFILE ProfileName="UserProfile">
    <USER NewUser="1" NTAccount="\Some Domain\User1"
         UserID="12345678-1234-400e-b72e-888879a6f131">
      <PROPERTY PropertyName="AccountName" PropertyValue="\Some Domain\User1" />
      <PROPERTY PropertyName="LastName" PropertyValue="Smith" />
      <PROPERTY PropertyName="FirstName" PropertyValue="John" />
      <PROPERTY PropertyName="PreferredName" PropertyValue="John Smith" />
      <PROPERTY PropertyName="WorkPhone" PropertyValue="+1 (425) 1(425)5550100 x50100 " />
      <PROPERTY PropertyName="Office" PropertyValue="88/1234" />
      <PROPERTY PropertyName="Department" PropertyValue="Office" />
      <PROPERTY PropertyName="Title" PropertyValue="Vice President" />
      <PROPERTY PropertyName="Manager" PropertyValue="\Some Domain\User1" />
      <PROPERTY PropertyName="UserName" PropertyValue="user1" />
      <PROPERTY PropertyName="PublicSiteRedirect" PropertyValue="http://my/sites/user1/" />
      <PROPERTY PropertyName="SPS-SipAddress" PropertyValue="user1@contoso.com" />
      <PROPERTY PropertyName="SPS-ProxyAddresses" PropertyValue="X500:/o=MSNBC/ou=Servers/cn=Recipients/cn=user1" />
      <PROPERTY PropertyName="SPS-ProxyAddresses" PropertyValue="X500:/O=Microsoft/OU=APPS-WGA/cn=Recipients/cn=JohnSmith" />
      <PROPERTY PropertyName="SPS-ProxyAddresses" PropertyValue="gwise:Exchange.APFS-WGA.user1" />
      <PROPERTY PropertyName="SPS-ProxyAddresses" PropertyValue="smtp:user1@contoso.com" />
    </USER>
  </PROFILE>
</MSPROFILE>
'
The following is an example of XML code which updates a user profile:

```xml
@UpdatePropertyList=N'<?xml version="1.0" encoding="utf-16"?>
<MSPROFILE>
  <PROFILE ProfileName="UserProfile">
    <USER NewUser="0" NTAccount=""<Some Domain>\User1"
      UserID="12345678-1234-400e-b72e-88887c9a6f31 ">
      <PROPERTY PropertyName="Manager" PropertyValue=""<Some Domain>\User2" />
      <PROPERTY PropertyName="AboutMe" PropertyValue="&lt;div&gt;&lt;/div&gt;" />
      <PROPERTY PropertyName="SPS-Dotted-line" PropertyValue="" />
      <PROPERTY PropertyName="SPS-HireDate" PropertyValue="" />
      <PROPERTY PropertyName="SPS-LastColleagueAdded" PropertyValue="" />
      <PROPERTY PropertyName="SPS-OWAUrl" PropertyValue="http://www.someurl.com" />
      <PROPERTY PropertyName="Assistant" PropertyValue="" />
      <PROPERTY PropertyName="xx-html2-2000" PropertyValue="&lt;div&gt;&lt;/div&gt;" />
      <PROPERTY PropertyName="xx-html3-555" PropertyValue="&lt;div&gt;&lt;/div&gt;" />
      <PROPERTY PropertyName="xx-Person" PropertyValue="" />
      <PROPERTY PropertyName="xx-person2" PropertyValue="" />
      <PROPERTY PropertyName="xx-date" PropertyValue="" />
      <PROPERTY PropertyName="xx-datetime" PropertyValue="" />
    </USER>
  </PROFILE>
</MSPROFILE>
```

4.6 Managing Commonalities

The following examples assume the following hierarchical management structure of users and their respective identifiers:

- Syed Abbas (B8C750FC-E3E3-11DC-AFA1-EFA756D89593)
  - Brenda Diaz (B8C750FC-E3E3-11DC-AFA1-EFA756D89594)
    - Lori Kane (B8C750FC-E3E3-11DC-AFA1-EFA756D89595)
  - Steve Masters (B8C750FC-E3E3-11DC-AFA1-EFA756D89599)
    - Tai Yee (B8C750FC-E3E3-11DC-AFA1-EFA756D89597)
    - Roy Antebi (B8C750FC-E3E3-11DC-AFA1-EFA756D89598)

In this example, Brenda and Steve report to Syed, Tai and Roy report to Steve, and Lori reports to Brenda.
### 4.6.1 Retrieving a Common Manager

In this example, the protocol client retrieves the common managers of Tai Yee and Roy Antebi. The protocol client would make the following call:

```sql
exec profile_GetCommonManager 'B8C750FC-E3E3-11DC-AFA1-EFA756D89597', 'B8C750FC-E3E3-11DC-AFA1-EFA756D89598'
```

The following result set would be returned:

<table>
<thead>
<tr>
<th>RecordId</th>
<th>UserID</th>
<th>NTName</th>
<th>Email</th>
<th>SIPAddress</th>
<th>PreferredName</th>
<th>Title</th>
<th>FirstCommon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B8C750FC-E3E3-11DC-AFA1-EFA756D89597</td>
<td>domain\steve.masters</td>
<td><a href="mailto:Steve.masters@domain.com">Steve.masters@domain.com</a></td>
<td>NULL</td>
<td>Steve Masters</td>
<td>NULL</td>
<td>True</td>
</tr>
<tr>
<td>2</td>
<td>B8C750FC-E3E3-11DC-AFA1-EFA756D89593</td>
<td>domain\syed.abbas</td>
<td><a href="mailto:Syed.abbas@domain.com">Syed.abbas@domain.com</a></td>
<td>NULL</td>
<td>Syed Abbas</td>
<td>NULL</td>
<td>False</td>
</tr>
</tbody>
</table>

### 4.6.2 Retrieving Reporting Data

A protocol client can retrieve information about reports from a user, and the colleagues and manager of the user. To find reports from Steve Masters, the protocol client would make the following query.

```sql
exec profile_GetUserReportToData NULL, 'B8C750FC-E3E3-11DC-AFA1-EFA756D89599', NULL, NULL, False
```

The following three result sets would be returned:

**Direct Reports**

<table>
<thead>
<tr>
<th>RecordId</th>
<th>UserID</th>
<th>NTName</th>
<th>PreferredName</th>
<th>Email</th>
<th>SIPAddress</th>
<th>PersonTitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B8C750FC-E3E3-11DC-AFA1-EFA756D89597</td>
<td>domain\tai.yee</td>
<td>Tai Yee</td>
<td><a href="mailto:Tai.yee@domain.com">Tai.yee@domain.com</a></td>
<td>NULL</td>
<td>NULL</td>
</tr>
<tr>
<td>2</td>
<td>B8C750FC-E3E3-11DC-AFA1-EFA756D89598</td>
<td>domain\roy.anterbi</td>
<td>Roy Antebi</td>
<td><a href="mailto:Roy.anterbi@domain.com">Roy.anterbi@domain.com</a></td>
<td>NULL</td>
<td>NULL</td>
</tr>
</tbody>
</table>

**Manager** (only applies when the user has a manager)
4.7 Controlling Policy

The protocol client uses can expose policy to an administrator that defines the policy for users of the user profile service. The client would first call *privacy_getAllPolicy* and use the result set to display each policy shown inside its *@GroupName* labeled by *@DisplayName*. The client makes calls to *privacy_deletePolicy* or *privacy_UpdatePolicy* as changes are made. As calls to *privacy_deletePolicy* are made, the server is responsible for no longer returning this data in calls to *privacy_getAllPolicy* or *privacy_getFeaturePolicy*. As calls to *privacy_UpdatePolicy* are made, the server is responsible for returning this same data in subsequent calls to *privacy_getAllPolicy* or *privacy_getFeaturePolicy*.

4.8 Enforcing Policy

The protocol client is responsible for enforcing the privacy and policy stored by the server. As the protocol client services requests, it checks whether to enable or disable features by calling *privacy_GetFeaturePolicy*. As the client services requests that involve editing of Profile properties, it calls *privacy_getAllPolicy*. If the policy type is set to disabled, it does not show the property. If the policy type is set to optional, it shows the property and allows it to be left empty. If the policy type is set to mandatory, it shows the property and requires that it be finished. The client uses the result of *IsItemSecurityOverridable* to determine whether to let users override the privacy of their property. Lastly, as the client displays these features and properties to other users they use the *DefaultItemSecurity* result to determine whether another user can see the property.
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® Office SharePoint® Server 2007
- Microsoft® SQL Server® 2005
- Microsoft® SQL Server® 2008
- Microsoft® SQL Server® 2008 R2
- Windows® SharePoint® Services 3.0

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.

<1> Section 3.1.4.43.1.2: In the case that the value of Text includes more than 256 characters, the value will be truncated to 256 characters.

<2> Section 4.4.1: The protocol client can also refresh its bounds by invoking

```
membershipEnumerateGroups(21, 25, @LowerBound, @UpperBound);
```

<3> Section 4.4.2: The following columns have been omitted for simplicity of presentation: MailNickName, Description, cs_SourceReference, MemberCount, LastUpdate, WebID, Type, UserCreated.

<4> Section 4.4.2: The following columns have been omitted for simplicity of presentation: MailNickName, Description, cs_SourceReference, MemberCount, LastUpdate, WebID, Type, UserCreated.

<5> Section 4.4.3: The following columns have been omitted for simplicity of presentation: Id, Description, cs_SourceReference, MemberCount, LastUpdate, WebID, and UserCreated.

<6> Section 4.4.4: The following columns have been omitted for simplicity of presentation: Description, cs_SourceReference, MemberCount, LastUpdate, WebID, and UserCreated.

<7> Section 4.4.5: The following columns have been omitted for simplicity of presentation: Title, Department, NTName, Email, SipAddress, UserId, AboutMe, PictureURL, IsAboutMeVisible, IsPictureUrlVisible, Id, RecordId, MemberGroupId, GroupType, GroupTitle, SID, PolicyId, ItemSecurity, Id, MailNickName, Description, Source, SourceReference, cs_SourceReference, Url, LastUpdate, WebID, Type, and UserCreated.

<8> Section 4.4.5: The following columns have been omitted for simplicity of presentation: Title, Department, NTName, Email, SipAddress, UserId, AboutMe, PictureURL, IsAboutMeVisible, IsPictureUrlVisible, Id, RecordId, MemberGroupId, GroupType, GroupTitle, SID, PolicyId,
ItemSecurity, Id, MailNickName, Description, Source, SourceReference, cs_SourceReference, Url, LastUpdate, WebID, Type, UserCreated.

<9> Section 4.4.5: The following columns have been omitted for simplicity of presentation:. Id, MemberGroupId, GroupType, GroupTitle, SID, PolicyId, ItemSecurity, Id, MailNickName, Description, Source, SourceReference, cs_SourceReference, Url, LastUpdate, WebID, Type, UserCreated, RecordId, NTName, Email, SipAddress.
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 94
  server 17
Adding user colleagues example 98
Applicability 10

B
Binary structures - overview 15
Bit fields - overview 15

C
Capability negotiation 10
Change tracking 112
Client
  abstract data model 94
  initialization 95
  local events 95
  message processing 95
  sequencing rules 95
  timer events 95
  timers 94
Common data types
  overview 11
Controlling policy example 108
Creating a member group example 102
Creating a property example 96
Creating and updating a user profile property example 96

D
Data model - abstract
  client 94
  server 17
Data types
  common 11
  Group Type 11
  Is Item Security Overridable Type 11
  Is MLS Enabled Type 11
  Name Format Type 12
  Name Is User Created Type 12
  Policy Link Type 12
  Privacy Policy Type 12
  Privacy Type 13
  Property Choice Type 13
  Property Data Type 14
  Separator Type 14
  Short Group Type 15
  Short Link Type 15
  Visibility Type 15
Data types - simple
  Group Type 11
  Is Item Security Overridable Type 11
  Is MLS Enabled Type 11
  Is User Created Type 12

E
Enforcing policy example 108
Enumerating member groups example 100
Enumerating users example 98
Events
  local - client 95
  local - server 94
  timer - client 95
  timer - server 94
Examples
  adding user colleagues 98
  controlling policy 108
  creating a member group 102
  creating a property 96
  creating and updating a user profile property 96
  deleting user site memberships 99
  enforcing policy 108
  enumerating member groups 100
  enumerating users 98
  localizing the user display name and description 97
  managing commonalities 106
  modifying choice list values 96
  overview 96
  reading a property 96
  retrieving a common manager 107
  retrieving a user guide 104
  retrieving all colleagues of colleagues 99
  retrieving member group data 101
  retrieving membership data 103
  retrieving reporting data 107
  retrieving user profile data 104
  updating a member group 102
  updating user profile data 105

F
Fields - vendor-extensible 10

G
Glossary 7
  Group Type simple type 11
Implementer - security considerations 109
Index of security parameters 109
Informative references 9
Initialization
client 95
server 18
Introduction 7
Is Item Security Overridable Type simple type 11
Is MLS Enabled Type simple type 11
Is User Created Type simple type 12
Local events
client 95
server 94
Localizing the user display name and description example 97
Managing commonalities example 106
membership_deleteGroup method 22
membership_enumerateGroups method 22
membership_getColleagueSuggestions method 23
membership_getGroup method 24
membership_getGroupCount method 26
membership_getGroupMemberships method 26
membership_getGroupMembershipsPaged method 28
membership_getRelatedGroups method 37
membership_updateGroup method 38
Message processing
client 95
server 18
Messages
binary structures 15
bit fields 15
common data types 11
enumerations 11
flag structures 15
result sets 15
simple data types 11
table structures 16
transport 11
view structures 16
XML structures 16
Methods
membership_deleteGroup 22
membership_enumerateGroups 22
membership_getColleagueSuggestions 23
membership_getGroup 24
membership_getGroupCount 26
membership_getGroupMemberships 26
membership_getGroupMembershipsPaged 28
membership_getRelatedGroups 37
membership_updateGroup 38
privacy_deletePolicy 40
privacy_getAllPolicy 40
privacy_getFeaturePolicy 41
privacy_updatePolicy 42
profile_enumUsers 43
profile_FindPropertyChoiceList 44
profile_GetCommonManager 44
profile_GetDataTypeList 45
profile_GetMultiLoginAccounts 47
profile_GetNextUserProfileData 47
profile_GetPersonalSiteInfo 48
profile_getProfileCount 49
profile_getProfileCountWithProperty 49
profile_getUserProfileData 49
profile_getUserProfileLoc 55
profile_getPropertyChoiceList 56
profile_getSharedListSync 56
profile.GetUserFormat 57
profile.GetUserGUID 58
profile.GetUserProfileData 58
profile.GetUserProfilesByEmail 60
profile.GetUserReportToData 62
profile_getViewerRights 63
profile_MigrateUserProfile 64
profile_OnSqlRestore 65
profile_RemoveUser 65
profile_ResetDeletedUser 66
profile_SearchUser 66
profile_UpdateOrgColleagues 69
profile_UpdatePersonalSiteInfo 69
profile_UpdatePersonalSpace 70
profile_UpdateProfileDisplay 70
profile_UpdateProperty 72
profile_UpdatePropertyLoc 79
profile_UpdateSharedListSync 80
profile_UpdateUserProfileData 83
QuickLinksAdd 85
QuickLinksDelete 86
QuickLinksDeleteUser 87
QuickLinksEdit 87
QuickLinksRetrieveAllItems 88
QuickLinksRetrieveColleaguesOfColleagues 92
QuickLinksRetrieveGroupList 94
Modifying choice list values example 96
Name Format Type simple type 12
Normative references 8
Overview (synopsis) 9
Parameters - security index 109
Policy Link Type simple type 12
Preconditions 10
Prerequisites 10
Privacy Policy Type simple type 13
Privacy Type simple type 13
privacy_deletePolicy method 40

Copyright © 2012 Microsoft Corporation.

Release: July 16, 2012
Privacy getAllPolicy method 40
privacy getFeaturePolicy method 41
privacy updatePolicy method 42

Product behavior 110

profile EnumUsers method 43
profile FindPropertyChoiceList method 44
profile GetCommonManager method 44
profile GetTypeList method 46
profile GetMultiLoginAccounts method 47
profile getNextUserProfileData method 47
profile GetPersonalSiteInfo method 48
profile GetProfileCount method 49
profile GetProfileCountWithProperty method 49
profile GetProfileProperty method 49
profile GetProfilePropertyInfo method 49
profile GetProfilePropertyLoc method 55
profile GetPropertyChoiceList method 56
profile GetSharedListSync method 56
profile GetUserFormat method 57
profile GetUserGUID method 58
profile GetUserProfileData method 58
profile GetUserProfilesByEmail method 60
profile GetUserReportToData method 62
profile GetViewerRights method 63
profile MigrateUserProfile method 64
profile OnSqlRestore method 65
profile ResetDeletedUser method 65
profile SearchUser method 66
profile UpdateOrgColleagues method 69
profile UpdatePersonalSiteInfo method 69
profile UpdatePersonalSpace method 70
profile UpdateProfileDisplay method 70
profile UpdateProperty method 72
profile UpdatePropertyLoc method 79
profile UpdateSharedListSync method 80
profile UpdateUserProfileBlobData method 81
profile UpdateUserProfileData method 83

Property Choice Type simple type 13
Property Data Type simple type 14

Q

QuickLinksAdd method 85
QuickLinksDelete method 86
QuickLinksDeleteUser method 87
QuickLinksEdit method 87
QuickLinksRetrieveAllItems method 88
QuickLinksRetrieveColleaguesOfColleagues method 92
QuickLinksRetrieveGroupList method 94

R

Reading a property example 96
References 8

informative 9

normative 8

Relationship to other protocols 10
Result sets - overview 15
Retrieving a common manager example 107
Retrieving a user guide example 104
Retrieving all colleagues of colleagues example 99

Retrieving member group data example 101
Retrieving membership data example 103
Retrieving reporting data example 107
Retrieving user profile data example 104

S

Security
implementer considerations 109
parameter index 109

Separator Type simple type 14

Sequencing rules

client 95
server 18

Server

abstract data model 17
initialization 18
local events 94

membership deleteGroup method 22
membership enumerateGroups method 22
membership getColleaguesSuggestions method 23
membership getGroup method 24
membership getGroupCount method 26
membership getGroupMemberships method 26
membership getGroupMembershipsPaged method 28
membership getRelatedGroups method 37
membership updateGroup method 38
message processing 18
privacy deletePolicy method 40
privacy getAllPolicy method 40
privacy getFeaturePolicy method 41
privacy updatePolicy method 42
profile EnumUsers method 43
profile FindPropertyChoiceList method 44
profile GetCommonManager method 44
profile GetTypeList method 46
profile GetMultiLoginAccounts method 47
profile getNextUserProfileData method 47
profile GetPersonalSiteInfo method 48
profile GetProfileCount method 49
profile GetProfileCountWithProperty method 49
profile GetProfileProperty method 49
profile GetProfilePropertyInfo method 49
profile GetProfilePropertyLoc method 55
profile GetPropertyChoiceList method 56
profile GetSharedListSync method 56
profile GetUserFormat method 57
profile GetUserGUID method 58
profile GetUserProfileData method 58
profile GetUserProfilesByEmail method 60
profile GetUserReportToData method 62
profile GetViewerRights method 63
profile MigrateUserProfile method 64
profile OnSqlRestore method 65
profile ResetDeletedUser method 65
profile SearchUser method 66
profile UpdateOrgColleagues method 69
profile UpdatePersonalSiteInfo method 69
profile UpdatePersonalSpace method 70
profile UpdateProfileDisplay method 70
profile UpdateProperty method 72
profile UpdatePropertyLoc method 79
profile UpdateSharedListSync method 80
profile UpdateUserProfileBlobData method 81
profile UpdateUserProfileData method 83

Property Choice Type simple type 13
Property Data Type simple type 14

115 / 116

[MS-UPSPROF] — v20120630
User Profile Stored Procedures Protocol Specification

Copyright © 2012 Microsoft Corporation.

Release: July 16, 2012