IMS Group Management Services WSDL Binding

Version 1.0 Final Specification

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1. Introduction

1.1 Group Management Services Overview

The Group Management Services specification [GroupService, 04] is the definition of how systems manage the exchange of information that describes people within the context of learning. The Group Management Services specification is constructed following the recommendations documented in the IMS Abstract Framework (IAF) [AbsGloss, 03], [AbsASC, 03], [AbsWhite, 03]. This means that this specification is based upon the concepts of:

- Interoperability – Group Management Services focuses on the exchange of Group(s) information between Enterprise systems. There are no assumptions in the specification on how the data is managed within the Enterprise systems;
- Service-oriented – Group Management Services defines the exchange of information in terms of the services being supplied by the collaboration of the systems;
- Component-based – the Group Management Services will be combined with the Person Management Services and Membership Management Services to provide the Enterprise Service. Other services will be added to it in later releases;
- Layering – the Group Management Service is a part of the Application Services layer but it interacts with the services available in the Common Services layer e.g. authentication;
- Behaviors and Data Models – the Group Management Services are defined in terms of their behaviors and data models. The behaviors cause changes in the state of the data model and the state of the data model will only be altered as a result of a clearly defined behavior;
- Multiple Bindings – the Group Management Services information model is to be defined using the Unified Modelling Language (UML). This enables reliable mapping of the information model into a range of different bindings. The bindings of immediate importance are to the Web Services Description Language (WSDL);
- Adoption – the Group Management Services are based upon the original Enterprise specification data model. While there are significant changes the underlying data model has been maintained and the core Person structures remain.

1.2 Scope and Context

This document is the IMS Group Management Services WSDL Binding v1.0 and as such it is used in conjunction with the following documents:

a) IMS Enterprise Services Core Use Cases v1.0 [EntServices, 04a] – the set of use-cases that are the basis for the definition of the Person Management Services Information Model;

b) IMS Group Management Services Information Model v1.0 [GroupService, 04] – the behavior and data model definition of the Group Management Services;

c) IMS Enterprise Services Best Practice & Implementation Guide v1.0 [EntServices, 04c] – this presents information that helps implementers adopt the specification;

d) IMS Enterprise Services Conformance Specification v1.0 [EntServices, 04b] – the definition of the conformance criteria that must be followed by systems that wish to claim compliance to the Enterprise Services Information Model.

As such the Person Management Services specification supersedes the original Enterprise specifications:

a) IMS Enterprise Information Model Final Specification v1.1 [Enterprise, 02a].

b) IMS Enterprise XML Binding Final Specification v1.1 [Enterprise, 02b];

c) IMS Enterprise Services Best Practice & Implementation Guide Final Specification v1.1 [Enterprise, 02c].

This WSDL binding takes the Group Management Service Information Model and produces an encoding of that description in WSDL. This WSDL binding is generated as recommended by the IMS General Web Services documents [GWS, 04a], [GWS, 04b].

1.3 Structure of this Document

The structure of this document is:

2. Application of the WSDL Binding Guidelines	A description of how the General Web Services WSDL binding guidelines have been applied to the Group Management Services Information Model;
3. Data Model Binding	The description of the XML schemas that are created to reflect the data model of the Group Management Services Information Model;
4. Synchronous WSDL Binding	The description of the SOAP messages and the corresponding XML schemas that are created as the synchronous WSDL binding;
5. Asynchronous WSDL Binding	The description of the SOAP messages and the corresponding XML schemas that are created as the asynchronous WSDL binding;
Appendix A – Binding Files Listings	The WSDL listings for the synchronous and asynchronous SOAP/http binding of the Group Management Services Information Model.

1.4 Nomenclature

API	Application Programming Interface
IAF	IMS Abstract Framework
UML	Unified Modelling Language
W3C	World Wide Web Consortium
WSDL	Web Services Description Language
XML	Extensible Mark-up Language

1.5 References

[AbsASCs, 03]	*IMS Abstract Framework: Applications, Services & Components v1.0*, Ed. C.Smythe, IMS Global Learning Consortium, Inc., July 2003.
[AbsGloss, 03]	*IMS Abstract Framework: Glossary v1.0*, Ed. C.Smythe, IMS Global Learning Consortium, Inc., July 2003.
[AbsWhite, 03]	*IMS Abstract Framework: White Paper v1.0*, Ed. C.Smythe, IMS Global Learning Consortium, Inc., July 2003.
[Cockburn, 01]	*Writing Effective Use-case*, A.Cockburn, Addison-Wesley, 2001, ISBN 0-201-70225-8.
[CommonData, 04]	*IMS Enterprise Services Common Data Definitions Specification v1.0*, C.Smythe and C.Vento, IMS Global Learning Consortium, Inc., June 2004.
[Enterprise, 02a]	*IMS Enterprise Information Model v1.1*, G.Collier, C.Etesse, W.Veres and C.Smythe, IMS Global Learning Consortium, Inc., July 2002.
[Enterprise, 02b]	*IMS Enterprise XML Binding v1.1*, G.Collier, C.Etesse, W.Veres and C.Smythe, IMS Global Learning Consortium, Inc., July 2002.
[Enterprise, 02c]	*IMS Enterprise Best Practice & Implementation Guide v1.1*, G.Collier, C.Etesse, W.Veres and C.Smythe, IMS Global Learning Consortium, Inc., July 2002.
[EntServices, 04a]	*IMS Enterprise Services Core Use Cases Description v1.0*, C.Smythe and C.Vento, IMS Global Learning Consortium, Inc., June 2004.
[EntServices, 04b]	*IMS Enterprise Services Conformance Specification v1.0*, C.Smythe and C.Vento, IMS Global Learning Consortium, Inc., Version 1.0, June 2004.

[EntServices, 04c] *IMS Enterprise Services Best Practices & Implementation Guide v1.0*, C.Smythe and C.Vento, IMS Global Learning Consortium, Inc., June 2004.

[GWS, 04a] *IMS General Web Services Base Profiles v1.0*, C.Schroeder, S.Raju, and C.Smythe, IMS Global Learning Consortium, Inc., June 2004.

[GWS, 04b] *IMS General Web Services Binding Methodology & Recipes v1.0*, C.Schroeder, S.Raju, and C.Smythe, IMS Global Learning Consortium, Inc., June 2004.

[GroupServices, 04] *IMS Group Management Services Information Model Public Draft v1.0*, C.Smythe and C.Vento, IMS Global Learning Consortium, Inc., January 2004.

[SpecDev, 03] *IMS Specification Development Methods & Best Practices Draft 5.0*, C.Smythe, IMS Global Learning Consortium, Inc., August 2003.

2. Application of the WSDL Binding Guidelines

2.1 Synchronous Binding

The WSDL bindings have been generated using the methodology documented in [GWS 04a] and [GWS, 04b]. The composition of the synchronous WSDL binding is shown in Figure 2.1.

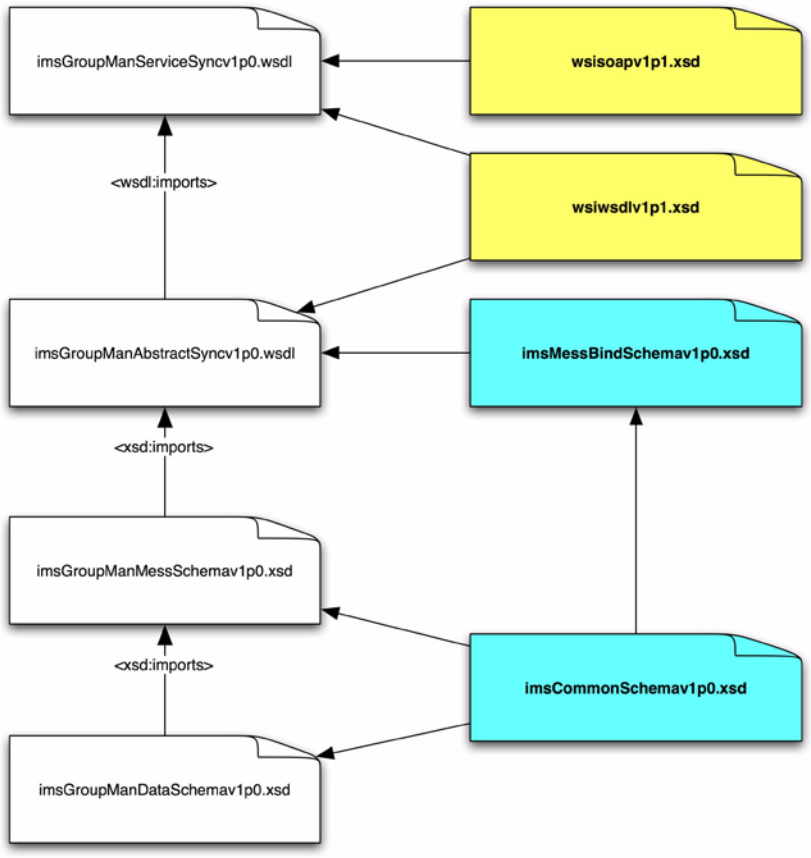

Figure 2.1 Group WSDL and XSD binding file composition.

The binding files described in Figure 2.1 contain:

- 'imsGroupManServiceSyncv1p0.wsdl' – the service specific WSDL binding file. For the Group Management Service this is based upon SOAP/http. This file imports the abstract definitions using the <wsdl:import> construct. The listing of this file is given in Appendix A;
- 'imsGroupManAbstractSyncv1p0.wsdl' – the abstract message definitions that represent the behavior of the Group Management Service operations. This file imports the message XSD using the <xsd:import> construct. The listing of this file is given in Appendix A;
- 'imsGroupManMessSchemav1p0.xsd' – the XSD definitions for the synchronous and asynchronous messages. This file imports the Group data model XSD using the <xsd:import> construct. The listing of this file is given in Appendix A;
- 'imsGroupManDataSchemav1p0.xsd' – the definition of the Group data model. This is the file that was produced by the equivalent data model binding in Enterprise v1.1. The listing of this file is given in Appendix A;
- 'imsMessBindSchemav1p0.xsd' – the XSD binding of the message header parts. This includes the message headers for synchronous, polled and asynchronous message models;

- 'imsCommonSchemav1p0.xsd' – the XSD binding of the IMS Enterprise Service common data objects. This file is used by the Group message and data model XSDs as well as the IMS message binding XSD;
- 'wsiwsdlv1p1.xsd' – this is the reference XSD for the WSDL definition. This file is the WS-I amended version of the original file from W3C;
- 'wsisoapv1p1.xsd' – this is the reference XSD for the SOAP extensions to WSDL. This file is from WS-I.

The name spaces used within these bindings are listed in Table 2.1.

Table 2.1 The namespaces used in the binding files.

Namespace	Prefix	Usage
–	"tns:"	The target namespace identifier.
http://www.w3.org/2001/XMLSchema	"xsd:"	The XML schema definition namespace.
/imsCommonSchemav1p0	"esx:"	The IMS Enterprise Service common data model definitions namespace.
/imsMessBindSchemav1p0	"isb:"	The IMS message header binding definitions namespace.
/gms/xsd/imsGroupManDataSchemav1p0	"grp:"	The data model namespace for the Group class.
/gms/xsd/imsGroupManMessSchemav1p0	"imsgms:"	The IMS Group Management Services message binding definitions namespace.
/gms/wsdl/imsGroupManAbstractSyncv1p0	"absg:"	The Group Management Service abstract definitions file references.
wsisoapv1p1	"soap:"	The SOAP references used within the WSDL files.
wsiwsdlv1p1	"wsdl:"	The default WSDL files namespace for WSDL v1.1.

2.2 Asynchronous Binding

Note: At the time of publication the Asynchronous Binding had not been tested. The details for creating the Asynchronous Binding are available in the IMS Group Management Service WSDL Binding V2.0 Public Draft document. The Asynchronous Binding details will be issued in V2.0 of this document once testing has been completed.

3. Data Model XML Schemas Binding

3.1 <group> Element

The XSD visualization of the <group> data model is shown in Figure 3.1. This is the XML equivalent of the UML description in Figure 4.1 and Table 4.1 [GroupService, 04].

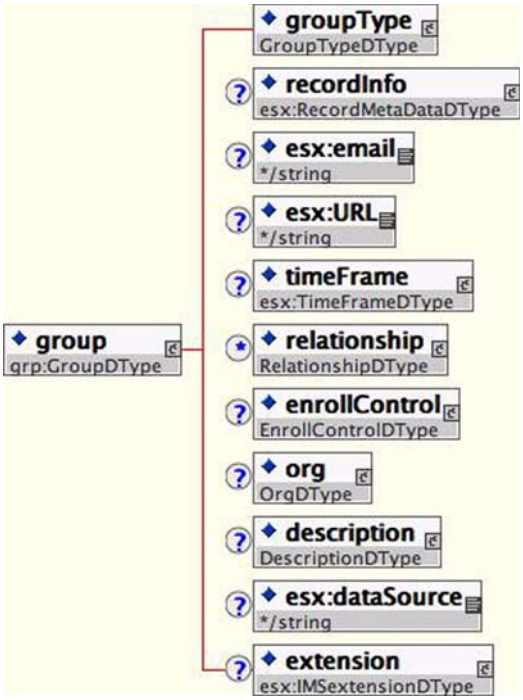

Figure 3.1 <group> element composition.

3.2 <groupType> Element

The XSD visualization of the <groupType> data model is shown in Figure 3.2. This is the XML equivalent of the UML description in Figure 4.1 and Tables 4.2, 4.3, 4.4, 4.5 [GroupService, 04].

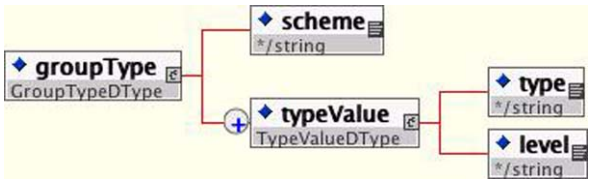

Figure 3.2 <groupType> element composition.

3.3 <recordInfo> Element

The XSD visualization of the <recordInfo> data model is shown in Figure 3.3. This is the XML equivalent of the UML description in Figure 4.1 and Tables 4.1 [PersonService, 04].

Figure 3.3 <recordInfo> element composition.

3.4 <email> Element

See Table 4.1 and the OCL definitions in sub-section 4.1.4 [GroupService, 04].

3.5 <url> Element

See Table 4.1 and the OCL definitions in sub-section 4.1.4 [GroupService, 04].

3.6 <timeFrame> Element

The XSD visualization of the <timeFrame> data model is shown in Figure 3.4. This is the XML equivalent of the UML description in Figure 4.1 and Table 4.1 [GroupService, 04].

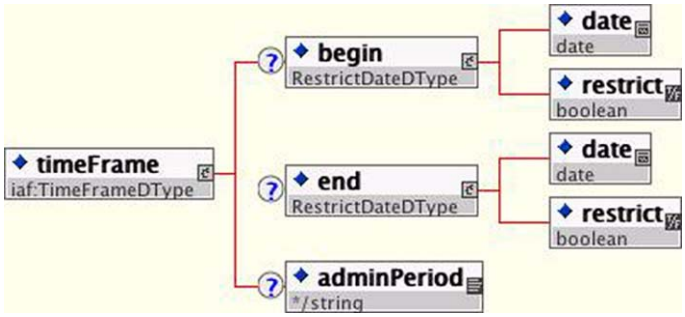

Figure 3.4 <timeFrame> element composition.

3.7 <relationship> Element

The XSD visualization of the <relationship> data model is shown in Figure 3.5. This is the XML equivalent of the UML description in Figure 4.1, Table 4.9 and the OCL definitions in sub-section 4.1.4 [GroupService, 04].

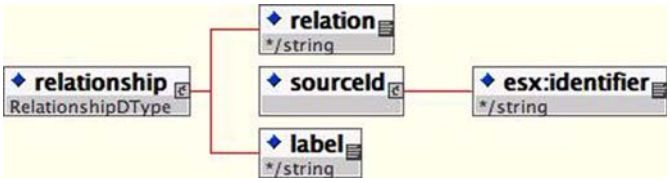

Figure 3.5 <relationship> element composition.

3.8 <enrollControl> Element

The XSD visualization of the <enrollControl> data model is shown in Figure 3.6. This is the XML equivalent of the UML description in Figure 4.1, Table 4.8 and the OCL definitions in sub-section 4.1.4 [GroupService, 04].

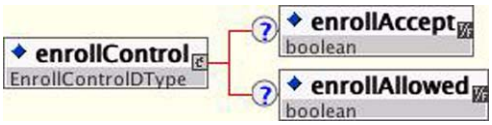

Figure 3.6 <enrollControl> element composition.

3.9 <org> Element

The XSD visualization of the <org> data model is shown in Figure 3.7. This is the XML equivalent of the UML description in Figure 4.1, Table 4.7 and the OCL definitions in sub-section 4.1.4 [GroupService, 04a].

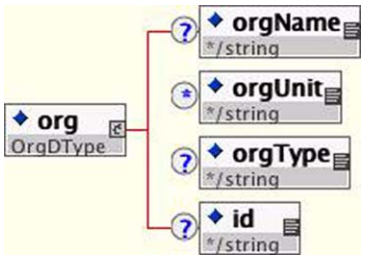

Figure 3.7 <org> element composition.

3.10 <description> Element

The XSD visualization of the <description> data model is shown in Figure 3.8. This is the XML equivalent of the UML description in Figure 4.1, Table 4.6 and the OCL definitions in sub-section 4.1.4 [GroupService, 04].

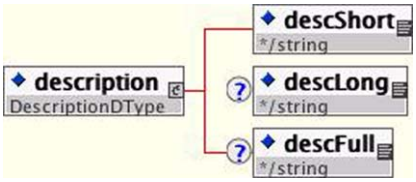

Figure 3.8 <description> element composition.

3.11 <extension> Element

The XSD visualization of the <extension> data model is shown in Figure 3.9. This is the XML equivalent of the UML description in Figure 4.1 and Table 4.1 [GroupService, 04].

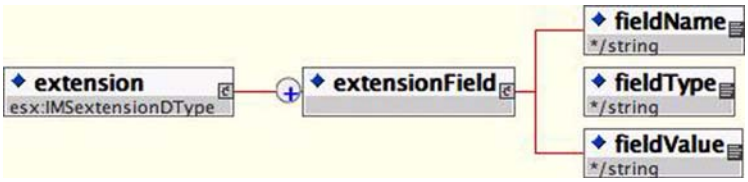

Figure 3.9 <extension> element composition.

3.12 <groupSet> Element

The XSD visualization of the <groupSet> data model is shown in Figure 3.10. This is the XML equivalent of the UML description in Figure 4.2 and Table 4.10 [GroupService, 04].

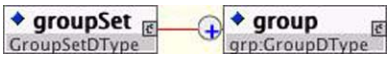

Figure 3.10 <groupSet> element composition.

3.13 <groupIdPair> Element

The XSD visualization of the <groupIdPair> data model is shown in Figure 3.11. This is the XML equivalent of the UML description in Figure 4.3 and Table 4.12 [GroupService, 04].

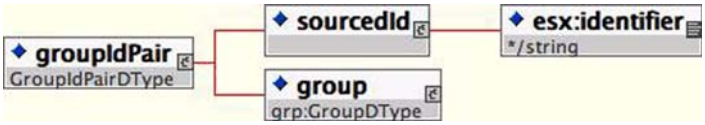

Figure 3.11 <groupIdPair> element composition.

3.14 <groupIdPairSet> Element

The XSD visualization of the <groupIdPairSet> data model is shown in Figure 3.12. This is the XML equivalent of the UML description in Figure 4.3 and Table 4.11 [GroupService, 04].

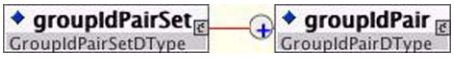

Figure 3.12 <groupIdPairSet> element composition.

3.15 <sourcedIdSet> Element

The XSD visualization of the <sourcedIdSet> data model is shown in Figure 3.13.

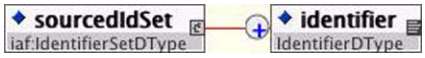

Figure 3.13 <sourcedIdSet> element composition.

3.16 <pairSourcedIdSet> Element

The XSD visualization of the <pairSourcedIdSet> data model is shown in Figure 3.14. This is the XML equivalent of the UML description in Figure 4.2 [CommonData, 04].

Figure 3.14 <pairSourcedIdSet> element composition.

4. Synchronous WSDL Binding

4.1 SOAP Specific Service Binding

The key properties of the Specific Service binding files are detailed in Table 4.1. The Service Specific filename is: 'imsGroupManServiceSyncv1p0.wsdl'.

Table 4.1 Properties of the specific service file.

Property	Value
Transport Mechanism	SOAPv1.1/HTTPv1.1
Service Name	"GroupManagementServiceSync"
Service Port Name	"GroupManagementServiceSyncSoap"
Service Binding Name	"GroupManagementServiceSyncSoap"
Binding Port Type	"GroupManagementServiceSync"

4.2 Abstract Definition Binding

The key properties of the Specific Service binding files are detailed in Table 4.2. The Abstract Definitions filename is: 'imsGroupManAbstractSyncv1p0.wsdl'.

Table 4.2 Properties of the abstract definitions file.

Property	Value
Port Type Name	"GroupManagamentServiceSync"

4.3 Message XML Schemas

4.3.1 'createGroupRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'createGroup()' operation. See 'createGroup()' sub-section of [GroupService, 04].

Figure 4.1 <createGroupRequest> element composition.

Two parameters are supplied:

- sourcedId – the unique identifier to be assigned to the new Group record;
- group – the Group data to be stored in the new record.

4.3.2 'createGroupResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'GroupPerson()' operation. See 'GroupPerson()' sub-section of [GroupService, 04].

Figure 4.2 <createGroupResponse> element composition.

The <createGroupResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.3 'createByProxyGroupRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'createByProxyGroup()' operation. See 'createByProxyGroup ()' sub-section of [GroupService, 04].

Figure 4.3 <createByProxyGroupRequest> element composition.

One parameter is supplied:

- group – the Group data to be stored in the new record.

4.3.4 'createByProxyGroupResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'createByProxyGroup()' operation. See 'createByProxyGroup()' sub-section of [GroupService, 04].

Figure 4.4 <createByProxyGroupResponse> element composition.

The returned information is:

- sourcedId – the unique identifier assigned by the Sync Agent to the new record.

Note: The status information is returned in the header of the SOAP transport message.

4.3.5 'deleteGroupRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'deleteGroup()' operation. See 'deleteGroup()' sub-section of [GroupService, 04].

Figure 4.5 <deleteGroupRequest> element composition.

One parameter is supplied:

- sourcedId – the identifier of the Group record to be deleted;

4.3.6 'deleteGroupResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'GroupPerson()' operation. See 'deleteGroup()' sub-section of [GroupService, 04].

Figure 4.6 <deleteGroupResponse> element composition.

The <deleteGroupResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.7 'deleteGroupRelationshipRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'deleteGroupRelationship()' operation. See 'deleteGroupRelationship()' sub-section of [GroupService, 04].

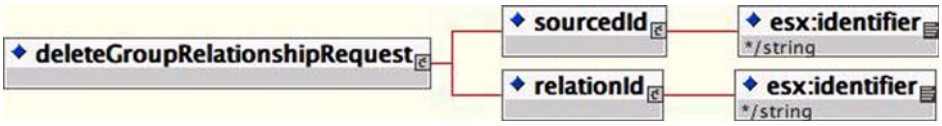

Figure 4.7 <deleteGroupRelationshipRequest> element composition.

Two parameters are supplied:

- sourcedId – the identifier of the Group whose relationship is to be deleted;
- relationId – the identifier of the relationship to be deleted.

4.3.8 'deleteGroupRelationshipResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'GroupPersonRelationship()' operation. See 'deleteGroupRelationship()' sub-section of [GroupService, 04].

Figure 4.8 <deleteGroupRelationshipResponse> element composition.

The <deleteGroupRelationshipResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.9 'readGroupRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'readGroup()' operation. See 'readGroup()' sub-section of [GroupService, 04].

Figure 4.9 <readGroupRequest> element composition.

Two parameters are supplied:

- sourcedId – the identifier of the Group record to be read.

4.3.10 'readGroupResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'readGroup()' operation. See 'readGroup()' sub-section of [GroupService, 04].

Figure 4.10 <readGroupResponse> element composition.

The returned information is:

- group – the returned Group record.

Note: The status information is returned in the header of the SOAP transport message.

4.3.11 'updateGroupRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'updateGroup()' operation. See 'updateGroup()' sub-section of [GroupService, 04].

Figure 4.11 <updateGroupRequest> element composition.

Two parameters are supplied:

- sourcedId – the identifier of the Group record to be changed;
- group – the Group data to be stored in the new record.

4.3.12 'updateGroupResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'updateGroup()' operation. See 'updateGroup()' sub-section of [GroupService, 04].

Figure 4.12 <updateGroupResponse> element composition.

The <updateGroupResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.13 'replaceGroupRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'replaceGroup()' operation. See 'replaceGroup ()' sub-section of [GroupService, 04].

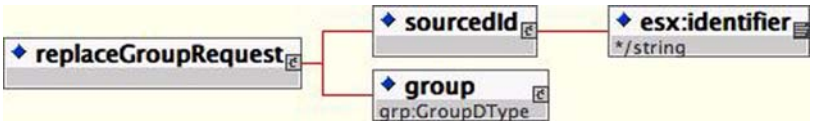

Figure 4.13 <replaceGroupRequest> element composition.

Two parameters are supplied:

- sourcedId – the identifier of the Group record to be changed;
- group – the Group data to be stored in the new record.

4.3.14 'replaceGroupResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'replaceGroup()' operation. See 'replaceGroup()' sub-section of [GroupService, 04].

Figure 4.14 <replaceGroupResponse> element composition.

The <replaceGroupResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.15 'changeGroupIdentifierRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'changeGroupIdentifier()' operation. See 'changeGroupIdentifier()' sub-section of [GroupService, 04].

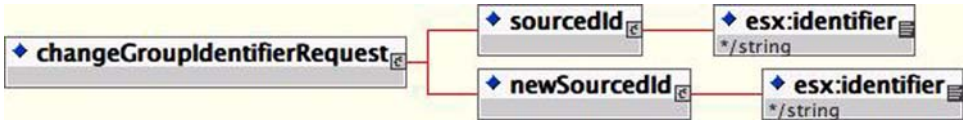

Figure 4.15 <changeGroupIdentifierRequest> element composition.

Two parameters are supplied:

- sourcedId – the identifier of the Group whose identifier is to be changed;
- newSourcedId – the new identifier for the Group record.

4.3.16 'changeGroupIdentifierResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'changeGroupIdentifier()' operation. See 'changeGroupIdentifier()' sub-section of [GroupService, 04].

Figure 4.16 <changeGroupIdentifierResponse> element composition.

The <changeGroupIdentifierResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.17 'createGroupsRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'createGroups()' operation. See 'createGroups()' sub-section of [GroupService, 04].

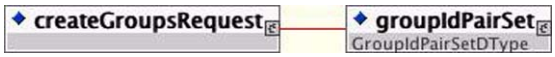

Figure 4.17 <createGroupsRequest> element composition.

One parameter is supplied:

- groupIdPairSet – the list of identifier and group tuples for the new Group records.

4.3.18 'createGroupsResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'createPersons()' operation. See 'createPersons()' sub-section of [PersonService, 04].

Figure 4.18 <createGroupsResponse> element composition.

The <createPersonsResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.19 'createByProxyGroupsRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'createByProxyGroups()' operation. See 'createByProxyGroups()' sub-section of [GroupService, 04].

Figure 4.19 <createByProxyGroupsRequest> element composition.

One parameter is supplied:

- groupSet – the set of Group records to be created.

4.3.20 'createByProxyGroupsResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'createByProxyGroups()' operation. See 'createByProxyGroups()' sub-section of [GroupService, 04].

Figure 4.20 <createGroupsResponse> element composition.

The returned information is:

- sourcedIdSet – the set of unique identifiers that have been allocated by the Sync Agent to the newly created records.

Note: The status information is returned in the header of the SOAP transport message.

4.3.21 'deleteGroupsRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'deleteGroups()' operation. See 'deleteGroups()' sub-section of [GroupService, 04].

Figure 4.21 <deleteGroupsRequest> element composition.

One parameter is supplied:

- sourcedIdSet – the set of unique identifiers for the Group records that are to be deleted.

4.3.22 'deleteGroupsResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'deleteGroups()' operation. See 'deleteGroups()' sub-section of [GroupService, 04].

Figure 4.22 <deleteGroupsResponse> element composition.

The <deleteGroupsResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.23 'deleteGroupsRelationshipRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'deleteGroupsRelationship ()' operation. See 'deleteGroupsRelationship()' sub-section of [GroupService, 04].

Figure 4.23 <deleteGroupsRelationshipRequest> element composition.

One parameter is supplied:

- pairSourcedIdSet – the set of pairs of Group unique identifiers and relationship identifier for the relationships that are to be deleted.

4.3.24 'deleteGroupsRelationshipResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'deleteGroupsRelationship ()' operation. See 'deleteGroupsRelationship ()' sub-section of [GroupService, 04].

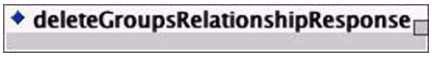

Figure 4.24 <deleteGroupsRelationshipResponse> element composition.

The <deleteGroupsRelationshipResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.25 'readGroupsRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'readGroups()' operation. See 'readGroups()' sub-section of [GroupService, 04].

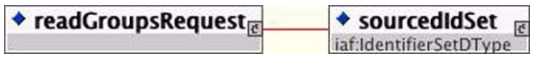

Figure 4.25 <readGroupsRequest> element composition.

One parameter is supplied:

- sourcedIdSet – the set of unique identifiers for the Group records that are to be read.

4.3.26 'readGroupsResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'readGroups()' operation. See 'readGroups()' sub-section of [GroupService, 04].

Figure 4.26 <readGroupsResponse> element composition.

The returned information is:

- groupSet – the set of Group records that have been read.

Note: The status information is returned in the header of the SOAP transport message.

4.3.27 'readGroupsForPersonRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'readGroupsForPerson()' operation. See 'readGroupsForPerson()' sub-section of [GroupService, 04].

Figure 4.27 <readGroupsForPersonRequest> element composition.

One parameter is supplied:

- personSourcedIdSet – the identifier of the Person whose Group membership records are to be returned.

4.3.28 'readGroupsForPersonResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'readGroupsForPerson()' operation. See 'readGroupsForPerson()' sub-section of [GroupService, 04].

Figure 4.28 <readGroupsForPersonResponse> element composition.

The returned information is:

- groupSet – the set of Group records that have been read.

Note: The status information is returned in the header of the SOAP transport message.

4.3.29 'updateGroupsRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'updateGroups()' operation. See 'updateGroups()' sub-section of [GroupService, 04].

Figure 4.29 <updateGroupsRequest> element composition.

One parameter is supplied:

- groupIdPairSet – the list of identifier and group tuples for the Group records to be changed.

4.3.30 'updateGroupsResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'updateGroups()' operation. See 'updateGroups()' sub-section of [GroupService, 04].

Figure 4.30 <updateGroupsResponse> element composition.

The <updateGroupsResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.31 'replaceGroupsRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'updateGroups()' operation. See 'updateGroups()' sub-section of [GroupService, 04].

Figure 4.31 <replaceGroupsRequest> element composition.

One parameter is supplied:

- groupIdPairSet – the list of identifier and group tuples for the Group records to be changed.

4.3.32 'replaceGroupsResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'replaceGroups()' operation. See 'replaceGroups()' sub-section of [GroupService, 04].

Figure 4.32 <replaceGroupsResponse> element composition.

The <replaceGroupsResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.3.33 'changeGroupsIdentifierRequest' Message

This is the request message from the Reference Agent to the Sync Agent to invoke the 'changeGroupsIdentifier()' operation. See 'changeGroupsIdentifier()' sub-section of [GroupService, 04].

Figure 4.33 <changeGroupsIdentifierRequest> element composition.

One parameter is supplied:

- pairSourcedIdSet – the list of paired old and new identifier.

4.3.34 'changeGroupsIdentifierResponse' Message

This is the response message from the Sync Agent to the Reference Agent to complete the 'changeGroupsIdentifier()' operation. See 'changeGroupsIdentifier()' sub-section of [GroupService, 04].

Figure 4.34 <changeGroupsIdentifierResponse> element composition.

The <changeGroupsIdentifierResponse> element is empty.

Note: The status information is returned in the header of the SOAP transport message.

4.4 Example SOAP Messages

The set of example SOAP/HTTP messages are described in Table 4.3. The 'Example File' entries are hot-text links to the files themselves.

Table 4.3 SOAP/HTTP example messages for the synchronous binding.

Message	Example File
'createGroupRequest' Message	/examples/createGroupRequestSync.txt
'createGroupResponse' Message	/examples/createGroupResponseSync.txt
'createByProxyGroupRequest' Message	/examples/createByProxyGroupRequestSync.txt
'createByProxyGroupResponse' Message	/examples/createByProxyGroupResponseSync.txt
'deleteGroupRequest' Message	/examples/deleteGroupRequestSync.txt
'deleteGroupResponse' Message	/examples/deleteGroupResponseSync.txt
'deleteGroupRelationshipRequest' Message	/examples/deleteGroupRelationshipRequestSync.txt
'deleteGroupRelationshipResponse' Message	/examples/deleteGroupRelationshipResponseSync.txt
'readGroupRequest' Message	/examples/readGroupRequestSync.txt
'readGroupResponse' Message	/examples/readGroupResponseSync.txt
'updateGroupRequest' Message	/examples/updateGroupRequestSync.txt
'updateGroupResponse' Message	/examples/updateGroupResponseSync.txt
'replaceGroupRequest' Message	/examples/replaceGroupRequestSync.txt
'replaceGroupResponse' Message	/examples/replaceGroupResponseSync.txt
'changeGroupIdentifierRequest' Message	/examples/changeGroupIdentifierRequestSync.txt
'changeGroupIdentifierResponse' Message	/examples/changeGroupIdentifierResponseSync.txt
'createGroupsRequest' Message	/examples/createGroupsRequestSync.txt
'createGroupsResponse' Message	/examples/createGroupsResponseSync.txt
'createByProxyGroupsRequest' Message	/examples/createByProxyGroupsRequestSync.txt
'createByProxyGroupsResponse' Message	/examples/createByProxyGroupsResponseSync.txt
'deleteGroupsRequest' Message	/examples/deleteGroupsRequestSync.txt
'deleteGroupsResponse' Message	/examples/deleteGroupsResponseSync.txt
'deleteGroupsRelationshipRequest' Message	/examples/deleteGroupsRelationshipRequestSync.txt
'deleteGroupsRelationshipResponse' Message	/examples/deleteGroupsRelationshipResponseSync.txt
'readGroupsRequest' Message	/examples/readGroupsRequestSync.txt
'readGroupsResponse' Message	/examples/readGroupsResponseSync.txt
'readGroupsForPersonRequest' Message	/examples/readGroupsForPersonRequestSync.txt
'readGroupsForPersonResponse' Message	/examples/readGroupsForPersonResponseSync.txt
'updateGroupsRequest' Message	/examples/updateGroupsRequestSync.txt
'updateGroupsResponse' Message	/examples/updateGroupsResponseSync.txt
'replaceGroupsRequest' Message	/examples/replaceGroupsRequestSync.txt
'replaceGroupsResponse' Message	/examples/replaceGroupsResponseSync.txt
'changeGroupsIdentifierRequest' Message	/examples/changeGroupsIdentifierRequestSync.txt
'changeGroupsIdentifierResponse' Message	/examples/changeGroupsIdentifierResponseSync.txt

5. Asynchronous WSDL Binding

Note: At the time of publication the Asynchronous Binding had not been tested. The details for creating the Asynchronous Binding are available in the IMS Group Management Service WSDL Binding V2.0 Public Draft document. The Asynchronous Binding details will be issued in V2.0 of this document once testing has been completed.

Appendix A – WSDL Binding Listings

A1 – Synchronous Binding

The bindings listed below are for the synchronous SOAPv1.1/HTTPv1.1 based implementation. The set of binding files are given in Table A.1. These files can be accessed by 'clicking' on the appropriate file name.

Table A.1 List of synchronous binding files.

Property	Value
Service Specific File	/gms/wsdl/imsGroupManServiceSync_v1p0.wsdl
Abstract Definitions File	/gms/wsdl/imsGroupManAbstractSync_v1p0.wsdl
Messages XSD	/gms/xsd/imsGroupManMessSchema_v1p0.xsd
Data Model XSD	/gms/xsd/imsGroupManDataSchema_v1p0.xsd
Enterprise Common XSD	/services/common/imsCommonSchema_v1p0.xsd
Message Binding XSD	/services/common/imsMessBindSchema_v1p0.xsd

A2 – Asynchronous Binding

Note: At the time of publication the Asynchronous Binding had not been tested. The details for creating the Asynchronous Binding are available in the IMS Group Management Service WSDL Binding V2.0 Public Draft document. The Asynchronous Binding details will be issued in V2.0 of this document once testing has been completed.

About This Document

Title	IMS Group Management Services WSDL Binding
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Team Co-Lead	Chris Vento (WebCT Inc.)
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Status	**Final Specification**
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To register any comments or questions about this specification please visit:
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Public Draft 1.0	12 January 2004	The final approved Public Draft Document for the IMS Group Management Services Specification.
Public Draft 2.0	19 April 2004	This is the second formal release of the Public Draft Document for the IMS Group Management Services Specification. The differences to the first release are: a) The asynchronous binding information has been added; b) In the synchronous binding Section the example SOAP messages have been replaced by hot text links to external files that contain the example. There is one file per example; c) The data model descriptions have been placed in their own section; d) Appendix A and B have been combined. The actual listing has been removed and hot text links are used to reference the listing.
Final 1.0	11 June 2004	This is the formal Final Release of the IMS Group Management Services WSDL Binding specification.

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Please refer to Document Name: IMS Group Management Services WSDL Binding

Date: 11 June 2004