

[MS-PERMS]: Permissions Web Service Protocol

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](#) or the [Community Promise](#). 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. For a list of Microsoft trademarks, visit www.microsoft.com/trademarks.
- **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

Date	Revision History	Revision Class	Comments
04/04/2008	0.1		Initial Availability
06/27/2008	1.0	Major	Revised and edited the technical content
12/12/2008	1.01	Editorial	Revised and edited the technical content
07/13/2009	1.02	Major	Revised and edited the technical content
08/28/2009	1.03	Editorial	Revised and edited the technical content
11/06/2009	1.04	Editorial	Revised and edited the technical content
02/19/2010	2.0	Minor	Updated the technical content
03/31/2010	2.01	Editorial	Revised and edited the technical content
04/30/2010	2.02	Editorial	Revised and edited the technical content
06/07/2010	2.03	Editorial	Revised and edited the technical content
06/29/2010	2.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
09/27/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
12/17/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
06/10/2011	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	3.0	Major	Significantly changed the technical content.
04/11/2012	3.0	No change	No changes to the meaning, language, or formatting of the technical content.
07/16/2012	3.0	No change	No changes to the meaning, language, or formatting of the technical content.
09/12/2012	3.0	No change	No changes to the meaning, language, or formatting of the technical content.
10/08/2012	3.1	Minor	Clarified the meaning of the technical content.

Date	Revision History	Revision Class	Comments
02/11/2013	3.2	Minor	Clarified the meaning of the technical content.
07/30/2013	3.3	Minor	Clarified the meaning of the technical content.

Table of Contents

1 Introduction	7
1.1 Glossary	7
1.2 References	7
1.2.1 Normative References	7
1.2.2 Informative References	8
1.3 Overview	8
1.4 Relationship to Other Protocols	8
1.5 Prerequisites/Preconditions	9
1.6 Applicability Statement	9
1.7 Versioning and Capability Negotiation	9
1.8 Vendor-Extensible Fields	9
1.9 Standards Assignments	9
2 Messages	10
2.1 Transport	10
2.2 Common Message Syntax	10
2.2.1 Namespaces	10
2.2.2 Messages	10
2.2.3 Elements	10
2.2.4 Complex Types	10
2.2.5 Simple Types	10
2.2.6 Attributes	11
2.2.7 Groups	11
2.2.8 Attribute Groups	11
3 Protocol Details	12
3.1 Permissions Soap Server Details	12
3.1.1 Abstract Data Model	12
3.1.2 Timers	12
3.1.3 Initialization	12
3.1.4 Message Processing Events and Sequencing Rules	12
3.1.4.1 AddPermission	13
3.1.4.1.1 Messages	13
3.1.4.1.1.1 AddPermissionSoapIn	13
3.1.4.1.1.2 AddPermissionSoapOut	13
3.1.4.1.2 Elements	14
3.1.4.1.2.1 AddPermission	14
3.1.4.1.2.2 AddPermissionResponse	14
3.1.4.1.3 Complex Types	15
3.1.4.1.4 Simple Types	15
3.1.4.1.5 Attributes	15
3.1.4.1.6 Groups	15
3.1.4.1.7 Attribute Groups	15
3.1.4.2 AddPermissionCollection	15
3.1.4.2.1 Messages	15
3.1.4.2.1.1 AddPermissionCollectionSoapIn	16
3.1.4.2.1.2 AddPermissionCollectionSoapOut	16
3.1.4.2.2 Elements	16
3.1.4.2.2.1 AddPermissionCollection	16
3.1.4.2.2.2 AddPermissionCollectionResponse	18

3.1.4.2.3	Complex Types	18
3.1.4.2.4	Simple Types.....	18
3.1.4.2.5	Attributes.....	18
3.1.4.2.6	Groups.....	18
3.1.4.2.7	Attribute Groups	18
3.1.4.3	GetPermissionCollection	18
3.1.4.3.1	Messages	18
3.1.4.3.1.1	GetPermissionCollectionSoapIn	19
3.1.4.3.1.2	GetPermissionCollectionSoapOut	19
3.1.4.3.2	Elements.....	19
3.1.4.3.2.1	GetPermissionCollection	19
3.1.4.3.2.2	GetPermissionCollectionResponse	20
3.1.4.3.3	Complex Types	20
3.1.4.3.4	Simple Types.....	20
3.1.4.3.5	Attributes.....	20
3.1.4.3.6	Groups.....	20
3.1.4.3.7	Attribute Groups	20
3.1.4.4	RemovePermission.....	20
3.1.4.4.1	Messages	21
3.1.4.4.1.1	RemovePermissionSoapIn.....	21
3.1.4.4.1.2	RemovePermissionSoapOut	21
3.1.4.4.2	Elements.....	21
3.1.4.4.2.1	RemovePermission	22
3.1.4.4.2.2	RemovePermissionResponse	22
3.1.4.4.3	Complex Types	22
3.1.4.4.4	Simple Types.....	23
3.1.4.4.5	Attributes.....	23
3.1.4.4.6	Groups.....	23
3.1.4.4.7	Attribute Groups	23
3.1.4.5	RemovePermissionCollection	23
3.1.4.5.1	Messages	23
3.1.4.5.1.1	RemovePermissionCollectionSoapIn	24
3.1.4.5.1.2	RemovePermissionCollectionSoapOut	24
3.1.4.5.2	Elements.....	24
3.1.4.5.2.1	RemovePermissionCollection	24
3.1.4.5.2.2	RemovePermissionCollectionResponse.....	25
3.1.4.5.3	Complex Types	25
3.1.4.5.4	Simple Types.....	25
3.1.4.5.5	Attributes.....	25
3.1.4.5.6	Groups.....	25
3.1.4.5.7	Attribute Groups	25
3.1.4.6	UpdatePermission	25
3.1.4.6.1	Messages	26
3.1.4.6.1.1	UpdatePermissionSoapIn	26
3.1.4.6.1.2	UpdatePermissionSoapOut.....	26
3.1.4.6.2	Elements.....	26
3.1.4.6.2.1	UpdatePermission	27
3.1.4.6.2.2	UpdatePermissionResponse.....	27
3.1.4.6.3	Complex Types	27
3.1.4.6.4	Simple Types.....	27
3.1.4.6.5	Attributes.....	28
3.1.4.6.6	Groups.....	28
3.1.4.6.7	Attribute Groups	28

3.1.5	Timer Events	28
3.1.6	Other Local Events	28
4	Protocol Examples	29
5	Security	32
5.1	Security Considerations for Implementers	32
5.2	Index of Security Parameters	32
6	Appendix A: Full WSDL	33
7	Appendix B: Product Behavior	40
8	Change Tracking.....	41
9	Index	44

1 Introduction

The Permissions Web Service Protocol enables protocol clients to manage permissions to items on the protocol server.

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 [\[MS-GLOS\]](#):

- Hypertext Transfer Protocol (HTTP)**
- Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**
- security principal name (SPN)**
- SOAP**
- SOAP action**
- SOAP body**
- SOAP fault**
- SOAP message**
- XML**
- XML namespace**

The following terms are defined in [\[MS-OFCGLOS\]](#):

- list**
- role**
- security principal**
- site**
- Uniform Resource Locator (URL)**
- web service**
- Web Services Description Language (WSDL)**
- WSDL message**
- XML schema**

The following terms are specific to this document:

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

1.2 References

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

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information. Please check the archive site,

<http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

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

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

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

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

[SOAP1.2/1] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 1: Messaging Framework", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part1-20030624>

[SOAP1.2/2] Gudgin, M., Hadley, M., Mendelsohn, N., Moreau, J., and Nielsen, H.F., "SOAP Version 1.2 Part 2: Adjuncts", W3C Recommendation, June 2003, <http://www.w3.org/TR/2003/REC-soap12-part2-20030624>

[WSDL] Christensen, E., Curbera, F., Meredith, G., and Weerawarana, S., "Web Services Description Language (WSDL) 1.1", W3C Note, March 2001, <http://www.w3.org/TR/2001/NOTE-wsdl-20010315>

[XMLNS] Bray, T., Hollander, D., Layman, A., et al., Eds., "Namespaces in XML 1.0 (Third Edition)", W3C Recommendation, December 2009, <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

[XMLSCHEMA1] Thompson, H.S., Beech, D., Maloney, M., Eds., and Mendelsohn, N., Ed., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/>

[XMLSCHEMA2] Biron, P.V., and Malhotra, A., Eds., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

1.2.2 Informative References

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

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

[RFC2818] Rescorla, E., "HTTP Over TLS", RFC 2818, May 2000, <http://www.ietf.org/rfc/rfc2818.txt>

1.3 Overview

This protocol enables protocol clients to manage permissions to content on a protocol server. The content can be stored as **sites (2)** or **lists (1)**, and the protocol is to be used through a **Web service**. It defines messages to add, modify, get and remove permissions.

This protocol only manages the permissions. The protocol server implementation is expected to store and enforce them.

1.4 Relationship to Other Protocols

This protocol uses the **SOAP** message protocol for formatting request and response messages, as described in [\[SOAP1.1\]](#), [\[SOAP1.2/1\]](#) and [\[SOAP1.2/2\]](#). It transmits those messages by using

HTTP, as described in [\[RFC2616\]](#), or **Hypertext Transfer Protocol over Secure Sockets Layer (HTTPS)**, as described in [\[RFC2818\]](#).

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

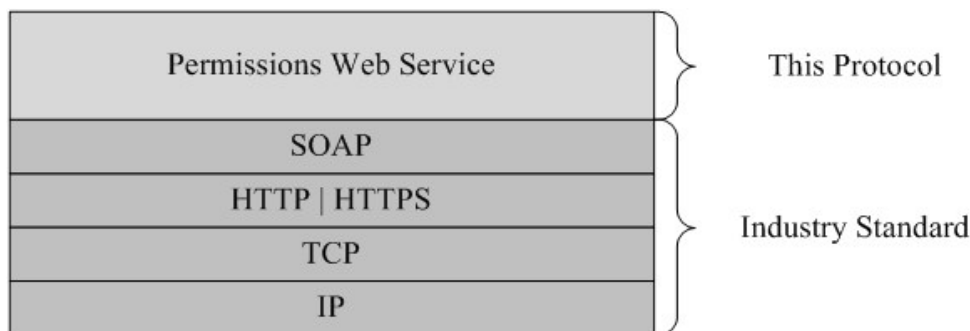


Figure 1: This protocol in relation to other protocols

1.5 Prerequisites/Preconditions

This protocol operates against a site (2) that is identified by a **URL** that is known by protocol clients. The protocol server endpoint is formed by appending "_vti_bin/permissions.asmx" to the URL of the site, for example http://www.example.com/Repository/_vti_bin/permissions.asmx.

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

1.6 Applicability Statement

This protocol provides operations for a protocol client to add, modify, get, and remove permissions from a site (2) or a list (1). This protocol is not intended to be used to add new **roles**.

1.7 Versioning and Capability Negotiation

This document covers versioning issues in the following areas:

- **Supported Transports:** This protocol uses multiple transports with SOAP as specified in section [2.1](#).

1.8 Vendor-Extensible Fields

None.

1.9 Standards Assignments

None.

2 Messages

2.1 Transport

Protocol servers **MUST** support SOAP over HTTP. Protocol servers **SHOULD** additionally support SOAP over HTTPS for securing communication with protocol clients.

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

2.2 Common Message Syntax

This section contains common definitions that are used by this protocol. The syntax of the definitions uses **XML schema**, as specified in [\[XMLSCHEMA1\]](#) and [\[XMLSCHEMA2\]](#), and **Web Services Description Language (WSDL)**, as specified in [\[WSDL\]](#).

2.2.1 Namespaces

This specification defines and references various **XML namespaces** using the mechanisms specified in [\[XMLNS\]](#). Although this specification associates a specific XML namespace prefix for each XML namespace that is used, the choice of any particular XML namespace prefix is implementation-specific and not significant for interoperability.

Prefix	Namespace URI	Reference
soap	http://schemas.xmlsoap.org/wsdl/soap/	[SOAP1.1]
tns	http://schemas.microsoft.com/sharepoint/soap/directory/	
s	http://www.w3.org/2001/XMLSchema	[XMLSCHEMA1]
soap12	http://schemas.xmlsoap.org/wsdl/soap12/	[SOAP1.2/1] [SOAP1.2/2]
(none)	http://schemas.microsoft.com/sharepoint/soap/directory/	
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL]

2.2.2 Messages

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

2.2.3 Elements

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

2.2.4 Complex Types

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

2.2.5 Simple Types

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

2.2.6 Attributes

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

2.2.7 Groups

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

2.2.8 Attribute Groups

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

3 Protocol Details

Except where specified, protocol clients SHOULD interpret HTTP Status Codes returned by the protocol server as specified in [\[RFC2616\]](#) section 10.

This protocol allows protocol servers to notify protocol clients of application-level faults by using SOAP faults. Except where specified, these SOAP faults are not significant for interoperability, and protocol clients can interpret them in an implementation-specific manner.

This protocol allows protocol servers to perform implementation-specific authorization checks and notify protocol clients of authorization faults either by using HTTP Status Codes or by using SOAP faults as specified previously in this section.

3.1 Permissions Soap 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 specification does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this specification.

A server implementation of this protocol MUST maintain a list of permissions for each list (1) or site (2) that it contains. Such permissions MUST be accessible by the name of the list (1) or site (2) that it relates to.

3.1.2 Timers

None.

3.1.3 Initialization

None.

3.1.4 Message Processing Events and Sequencing Rules

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

Operation	Description
AddPermission	Used to add permissions on a site (2) or a list (1).
AddPermissionCollection	Used to add a collection of permissions on a site (2) or a list (1).
GetPermissionCollection	Used to get the permission collection for a site (2) or a list (1).
RemovePermission	Used to remove a specified permission from a list (1) or a site (2).
RemovePermissionCollection	Used to remove permissions from a list (1) or a site (2) for the specified security principal (2) collection.
UpdatePermission	Used to modify permissions of a list (1) or site (2) for the specified security principal (2) or security group.

3.1.4.1 AddPermission

This operation is used to add site (2) permissions for the specified security principal (2) or security group that exists on the site (2), or to add permissions to the specified list (1) for the specified security principal (2) or security group that exists on the site (2).

```
<wsdl:operation name="AddPermission">
  <wsdl:input message="tns:AddPermissionSoapIn" />
  <wsdl:output message="tns:AddPermissionSoapOut" />
</wsdl:operation>
```

The protocol client sends an **AddPermissionSoapIn** request message and the protocol server responds with an **AddPermissionSoapOut** response message, as follows:

- If the value specified in **objectType** is "list" and no list (1) with the name specified in **objectName** exists, the server MUST return a SOAP fault with error code 0x82000006.
- If the value specified in **objectType** is not "list" or "web", the server MUST return a SOAP fault with error code 0x80131600.
- If the value specified in **permissionType** is not "user", "group", or "role", the server MUST return a SOAP fault with error code 0x80131600.
- If the security principal (2) or the security group specified in **permissionIdentifier** does not exist, the server MUST return a SOAP fault with error code 0x80131600.

3.1.4.1.1 Messages

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

Message	Description
AddPermissionSoapIn	A request to initiate a AddPermission operation on the protocol server.
AddPermissionSoapOut	A response from the protocol server at completion of the AddPermission operation.

3.1.4.1.1.1 AddPermissionSoapIn

The request message for an **AddPermission** operation.

The **SOAP action** value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/directory/AddPermission
```

The **SOAP body** contains an **AddPermission** element.

3.1.4.1.1.2 AddPermissionSoapOut

The response message of an **AddPermission** operation.

The SOAP body contains an **AddPermissionResponse** element.

3.1.4.1.2 Elements

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

Element	Description
AddPermission	The input data of an AddPermission operation.
AddPermissionResponse	The output data of an AddPermission operation.

3.1.4.1.2.1 AddPermission

The input data of an **AddPermission** operation. The definition of the **AddPermission** element is as follows:

```
<s:element name="AddPermission">
  <s:complexType>
    <s:sequence>
      <s:element name="objectName" type="s:string" minOccurs="1" maxOccurs="1"/>
      <s:element name="objectType" type="s:string" minOccurs="1" maxOccurs="1"/>
      <s:element name="permissionIdentifier" type="s:string" minOccurs="1" maxOccurs="1"/>
      <s:element name="permissionType" type="s:string" minOccurs="1" maxOccurs="1"/>
      <s:element name="permissionMask" type="s:int" minOccurs="1" maxOccurs="1"/>
    </s:sequence>
  </s:complexType>
</s:element>
```

objectName: A string that contains the name of a list (1) or a site (2). The specified list (1) or site (2) specified in this parameter **MUST** exist on the protocol server.

objectType: A string that specifies whether permission is to be added to a list (1) or a site (2). The value **MUST** be "list" for a list (1) or "web" for a site (2).

permissionIdentifier: A string that contains the name of the security group or the **security principal name (SPN)** of the security principal (2) to whom the permission applies. The security principal (2) or security group **MUST** already exist on the site (2) on the protocol server.

permissionType: A string that specifies whether permission applies to a security principal (2) or to a security group. The value **MUST** be "user" for security principal (2), "group" for security group, or "role". If **permissionType** equals "role" and **objectType** equals "web", permissions for the role will not be updated. If **permissionType** equals "role" and **objectType** equals "list", permissions for all security principals (2) assigned to the role will be updated. <1>

permissionMask: A Rights Mask that is lower 32 bits of the WSS Rights Mask that is specified in [\[MS-WSSFO3\]](#) section 2.2.2.15.

3.1.4.1.2.2 AddPermissionResponse

The output data of an **AddPermission** operation. If the operation succeeds, an **AddPermissionResponse** **MUST** be returned by the protocol server.

The definition of the **AddPermissionResponse** element is as follows:

```
<s:element name="AddPermissionResponse">
```

```
<s:complexType/>
</s:element>
```

3.1.4.1.3 Complex Types

None.

3.1.4.1.4 Simple Types

None.

3.1.4.1.5 Attributes

None.

3.1.4.1.6 Groups

None.

3.1.4.1.7 Attribute Groups

None.

3.1.4.2 AddPermissionCollection

This operation is used to add site (2) permissions for the specified collection of security principals (2) or security groups, or to add permissions to a list (1) for the specified collection of security principals (2) or security groups that exist on the protocol server.

```
<wsdl:operation name="AddPermissionCollection">
  <wsdl:input message="tns:AddPermissionCollectionSoapIn" />
  <wsdl:output message="tns:AddPermissionCollectionSoapOut" />
</wsdl:operation>
```

The protocol client sends an **AddPermissionCollectionSoapIn** request message and the protocol server responds with an **AddPermissionCollectionSoapOut** response message, as follows:

- If the value specified in **objectType** is "list" and no list (1) with the name specified in **objectName** exists, the server MUST return a SOAP fault with error code 0x82000006.
- If the value specified in **objectType** is not "list" or "web", the server MUST return a SOAP fault with error code 0x80131600.
- If the value specified in **permissionsInfoXml** is an invalid **XML**, the server returns a SOAP fault without an error code.

3.1.4.2.1 Messages

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

Message	Description
AddPermissionCollectionSoapIn	A request to initiate a AddPermissionCollection operation on the protocol server.
AddPermissionCollectionSoapOut	A response from the protocol server at completion of the AddPermissionCollection operation.

3.1.4.2.1.1 AddPermissionCollectionSoapIn

The request message for an **AddPermissionCollection** operation.

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/directory/AddPermissionCollection
```

The SOAP body contains an **AddPermissionCollection** element.

3.1.4.2.1.2 AddPermissionCollectionSoapOut

The response message of an **AddPermissionCollection** operation.

The SOAP body contains an **AddPermissionCollectionResponse** element.

3.1.4.2.2 Elements

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

Element	Description
AddPermissionCollection	The input data of an AddPermissionCollection operation.
AddPermissionCollectionResponse	The output data of an AddPermissionCollection operation.

3.1.4.2.2.1 AddPermissionCollection

The input data of an **AddPermissionCollection** operation. The definition of the **AddPermissionCollection** element is as follows:

```
<s:element name="AddPermissionCollection">
  <s:complexType>
    <s:sequence>
      <s:element name="objectName" type="s:string" minOccurs="1"/>
      <s:element name="objectType" type="s:string" minOccurs="1"/>
      <s:element name="permissionsInfoXml" minOccurs="1">
        <s:complexType>
          <s:sequence>
            <s:element name="Permissions">
              <s:complexType>
                <s:sequence>
                  <s:element name="Users" minOccurs="0" maxOccurs="1">
                    <s:complexType>
                      <s:sequence>
                        <s:element minOccurs="0" maxOccurs="100" name="User">
```



```

    <s:complexType>
      <s:attribute name="LoginName" type="s:string" use="required" />
      <s:attribute name="Email" type="s:string" use="optional" />
      <s:attribute name="Name" type="s:string" use="optional" />
      <s:attribute name="Notes" type="s:string" use="optional" />
      <s:attribute name="PermissionMask" type="s:int" use="required" />
    </s:complexType>
  </s:element>
</s:sequence>
</s:complexType>
</s:element>
<s:element name="Groups" minOccurs="0" maxOccurs="1">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="0" maxOccurs="100" name="Group">
        <s:complexType>
          <s:attribute name="GroupName" type="s:string" use="required" />
          <s:attribute name="PermissionMask" type="s:int" use="required" />
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
<s:element name="Roles" minOccurs="0" maxOccurs="1">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="0" maxOccurs="100" name="Role">
        <s:complexType>
          <s:attribute name="RoleName" type="s:string" use="required" />
          <s:attribute name="PermissionMask" type="s:int" use="required" />
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
</s:sequence>
</s:complexType>
</s:element>
</s:sequence>
</s:complexType>
</s:element>
</s:sequence>
</s:complexType>
</s:element>

```

objectName: A string that contains the name of a list (1) or a site (2). The list (1) or site (2) specified in this parameter MUST exist on the protocol server.

objectType: A string that specifies whether permissions are to be added to a list (1) or a site (2). The value MUST be "list" for a list (1) or "web" for a site (2).

permissionsInfoXml: An XML fragment that contains the permissions to add. The XML fragment MUST adhere to the schema specified previously in this section.

3.1.4.2.2 AddPermissionCollectionResponse

The output data of an **AddPermissionCollection** operation. If the operation succeeds, an **AddPermissionCollectionResponse** MUST be returned by the protocol server.

The definition of the **AddPermissionCollectionResponse** element is as follows:

```
<s:element name="AddPermissionCollectionResponse">
  <s:complexType/>
</s:element>
```

3.1.4.2.3 Complex Types

None.

3.1.4.2.4 Simple Types

None.

3.1.4.2.5 Attributes

None.

3.1.4.2.6 Groups

None.

3.1.4.2.7 Attribute Groups

None.

3.1.4.3 GetPermissionCollection

This operation is used to retrieve the permission collection for a site (2) or a list (1) from a protocol server.

```
<wsdl:operation name="GetPermissionCollection">
  <wsdl:input message="tns:GetPermissionCollectionSoapIn" />
  <wsdl:output message="tns:GetPermissionCollectionSoapOut" />
</wsdl:operation>
```

The protocol client sends a **GetPermissionCollectionSoapIn** request message and the protocol server responds with a **GetPermissionCollectionSoapOut** response message, as follows:

- If the value specified in **objectType** is "list" and no list (1) with the name specified in **objectName** exists, the server MUST return a SOAP fault with error code 0x82000006.
- If the value specified in **objectType** is not "list" or "web", the server MUST return a SOAP fault with error code 0x80131600.

3.1.4.3.1 Messages

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

Message	Description
GetPermissionCollectionSoapIn	A request to initiate a GetPermissionCollection operation on the protocol server.
GetPermissionCollectionSoapOut	A response from the protocol server at completion of the GetPermissionCollection operation.

3.1.4.3.1.1 GetPermissionCollectionSoapIn

The request message for a **GetPermissionCollection** operation.

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/directory/GetPermissionCollection
```

The SOAP body contains a **GetPermissionCollection** element.

3.1.4.3.1.2 GetPermissionCollectionSoapOut

The response message of a **GetPermissionCollection** operation.

The SOAP body contains a **GetPermissionCollectionResponse** element.

3.1.4.3.2 Elements

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

Element	Description
GetPermissionCollection	The input data for a GetPermissionCollection operation.
GetPermissionCollectionResponse	The output data of a GetPermissionCollection operation.

3.1.4.3.2.1 GetPermissionCollection

The input data for a **GetPermissionCollection** operation. The definition of the **GetPermissionCollection** element is as follows:

```
<s:element name="GetPermissionCollection">
  <s:complexType>
    <s:sequence>
      <s:element name="objectName" type="s:string" minOccurs="1" maxOccurs="1"/>
      <s:element name="objectType" type="s:string" minOccurs="1" maxOccurs="1"/>
    </s:sequence>
  </s:complexType>
</s:element>
```

objectName: A string that contains the name of a list (1) or a site (2). The list (1) or site (2) specified in this parameter **MUST** exist on the protocol server.

objectType: A string that specifies whether permissions are to be retrieved for a list (1) or a site (2). The value **MUST** be "list" for a list (1) or "web" for a site (2).

3.1.4.3.2 GetPermissionCollectionResponse

The output data of a **GetPermissionCollection** operation. If the operation succeeds, a **GetPermissionCollectionResponse** MUST be returned by the protocol server.

```
<s:element name="GetPermissionCollectionResponse">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="0" maxOccurs="1" name="GetPermissionCollectionResult">
        <s:complexType>
          <s:sequence>
            <s:element maxOccurs="unbounded" name="Permission">
              <s:complexType>
                <s:attribute name="MemberID" type="s:int" use="required" />
                <s:attribute name="Mask" type="s:int" use="required" />
                <s:attribute name="MemberIsUser" type="s:string" use="required" />
                <s:attribute name="MemberGlobal" type="s:string" use="required" />
                <s:attribute name="UserLogin" type="s:string" use="optional" />
                <s:attribute name="GroupName" type="s:string" use="optional" />
              </s:complexType>
            </s:element>
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
```

GetPermissionCollectionResult: An XML fragment that contains the permissions for the specified site (2) or list (1). The XML fragment MUST adhere to the preceding schema.

3.1.4.3.3 Complex Types

None.

3.1.4.3.4 Simple Types

None.

3.1.4.3.5 Attributes

None.

3.1.4.3.6 Groups

None.

3.1.4.3.7 Attribute Groups

None.

3.1.4.4 RemovePermission

This operation is used to remove a specified permission from a list (1) or a site (2).

```

<wsdl:operation name="RemovePermission">
  <wsdl:input message="tns:RemovePermissionSoapIn" />
  <wsdl:output message="tns:RemovePermissionSoapOut" />
</wsdl:operation>

```

The protocol client sends a **RemovePermissionSoapIn** request message and the protocol server responds with a **RemovePermissionSoapOut** response message, as follows:

- If the value specified in **objectType** is "list" and no list (1) with the name specified in **objectName** exists, the server MUST return a SOAP fault with error code 0x82000006.
- If the value specified in **objectType** is not "list" or "web", the server MUST return a SOAP fault with error code 0x80131600.
- If the value specified in **permissionType** is not "user" or "group", the server MUST return a SOAP fault with error code 0x80131600.
- If the security principal (2) or the security group specified in **permissionIdentifier** does not exist, the server MUST return a SOAP fault with error code 0x80131600.

3.1.4.4.1 Messages

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

Message	Description
RemovePermissionSoapIn	A request to initiate a RemovePermission operation on the protocol server.
RemovePermissionSoapOut	A response from the protocol server at completion of the RemovePermission operation.

3.1.4.4.1.1 RemovePermissionSoapIn

The request message for a **RemovePermission** operation.

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/directory/RemovePermission
```

The SOAP body contains a **RemovePermission** element.

3.1.4.4.1.2 RemovePermissionSoapOut

The response message of a **RemovePermission** operation.

The SOAP body contains a **RemovePermissionResponse** element.

3.1.4.4.2 Elements

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

Element	Description
RemovePermission	The input data for a RemovePermission operation.
RemovePermissionResponse	The output data of a RemovePermission operation.

3.1.4.4.2.1 RemovePermission

The input data for a **RemovePermission** operation. The definition of the **RemovePermission** element is as follows:

```
<s:element name="RemovePermission">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="objectName" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="objectType" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionIdentifier" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionType" type="s:string" />
    </s:sequence>
  </s:complexType>
</s:element>
```

objectName: A string that contains the name of a list (1) or a site (2). The specified list (1) or site (2) specified in this parameter **MUST** exist on the protocol server.

objectType: A string that specifies whether permission is to be removed for a list (1) or a site (2). The value **MUST** be "list" for a list (1) or "web" for a site (2).

permissionIdentifier: A string that contains the name of the security group or the name of the security principal (2) whose permission is to be removed. The specified security principal (2) or security group **MUST** already exist on the site.

permissionType: A string that specifies whether permission is to be removed for the security principal (2) or security group. The value **MUST** be "user" for security principal (2), "group" for security group, or "role". If **permissionType** equals "role" and **objectType** equals "web", permissions for the role will not be removed. If **permissionType** equals "role" and **objectType** equals "list", permissions for all security principals (2) assigned to the role will remain unchanged. <2>

3.1.4.4.2.2 RemovePermissionResponse

The output data of a **RemovePermission** operation. If the operation succeeds, a **RemovePermissionResponse** **MUST** be returned by the protocol server.

```
<s:element name="RemovePermissionResponse">
  <s:complexType/>
</s:element>
```

3.1.4.4.3 Complex Types

None.

3.1.4.4.4 Simple Types

None.

3.1.4.4.5 Attributes

None.

3.1.4.4.6 Groups

None.

3.1.4.4.7 Attribute Groups

None.

3.1.4.5 RemovePermissionCollection

This operation is used to remove permissions from a list (1) or a site (2) for the specified security principals (2).

```
<wsdl:operation name="RemovePermissionCollection">
  <wsdl:input message="tns:RemovePermissionCollectionSoapIn" />
  <wsdl:output message="tns:RemovePermissionCollectionSoapOut" />
</wsdl:operation>
```

The protocol client sends a **RemovePermissionCollectionSoapIn** request message and the protocol server responds with a **RemovePermissionCollectionSoapOut** response message, as follows:

- If the value specified in **objectType** is "list" and no list (1) with the name specified in **objectName** exists, the server MUST return a SOAP fault with error code 0x82000006.
- If the value specified in **objectType** is not "list" or "web", the server MUST return a SOAP fault with error code 0x80131600.
- If the value specified in **memberIdsXml** is an invalid XML, the server returns a SOAP fault without an error code.

3.1.4.5.1 Messages

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

Message	Description
RemovePermissionCollectionSoapIn	A request to initiate a RemovePermissionCollection operation on the protocol server.
RemovePermissionCollectionSoapOut	A response from the protocol server at completion of the RemovePermissionCollection operation.

3.1.4.5.1.1 RemovePermissionCollectionSoapIn

The request message for a **RemovePermissionCollection** operation.

The SOAP action value of the message is defined as:

```
http://schemas.microsoft.com/sharepoint/soap/directory/RemovePermissionCollection
```

The SOAP body contains a **RemovePermissionCollection** element.

3.1.4.5.1.2 RemovePermissionCollectionSoapOut

The response message of a **RemovePermissionCollection** operation.

The SOAP body contains a **RemovePermissionCollectionResponse** element.

3.1.4.5.2 Elements

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

Element	Description
RemovePermissionCollection	The input data for a RemovePermissionCollection operation.
RemovePermissionCollectionResponse	The output data of a RemovePermissionCollection operation.

3.1.4.5.2.1 RemovePermissionCollection

The input data for a **RemovePermissionCollection** operation. The definition of the **RemovePermissionCollection** element is as follows:

```
<s:element name="RemovePermissionCollection">
  <s:complexType>
    <s:sequence>
      <s:element name="objectName" type="s:string" minOccurs="1"/>
      <s:element name="objectType" type="s:string" minOccurs="1"/>
      <s:element name="memberIdsXml" minOccurs="1">
        <s:complexType>
          <s:sequence>
            <s:element name="Members">
              <s:complexType>
                <s:sequence>
                  <s:element maxOccurs="unbounded" name="Member">
                    <s:complexType>
                      <s:attribute name="ID" type="s:int" use="required" />
                    </s:complexType>
                  </s:element>
                </s:sequence>
              </s:complexType>
            </s:element>
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>
```



```
</s:sequence>
</s:complexType>
</s:element>
```

objectName: A string that contains the name of a list (1) or a site (2). The list (1) or site (2) specified in this parameter MUST exist on the protocol server.

objectType: A string that specifies whether permissions are to be removed for a list (1) or a site (2). The value MUST be "list" for a list (1) or "web" for a site (2).

memberIdsXml: An XML fragment that contains the permissions to be removed from the specified list. The XML fragment MUST adhere to the schema specified previously in this section.

3.1.4.5.2.2 RemovePermissionCollectionResponse

The output data of a **RemovePermissionCollection** operation. If the operation succeeds, a **RemovePermissionCollectionResponse** MUST be returned by the protocol server.

```
<s:element name="RemovePermissionCollectionResponse">
<s:complexType/>
</s:element>
```

3.1.4.5.3 Complex Types

None.

3.1.4.5.4 Simple Types

None.

3.1.4.5.5 Attributes

None.

3.1.4.5.6 Groups

None.

3.1.4.5.7 Attribute Groups

None.

3.1.4.6 UpdatePermission

This operation is used to modify site (2) permissions for the specified security principal (2) or security group, or to modify permissions of a list (1) for the specified security principal (2) or security group.

```
<wsdl:operation name="UpdatePermission">
<wsdl:input message="tns:UpdatePermissionSoapIn" />
<wsdl:output message="tns:UpdatePermissionSoapOut" />
</wsdl:operation>
```

The protocol client sends an **UpdatePermissionSoapIn** request message and the protocol server responds with an **UpdatePermissionSoapOut** response message, as follows:

- If the value specified in **objectType** is "list" and no list (1) with the name specified in **objectName** exists, the server MUST return a SOAP fault with error code 0x82000006.
- If the value specified in **objectType** is not "list" or "web", the server MUST return a SOAP fault with error code 0x80131600.
- If the value specified in **permissionType** is not "user" or "group", the server MUST return a SOAP fault with error code 0x80131600.
- If the security principal (2) or the security group specified in **permissionIdentifier** does not exist, the server MUST return a SOAP fault with error code 0x80131600.

3.1.4.6.1 Messages

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

Message	Description
UpdatePermissionSoapIn	A request to initiate a UpdatePermission operation on the protocol server.
UpdatePermissionSoapOut	A response from the protocol server at completion of the UpdatePermission operation.

3.1.4.6.1.1 UpdatePermissionSoapIn

The request message for an **UpdatePermission** operation.

The SOAP action value of the message is defined as:

`http://schemas.microsoft.com/sharepoint/soap/directory/UpdatePermission`

The SOAP body contains an **UpdatePermission** element.

3.1.4.6.1.2 UpdatePermissionSoapOut

The response message of an **UpdatePermission** operation.

The SOAP body contains an **UpdatePermissionResponse** element.

3.1.4.6.2 Elements

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

Element	Description
UpdatePermission	The input data of an UpdatePermission operation.
UpdatePermissionResponse	The output data for an UpdatePermission operation.

3.1.4.6.2.1 UpdatePermission

The input data of an **UpdatePermission** operation. The definition of the **UpdatePermission** element is as follows:

```
<s:element name="UpdatePermission">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="objectName" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="objectType" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionIdentifier" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionType" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionMask" type="s:int" />
    </s:sequence>
  </s:complexType>
</s:element>
```

objectName: A string that contains the name of a list (1) or a site (2). The list (1) or site (2) specified in this parameter MUST exist on the protocol server.

objectType: A string that specifies whether permission is to be updated for a list (1) or a site (2). The value MUST be "list" for a list (1) or "web" for a site (2).

permissionIdentifier: A string that contains the name of the security group or the name of the security principal (2) to whom the permission applies. The security principal (2) or security group MUST already exist on the site (2) on the protocol server.

permissionType: A string that specifies whether permission applies to the security principal (2) or to the security group. The value MUST be "user" for security principal (2), "group" for security group, or "role". If **permissionType** equals "role" and **objectType** equals "web", the server MUST return a SOAP fault with error code 0x80131600. If **permissionType** equals "role" and **objectType** equals "list", the server MUST return a SOAP fault with error code 0x80131600. [<3>](#)

permissionMask: A Rights Mask that is lower 32 bits of the WSS Rights Mask which is specified in [\[MS-WSSFO3\]](#) section 2.2.2.15.

3.1.4.6.2.2 UpdatePermissionResponse

The output data for an **UpdatePermission** operation. If the operation succeeds, an **UpdatePermissionResponse** MUST be returned by the protocol server.

```
<s:element name="UpdatePermissionResponse">
  <s:complexType/>
</s:element>
```

3.1.4.6.3 Complex Types

None.

3.1.4.6.4 Simple Types

None.

3.1.4.6.5 Attributes

None.

3.1.4.6.6 Groups

None.

3.1.4.6.7 Attribute Groups

None.

3.1.5 Timer Events

None.

3.1.6 Other Local Events

None.

4 Protocol Examples

In this scenario, a protocol client first adds a permission to a list (1) and then gets the collection of permissions for that list (1). The protocol client then updates the recently added permission and gets the collection of permissions again to see the updated collection.

A protocol client first constructs the following **SOAP message** to add a permission to a list (1). The protocol client sends the SOAP message to the protocol server:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <AddPermission xmlns="http://schemas.microsoft.com/sharepoint/soap/directory/">
      <objectName>
        Announcements
      </objectName>
      <objectType>
        list
      </objectType>
      <permissionIdentifier>
        HelpGroup
      </permissionIdentifier>
      <permissionType>
        group
      </permissionType>
      <permissionMask>
        -1
      </permissionMask>
    </AddPermission>
  </soap:Body>
</soap:Envelope>
```

The protocol server then responds with the following:

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

To get the collection of permissions from a list (1), the protocol client next constructs the following SOAP message. The protocol client sends the SOAP message to the protocol server:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetPermissionCollection xmlns="http://schemas.microsoft.com/sharepoint/soap/directory/">
      <objectName>
        Announcements
      </objectName>
      <objectType>
        list
      </objectType>
    </GetPermissionCollection>
  </soap:Body>
</soap:Envelope>
```

```

    </objectType>
  </GetPermissionCollection>
</soap:Body>
</soap:Envelope>

```

The protocol server then responds with the following:

```

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetPermissionCollectionResponse
xmlns="http://schemas.microsoft.com/sharepoint/soap/directory/">
      <GetPermissionCollectionResult>
        <GetPermissionCollection>
          <Permissions>
            <Permission MemberID="1" Mask="-1" MemberIsUser="True" MemberGlobal="False"
UserLogin="MYDOMAIN\user1" />
            <Permission MemberID="3" Mask="-1" MemberIsUser="False" MemberGlobal="True"
GroupName="Farm Administrators" />
            <Permission MemberID="5" Mask="-1" MemberIsUser="False" MemberGlobal="True"
GroupName="HelpGroup" />
          </Permissions>
        </GetPermissionCollection>
      </GetPermissionCollectionResult>
    </GetPermissionCollectionResponse>
  </soap:Body>
</soap:Envelope>

```

To update the permissions for a group to a list (1), the protocol client constructs the following SOAP message and sends it to the protocol server:

```

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <UpdatePermission xmlns="http://schemas.microsoft.com/sharepoint/soap/directory/">
      <objectName>
        Announcements
      </objectName>
      <objectType>
        list
      </objectType>
      <permissionIdentifier>
        HelpGroup
      </permissionIdentifier>
      <permissionType>
        group
      </permissionType>
      <permissionMask>
        138612833
      </permissionMask>
    </UpdatePermission>
  </soap:Body>
</soap:Envelope>

```

The protocol server then responds with the following:

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

To get the collection of permissions from a list (1), the protocol client then constructs the following SOAP message and sends it to the protocol server:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetPermissionCollection xmlns="http://schemas.microsoft.com/sharepoint/soap/directory/">
      <objectName>
        Announcements
      </objectName>
      <objectType>
        list
      </objectType>
    </GetPermissionCollection>
  </soap:Body>
</soap:Envelope>
```

The protocol server then responds with the following:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <GetPermissionCollectionResponse
xmlns="http://schemas.microsoft.com/sharepoint/soap/directory/">
      <GetPermissionCollectionResult>
        <GetPermissionCollection>
          <Permissions>
            <Permission MemberID="1" Mask="-1" MemberIsUser="True" MemberGlobal="False"
UserLogin="MYDOMAIN\user1" />
            <Permission MemberID="3" Mask="-1" MemberIsUser="False" MemberGlobal="True"
GroupName="Farm Administrators" />
            <Permission MemberID="5" Mask="138612833" MemberIsUser="False" MemberGlobal="True"
GroupName="HelpGroup" />
          </Permissions>
        </GetPermissionCollection>
      </GetPermissionCollectionResult>
    </GetPermissionCollectionResponse>
  </soap:Body>
</soap:Envelope>
```

5 Security

5.1 Security Considerations for Implementers

None.

5.2 Index of Security Parameters

None.

6 Appendix A: Full WSDL

For ease of implementation, the full WSDL and schema are provided in this appendix.

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:tns="http://schemas.microsoft.com/sharepoint/soap/directory/"
xmlns:s1="http://microsoft.com/wsdl/types/" xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
targetNamespace="http://schemas.microsoft.com/sharepoint/soap/directory/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <s:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/sharepoint/soap/directory/">
      <s:import namespace="http://microsoft.com/wsdl/types/" />
      <s:element name="GetPermissionCollection">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="1" maxOccurs="1" name="objectName" type="s:string" />
            <s:element minOccurs="1" maxOccurs="1" name="objectType" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="GetPermissionCollectionResponse">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="GetPermissionCollectionResult">
              <s:complexType>
                <s:sequence>
                  <s:element name="GetPermissionCollection">
                    <s:complexType>
                      <s:sequence>
                        <s:element maxOccurs="unbounded" name="Permission">
                          <s:complexType>
                            <s:attribute name="MemberID" type="s:int" use="required" />
                            <s:attribute name="Mask" type="s:int" use="required" />
                            <s:attribute name="MemberIsUser" type="s:string" use="required" />
                            <s:attribute name="MemberGlobal" type="s:string" use="required" />
                            <s:attribute name="UserLogin" type="s:string" use="optional" />
                            <s:attribute name="GroupName" type="s:string" use="optional" />
                          </s:complexType>
                        </s:element>
                      </s:sequence>
                    </s:complexType>
                  </s:element>
                </s:sequence>
              </s:complexType>
            </s:element>
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="AddPermission">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="1" maxOccurs="1" name="objectName" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:schema>
  </wsdl:types>

```

```

    <s:element minOccurs="1" maxOccurs="1" name="objectType" type="s:string" />
    <s:element minOccurs="1" maxOccurs="1" name="permissionIdentifier" type="s:string" />
    <s:element minOccurs="1" maxOccurs="1" name="permissionType" type="s:string" />
    <s:element minOccurs="1" maxOccurs="1" name="permissionMask" type="s:int" />
  </s:sequence>
</s:complexType>
</s:element>
<s:element name="AddPermissionResponse">
  <s:complexType />
</s:element>
<s:element name="AddPermissionCollection">
  <s:complexType>
    <s:sequence>
      <s:element name="objectName" type="s:string" minOccurs="1"/>
      <s:element name="objectType" type="s:string" minOccurs="1"/>
      <s:element name="permissionsInfoXml" minOccurs="1">
        <s:complexType>
          <s:sequence>
            <s:element name="Permissions">
              <s:complexType>
                <s:sequence>
                  <s:element name="Users" minOccurs="0" maxOccurs="1">
                    <s:complexType>
                      <s:sequence>
                        <s:element minOccurs="0" maxOccurs="100" name="User">
                          <s:complexType>
                            <s:attribute name="LoginName" type="s:string" use="required" />
                            <s:attribute name="Email" type="s:string" use="optional" />
                            <s:attribute name="Name" type="s:string" use="optional" />
                            <s:attribute name="Notes" type="s:string" use="optional" />
                            <s:attribute name="PermissionMask" type="s:int" use="required" />
                          </s:complexType>
                        </s:element>
                      </s:sequence>
                    </s:complexType>
                  </s:element>
                  <s:element name="Groups" minOccurs="0" maxOccurs="1">
                    <s:complexType>
                      <s:sequence>
                        <s:element minOccurs="0" maxOccurs="100" name="Group">
                          <s:complexType>
                            <s:attribute name="GroupName" type="s:string" use="required" />
                            <s:attribute name="PermissionMask" type="s:int" use="required" />
                          </s:complexType>
                        </s:element>
                      </s:sequence>
                    </s:complexType>
                  </s:element>
                  <s:element name="Roles" minOccurs="0" maxOccurs="1">
                    <s:complexType>
                      <s:sequence>
                        <s:element minOccurs="0" maxOccurs="100" name="Role">
                          <s:complexType>
                            <s:attribute name="RoleName" type="s:string" use="required" />
                            <s:attribute name="PermissionMask" type="s:int" use="required" />
                          </s:complexType>
                        </s:element>
                      </s:sequence>
                    </s:complexType>
                  </s:element>
                </s:sequence>
              </s:complexType>
            </s:element>
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>

```

```

        </s:element>
      </s:sequence>
    </s:complexType>
  </s:element>
</s:sequence>
</s:complexType>
</s:element>
</s:sequence>
</s:complexType>
</s:element>
<s:element name="AddPermissionCollectionResponse">
  <s:complexType />
</s:element>
<s:element name="UpdatePermission">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="objectName" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="objectType" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionIdentifier" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionType" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionMask" type="s:int" />
    </s:sequence>
  </s:complexType>
</s:element>
<s:element name="UpdatePermissionResponse">
  <s:complexType />
</s:element>
<s:element name="RemovePermission">
  <s:complexType>
    <s:sequence>
      <s:element minOccurs="1" maxOccurs="1" name="objectName" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="objectType" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionIdentifier" type="s:string" />
      <s:element minOccurs="1" maxOccurs="1" name="permissionType" type="s:string" />
    </s:sequence>
  </s:complexType>
</s:element>
<s:element name="RemovePermissionResponse">
  <s:complexType />
</s:element>
<s:element name="RemovePermissionCollection">
  <s:complexType>
    <s:sequence>
      <s:element name="objectName" type="s:string" minOccurs="1"/>
      <s:element name="objectType" type="s:string" minOccurs="1"/>
      <s:element name="memberIdsXml" minOccurs="1">
        <s:complexType>
          <s:sequence>
            <s:element name="Members">
              <s:complexType>
                <s:sequence>
                  <s:element maxOccurs="unbounded" name="Member">
                    <s:complexType>
                      <s:attribute name="ID" type="s:int" use="required" />
                    </s:complexType>
                  </s:element>
                </s:sequence>
              </s:complexType>
            </s:element>
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:sequence>
  </s:complexType>
</s:element>

```

```

        </s:sequence>
    </s:complexType>
</s:element>
</s:sequence>
</s:complexType>
</s:element>
<s:element name="RemovePermissionCollectionResponse">
    <s:complexType />
</s:element>
</s:schema>
<s:schema elementFormDefault="qualified"
targetNamespace="http://microsoft.com/wsdl/types/">
    <s:simpleType name="guid">
        <s:restriction base="s:string">
            <s:pattern value="[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}" />
        </s:restriction>
    </s:simpleType>
</s:schema>
</wsdl:types>
<wsdl:message name="GetPermissionCollectionSoapIn">
    <wsdl:part name="parameters" element="tns:GetPermissionCollection" />
</wsdl:message>
<wsdl:message name="GetPermissionCollectionSoapOut">
    <wsdl:part name="parameters" element="tns:GetPermissionCollectionResponse" />
</wsdl:message>
<wsdl:message name="AddPermissionSoapIn">
    <wsdl:part name="parameters" element="tns:AddPermission" />
</wsdl:message>
<wsdl:message name="AddPermissionSoapOut">
    <wsdl:part name="parameters" element="tns:AddPermissionResponse" />
</wsdl:message>
<wsdl:message name="AddPermissionCollectionSoapIn">
    <wsdl:part name="parameters" element="tns:AddPermissionCollection" />
</wsdl:message>
<wsdl:message name="AddPermissionCollectionSoapOut">
    <wsdl:part name="parameters" element="tns:AddPermissionCollectionResponse" />
</wsdl:message>
<wsdl:message name="UpdatePermissionSoapIn">
    <wsdl:part name="parameters" element="tns:UpdatePermission" />
</wsdl:message>
<wsdl:message name="UpdatePermissionSoapOut">
    <wsdl:part name="parameters" element="tns:UpdatePermissionResponse" />
</wsdl:message>
<wsdl:message name="RemovePermissionSoapIn">
    <wsdl:part name="parameters" element="tns:RemovePermission" />
</wsdl:message>
<wsdl:message name="RemovePermissionSoapOut">
    <wsdl:part name="parameters" element="tns:RemovePermissionResponse" />
</wsdl:message>
<wsdl:message name="RemovePermissionCollectionSoapIn">
    <wsdl:part name="parameters" element="tns:RemovePermissionCollection" />
</wsdl:message>
<wsdl:message name="RemovePermissionCollectionSoapOut">
    <wsdl:part name="parameters" element="tns:RemovePermissionCollectionResponse" />
</wsdl:message>
<wsdl:portType name="PermissionsSoap">
    <wsdl:operation name="GetPermissionCollection">
        <wsdl:input message="tns:GetPermissionCollectionSoapIn" />

```

```

    <wsdl:output message="tns:GetPermissionCollectionSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="AddPermission">
    <wsdl:input message="tns:AddPermissionSoapIn" />
    <wsdl:output message="tns:AddPermissionSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="AddPermissionCollection">
    <wsdl:input message="tns:AddPermissionCollectionSoapIn" />
    <wsdl:output message="tns:AddPermissionCollectionSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="UpdatePermission">
    <wsdl:input message="tns:UpdatePermissionSoapIn" />
    <wsdl:output message="tns:UpdatePermissionSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="RemovePermission">
    <wsdl:input message="tns:RemovePermissionSoapIn" />
    <wsdl:output message="tns:RemovePermissionSoapOut" />
  </wsdl:operation>
  <wsdl:operation name="RemovePermissionCollection">
    <wsdl:input message="tns:RemovePermissionCollectionSoapIn" />
    <wsdl:output message="tns:RemovePermissionCollectionSoapOut" />
  </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="PermissionsSoap" type="tns:PermissionsSoap">
  <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
  <wsdl:operation name="GetPermissionCollection">
    <soap:operation
      soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/GetPermissionCollection"
      style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="AddPermission">
    <soap:operation
      soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/AddPermission"
      style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="AddPermissionCollection">
    <soap:operation
      soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/AddPermissionCollection"
      style="document" />
    <wsdl:input>
      <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
      <soap:body use="literal" />
    </wsdl:output>
  </wsdl:operation>
  <wsdl:operation name="UpdatePermission">

```

```

    <soap:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/UpdatePermission"
style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="RemovePermission">
    <soap:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/RemovePermission"
style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="RemovePermissionCollection">
    <soap:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/RemovePermissionCollection"
style="document" />
    <wsdl:input>
        <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap:body use="literal" />
    </wsdl:output>
</wsdl:operation>
</wsdl:binding>
<wsdl:binding name="PermissionsSoap12" type="tns:PermissionsSoap">
    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http" />
    <wsdl:operation name="GetPermissionCollection">
        <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/GetPermissionCollection"
style="document" />
        <wsdl:input>
            <soap12:body use="literal" />
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal" />
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="AddPermission">
        <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/AddPermission"
style="document" />
        <wsdl:input>
            <soap12:body use="literal" />
        </wsdl:input>
        <wsdl:output>
            <soap12:body use="literal" />
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="AddPermissionCollection">

```

```

    <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/AddPermissionCollection"
style="document" />
    <wsdl:input>
        <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal" />
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="UpdatePermission">
    <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/UpdatePermission"
style="document" />
    <wsdl:input>
        <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal" />
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="RemovePermission">
    <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/RemovePermission"
style="document" />
    <wsdl:input>
        <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal" />
    </wsdl:output>
</wsdl:operation>
<wsdl:operation name="RemovePermissionCollection">
    <soap12:operation
soapAction="http://schemas.microsoft.com/sharepoint/soap/directory/RemovePermissionCollection"
style="document" />
    <wsdl:input>
        <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
        <soap12:body use="literal" />
    </wsdl:output>
</wsdl:operation>
</wsdl:binding></wsdl:definitions>

```

7 Appendix B: Product Behavior

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

- The 2007 Microsoft Office system
- Microsoft Office 2010 suites
- Microsoft Office 2013
- Windows SharePoint Services 2.0
- Windows SharePoint Services 3.0
- Microsoft SharePoint Foundation 2010
- Microsoft SharePoint Foundation 2013

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 3.1.4.1.2.1](#): This is the expected behavior but when "role" is given, Windows SharePoint Services 3.0 does not work as expected.

[<2> Section 3.1.4.4.2.1](#): This is the expected behavior but when "role" is given, Windows SharePoint Services 3.0 does not work as expected.

[<3> Section 3.1.4.6.2.1](#): This is the expected behavior but when "role" is given, Windows SharePoint Services 3.0 does not work as expected.

8 Change Tracking

This section identifies changes that were made to the [MS-PERMS] protocol document between the February 2013 and July 2013 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact protocol@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
2.2.1 Namespaces	Changed reference [WSDL] into [SOAP1.1] for prefix "soap" and changed reference [WSDL] into [SOAP1.2/1] [SOAP1.2/2] for prefix "soap12".	N	Content updated.
3.1.4 Message Processing Events and Sequencing Rules	Modified the description of AddPermissionCollection and AddPermission operation.	N	Content updated.
3.1.4.1.1.2 AddPermissionSoapOut	Removed the SOAP action value from SOAP response message.	N	Content updated.
3.1.4.1.2 Elements	Modified the descriptions for the XML schema elements.	N	Content updated.
3.1.4.2.1.2 AddPermissionCollectionSoapOut	Removed the SOAP action value from SOAP response message.	N	Content updated.
3.1.4.2.2 Elements	Modified the descriptions for the XML schema elements.	N	Content updated.
3.1.4.3.1.2 GetPermissionCollectionSoapOut	Removed the SOAP action value from SOAP response message.	N	Content updated.
3.1.4.3.2 Elements	Modified the descriptions for the XML schema elements.	N	Content updated.
3.1.4.4.1.2 RemovePermissionSoapOut	Removed the SOAP action value from SOAP response message.	N	Content updated.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
3.1.4.4.2 Elements	Modified the descriptions for the XML schema elements.	N	Content updated.
3.1.4.5.1.2 RemovePermissionCollectionSoapOut	Removed the SOAP action value from SOAP response message.	N	Content updated.
3.1.4.5.2 Elements	Modified the descriptions for the XML schema elements.	N	Content updated.
3.1.4.6.1.2 UpdatePermissionSoapOut	Removed the SOAP action value from SOAP response message.	N	Content updated.
3.1.4.6.2 Elements	Modified the descriptions for the XML schema elements.	N	Content updated.

9 Index

A

- Abstract data model
 - [server](#) 12
- [AddPermission operation](#) 13
 - attribute groups ([section 3.1.4.1.6](#) 15, [section 3.1.4.1.7](#) 15)
 - [attributes](#) 15
 - [complex types](#) 15
 - [elements](#) 14
 - [AddPermission](#) 14
 - [AddPermissionResponse](#) 14
 - [messages](#) 13
 - [AddPermissionSoapIn](#) 13
 - [AddPermissionSoapOut](#) 13
 - [simple types](#) 15
- [AddPermissionCollection operation](#) 15
 - [attribute groups](#) 18
 - [attributes](#) 18
 - [complex types](#) 18
 - [elements](#) 16
 - [AddPermissionCollection](#) 16
 - [AddPermissionCollectionResponse](#) 18
 - [groups](#) 18
 - [messages](#) 15
 - [AddPermissionCollectionSoapIn](#) 16
 - [AddPermissionCollectionSoapOut](#) 16
 - [simple types](#) 18
- [Applicability](#) 9
- [Attribute groups](#) 11
- [Attributes](#) 11

C

- [Capability negotiation](#) 9
- [Change tracking](#) 41
- Client
 - [overview](#) 12
- [Complex types](#) 10

D

- Data model - abstract
 - [server](#) 12

E

- Elements
 - server
 - [AddPermission](#) 14
 - [AddPermissionCollection](#) 16
 - [AddPermissionCollectionResponse](#) 18
 - [AddPermissionResponse](#) 14
 - [GetPermissionCollection](#) 19
 - [GetPermissionCollectionResponse](#) 20
 - [RemovePermission](#) 22
 - [RemovePermissionCollection](#) 24
 - [RemovePermissionCollectionResponse](#) 25

- [RemovePermissionResponse](#) 22
- [UpdatePermission](#) 27
- [UpdatePermissionResponse](#) 27

Events

- [local - server](#) 28
- [timer - server](#) 28

[Examples](#) 29

F

- [Fields - vendor-extensible](#) 9
- [Full WSDL](#) 33

G

- [GetPermissionCollection operation](#) 18
 - [attribute groups](#) 20
 - [attributes](#) 20
 - [complex types](#) 20
 - [elements](#) 19
 - [GetPermissionCollection](#) 19
 - [GetPermissionCollectionResponse](#) 20
 - [groups](#) 20
 - [messages](#) 18
 - [GetPermissionCollectionSoapIn](#) 19
 - [GetPermissionCollectionSoapOut](#) 19
 - [simple types](#) 20
- [Glossary](#) 7
- [Groups](#) 11

I

- [Implementer - security considerations](#) 32
- [Index of security parameters](#) 32
- [Informative references](#) 8
- Initialization
 - [server](#) 12
- [Introduction](#) 7

L

- Local events
 - [server](#) 28

M

- Message processing
 - [server](#) 12
- Messages
 - [attribute groups](#) 11
 - [attributes](#) 11
 - [complex types](#) 10
 - [elements](#) 10
 - [enumerated](#) 10
 - [groups](#) 11
 - [namespaces](#) 10
 - server
 - [AddPermissionCollectionSoapIn](#) 16

- [AddPermissionCollectionSoapOut](#) 16
- [AddPermissionSoapIn](#) 13
- [AddPermissionSoapOut](#) 13
- [GetPermissionCollectionSoapIn](#) 19
- [GetPermissionCollectionSoapOut](#) 19
- [RemovePermissionCollectionSoapIn](#) 24
- [RemovePermissionCollectionSoapOut](#) 24
- [RemovePermissionSoapIn](#) 21
- [RemovePermissionSoapOut](#) 21
- [UpdatePermissionSoapIn](#) 26
- [UpdatePermissionSoapOut](#) 26
- [simple types](#) 10
- [syntax](#) 10
- [transport](#) 10

N

- [Namespaces](#) 10
- [Normative references](#) 7

O

Operations

- [AddPermission](#) 13
- [AddPermissionCollection](#) 15
- [GetPermissionCollection](#) 18
- [RemovePermission](#) 20
- [RemovePermissionCollection](#) 23
- [UpdatePermission](#) 25

[Overview \(synopsis\)](#) 8

P

- [Parameters - security index](#) 32
- [Preconditions](#) 9
- [Prerequisites](#) 9
- [Product behavior](#) 40

R

- [References](#) 7
 - [informative](#) 8
 - [normative](#) 7
- [Relationship to other protocols](#) 8
- [RemovePermission operation](#) 20
 - [attribute groups](#) 23
 - [attributes](#) 23
 - [complex types](#) 22
 - [elements](#) 21
 - [RemovePermission](#) 22
 - [RemovePermissionResponse](#) 22
 - [groups](#) 23
 - [messages](#) 21
 - [RemovePermissionSoapIn](#) 21
 - [RemovePermissionSoapOut](#) 21
 - [simple types](#) 23
- [RemovePermissionCollection operation](#) 23
 - [attribute groups](#) 25
 - [attributes](#) 25
 - [complex types](#) 25
 - [elements](#) 24
 - [RemovePermissionCollection](#) 24
 - [RemovePermissionCollectionResponse](#) 25
 - [groups](#) 25
 - [messages](#) 23
 - [RemovePermissionCollectionSoapIn](#) 24
 - [RemovePermissionCollectionSoapOut](#) 24
 - [simple types](#) 25

S

Security

- [implementer considerations](#) 32
- [parameter index](#) 32

Sequencing rules

- [server](#) 12

Server

- [abstract data model](#) 12
- [AddPermission operation](#) 13
- [AddPermissionCollection operation](#) 15
- [GetPermissionCollection operation](#) 18
- [initialization](#) 12
- [local events](#) 28
- [message processing](#) 12
- [overview](#) 12
- [RemovePermission operation](#) 20
- [RemovePermissionCollection operation](#) 23
- [sequencing rules](#) 12
- [timer events](#) 28
- [timers](#) 12
- [UpdatePermission operation](#) 25
- [Simple types](#) 10
- [Standards assignments](#) 9

Syntax

- [messages - overview](#) 10

T

Timer events

- [server](#) 28

Timers

- [server](#) 12
- [Tracking changes](#) 41
- [Transport](#) 10

Types

- [complex](#) 10
- [simple](#) 10

U

- [UpdatePermission operation](#) 25
 - [attribute groups](#) 28
 - [attributes](#) 28
 - [complex types](#) 27
 - [elements](#) 26
 - [UpdatePermission](#) 27
 - [UpdatePermissionResponse](#) 27
 - [groups](#) 28
 - [messages](#) 26
 - [UpdatePermissionSoapIn](#) 26
 - [UpdatePermissionSoapOut](#) 26
 - [simple types](#) 27

V

[Vendor-extensible fields](#) 9
[Versioning](#) 9

W

[WSDL](#) 33