IMS Enterprise Services Common Data Definitions

Version 1.0 Final Specification

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Document Name: IMS Enterprise Services Common Data Definitions

Date: 11 June 2004

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1. Introduction

1.1 Scope and Context

This document contains the definition of data models that are available to all of the IMS specification information models. A specific information model is responsible for establishing and explaining the context within which the classes defined herein are used. These models are described using the Unified Modelling Language (UML) and the syntax adopted for the description of the UML is given in the IMS Specifications, Methods and Best Practices document [SpecDev, 03]. The corresponding XML bindings, using XML Schema Definitions (XSDs) are also supplied for each class. This component-based approach to specification development is explained in the IMS Abstract Framework [AbsWhite, 03], [AbsGloss, 03], [AbsASCs, 03].

The content of this document will grow as the set of IMS specifications expands. Each specification development activity will identify new common data models that should be made available outside of the specification being defined. This means that this document will undergo regular extension however new data models will not, in all but the rarest cases, require changes to any of the other established data models.

1.2 Structure of this Document

The structure of this document is:

2. Summary of Common Data Definitions	A summary of the set of data models defined within this document;
3. DataSource Class Data Model	The data model definition and XML binding for the DataSource class;
4. Email Class Data Model	The data model definition and XML binding for the Email class;
5. Identifier & IdentifierSet Class data Model	The data model definitions and XML binding for the Identifier and IdentifierSet classes. The IdentifierSet is a collection of Identifier classes;
6. IdentifierPair & IdentifierPairSet Class Data Model	The data model definitions and XML binding for the IdentifierPair and IdentifierPairSet classes. The IdentifierPairSet is a collection of IdentifierPair classes;
7. IMSextension Class Data Model	The data model definition and XML binding for the IMSextension class. This is used to support proprietary extensions to a data model;
8. LangString & SeqLangString Class Data Model	The data model definition and XML binding for the LangString and sequence of LangString classes;
9. RecordMetaData Class Data Model	The data model definition and XML binding for the RecordMetaData class;
10. Status & StatusInfoSet Class data Model	The data model definitions and XML binding for the StatusInfo and StatusInfoSet classes. The StatusInfoSet is a collection of StatusInfo classes;
11. TimeFrame Class Data Model	The data model definition and XML binding for the TimeFrame class;
12. URL Class Data Model	The data model definition and XML binding for the URL class;
13. UserId Class Data Model	The data model definition and XML binding for the UserId class.
14. Message Header Structures	The XML binding for the synchronous and asynchronous protocol message headers;
Appendix A – XSD Binding Files for the Common Objects	The XSD representation of the Enterprise Service Common Data Definition objects and the message headers.

1.3 Nomenclature

IAF	IMS Abstract Framework
UML	Unified Modelling Language
URL	Universal Resource Locator
W3C	World Wide Web Consortium
WSDL	Web Services Description Language
XML	Extensible Mark-up Language

1.4 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.

[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 UNL to XML Transformation Rules v1.0*, C.Schroeder, S.Raju, and C.Smythe, IMS Global Learning Consortium, Inc., June 2004.

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

2. Summary of Common Data Definitions

The set of common data definitions described in this document is summarized in Table 2.1.

Table 2.1 Summary of common data definitions.

Common Class	Description
DataSource	A container for the identifier of the original source of data content.
Email	The representation of an email address.
ExtensionField	The extension field name/value tuple that is used to define a single extension field.
Identifier	The container for a unique identifier (globally or locally unique).
IdentifierPair	A pair of Identifiers.
IdentifierPairSet	A collection of a pair of Identifiers (IdentifierPair).
IdentifierSet	A collection of unique identifiers (Identifier).
IMSextension	The container for the permitted extensions for any IMS data model.
LangString	A language specific string entry.
RecordMetaData	Object local meta-data.
RestrictDate	Definition of a restriction about a particular date of activity.
SeqLangString	A collection of related LangStrings i.e. to support alternative entry languages.
StatusInfo	The status information class that is used to contain all of the status information describing the outcome of an invoked operation.
StatusInfoSet	A collection of status information classes (StatusInfo) that result from an invoked operation that contains more than one transaction request.
TimeFrame	Definition of activity period in terms of its start and finish times.
URL	The representation of a URL.
UserId	Identification information for a user's access to a learning management environment.

3. DataSource Class Data Model

3.1 Description

The DataSource class diagram is shown in Figure 3.1. The DataSource class is the container for any form of global unique or locally unique identifier that refers to the original source of the identifier. There is no internal sub-structure defined for the DataSource.

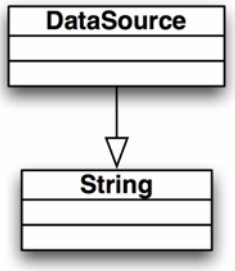

Figure 3.1 DataSource class diagram.

3.2 Attributes

None.

3.3 Associations

The set of associations for the Identifier class are summarized in Table 3.1.

Table 3.1 Summary of associations for the Identifier class.

Association Class Name	Multiplicity	Description
String	1	A DataSource is a type of String.

3.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context Identifier

inv: DataSource.size <= 2048

3.5 XSD Binding

The XML binding for the DataSource class is shown in Figure 3.2. This binding is based upon the simple-type ‘string’. The XSD listing is given in Appendix A.

Figure 3.2 DataSource class XSD binding.

4. Email Class Data Model

4.1 Description

The Email class diagram is shown in Figure 4.1. The Email class is the container for any email address. There is no internal sub-structure defined for the Email.

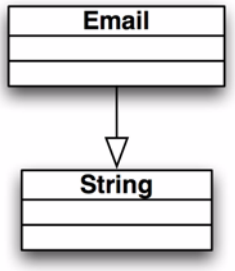

Figure 4.1 Email class diagram.

4.2 Attributes

None.

4.3 Associations

The set of associations for the Identifier class are summarized in Table 4.1.

Table 4.1 Summary of associations for the Identifier class.

Association Class Name	Multiplicity	Description
String	1	An Email is a type of String.

4.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context Identifier

inv: Email.size <= 2048

4.5 XSD Binding

The XML binding for the Email class is shown in Figure 4.2. This binding is based upon the simple-type ‘string’. The XSD listing is given in Appendix A.

Figure 4.2 Email class XSD binding.

5. Identifier and IdentifierSet Class Data Model

5.1 Identifier Class Data Model

5.1.1 Description

The Identifier class diagram is shown in Figure 5.1. The Identifier class is the container for any form of global unique or locally unique identifier. There is no internal sub-structure defined for the Identifier.

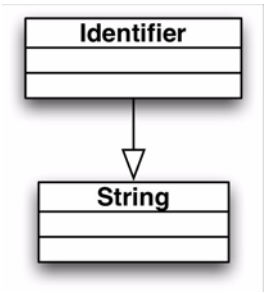

Figure 5.1 Identifier class diagram.

5.1.2 Attributes

None.

5.1.3 Associations

The set of associations for the Identifier class are summarized in Table 5.1.

Table 5.1 Summary of associations for the Identifier class.

Association Class Name	Multiplicity	Description
String	1	An Identifier is a type of String.

5.1.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context Identifier

inv: identifier.size <= 4096

5.1.5 XSD Binding

The XML binding for the Identifier class is shown in Figure 5.2. This binding is a simple-type ‘string’. The XSD listing is given in Appendix A.

Figure 5.2 Identifier class XSD binding.

5.2 IdentifierSet Class Data Model

5.2.1 Description

The IdentifierSet class diagram is shown in Figure 5.3. The IdentifierSet class is a collection of Identifiers.

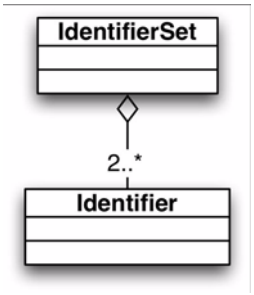

Figure 5.3 IdentifierSet class diagram.

5.2.2 Attributes

None.

5.2.3 Associations

The set of associations for the IdentifierSet class are summarized in Table 5.2.

Table 5.2 Summary of associations for the IdentifierSet class.

Association Class Name	Multiplicity	Description
Identifier	2..*	The set of Identifiers. The significance of the order of the Identifiers is not defined as part of the class.

5.2.4 OCL Definitions

None.

5.2.5 XSD Binding

The XML binding for the IdentifierSet class is shown in Figure 5.4. This binding is based upon the creation of the complex-type ‘identifierSetDType’. The XSD listing is given in Appendix A.

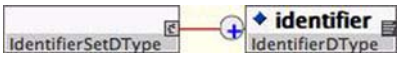

Figure 5.4 IdentifierSet class XSD binding.

6. IdentifierPair and IdentifierPairSet Class Data Model

6.1 IdentifierPair Class Data Model

6.1.1 Description

The IdentifierPair class diagram is shown in Figure 6.1. The IdentifierPair is a tuple of Identifiers whose relationship is not defined as part of the class. The relationship is defined by the context of use.

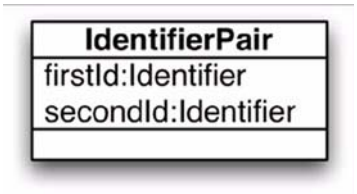

Figure 6.1 IdentifierPair class diagram.

6.1.2 Attributes

The set of attributes for the IdentifierPair class are summarized in Table 6.1.

Table 6.1 Summary of attributes for the IdentifierPair class.

Attribute Name	Type	Multiplicity	Description
firstId	Identifier	1	The first Identifier.
secondId	Identifier	1	The second Identifier.

6.1.3 Associations

None.

6.1.4 OCL Definitions

None.

6.1.5 XSD Binding

The XML binding for the Identifier class is shown in Figure 6.2. This binding is based upon the creation of the complex-type ‘identifierPairDType’. The XSD listing is given in Appendix A.

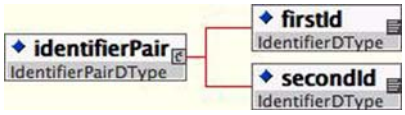

Figure 6.2 IdentifierPair class XSD binding.

6.2 IdentifierPairSet Class Data Model

6.2.1 Description

The IdentifierPairSet class diagram is shown in Figure 6.3. The IdentifierPairSet is a collection of IdentifierPairs.

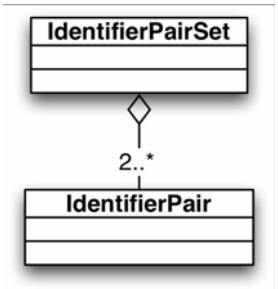

Figure 6.3 IdentifierPairSet class diagram.

6.2.2 Attributes

None.

6.2.3 Associations

The set of associations for the IdentifierPairSet class are summarized in Table 6.2.

Table 6.2 Summary of associations for the IdentifierPairSet class.

Association Class Name	Multiplicity	Description
IdentifierPair	2..*	The set of IdentifierPairs. The significance of the order of the IdentifierPairs is not defined as part of the class.

6.2.4 OCL Definitions

None.

6.2.5 XSD Binding

The XML binding for the Identifier class is shown in Figure 6.4. This binding is based upon the creation of the complex-type ‘identifierPairSetDType’. The XSD listing is given in Appendix A.

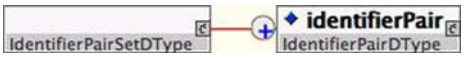

Figure 6.4 IdentifierPairSet class XSD binding.

7. IMSextension Class Data Model

7.1 Description

The IMSextension class diagram is shown in Figure 7.1. The IMSextension class is used to enable proprietary extensions to be added to the data models defined within the IMS service specifications.

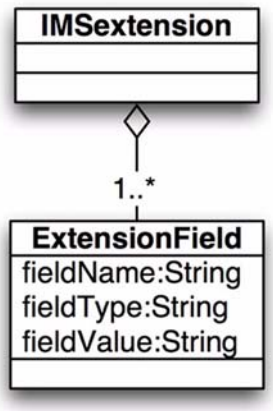

Figure 7.1 IMSextension class diagram.

7.2 Attributes

None.

7.3 Associations

The set of associations for the IMSextension class are summarized in Table 7.1.

Table 7.1 Summary of associations for the IMSextension class.

Association Class Name	Multiplicity	Description
ExtensionField	1..*	The set of extension fields which are available to support the extensions to be defined.

7.4 OCL Definitions

None.

7.5 ExtensionField Class Data Model

7.5.1 Description

The ExtensionField class is a set name/type/value three-tuple that enables a single extension field to have a value assigned to the named field. This means that the set of extension fields must take the form of a flat list, i.e., no hierarchical extension forms are permitted.

7.5.2 Attributes

The set of attributes for the ExtensionField class are summarized in Table 7.2.

Table 7.2 Summary of attributes for the ExtensionField class.

Attribute Name	Type	Multiplicity	Description
fieldName	String	1	The name of the extension field that is being defined.
fieldType	String	1	The data-type of the extension field being defined.
fieldValue	String	1	The data value of the previously named extension field that is being defined.

7.5.3 Associations

None.

7.5.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context ExtensionField

inv: fieldName.size <= 2048
inv: fieldType.size <= 2048
inv: fieldValue.size <= 2048

7.6 XSD Binding

The XML binding for the Identifier class is shown in Figure 7.2. This binding is based upon the creation of the complex-type ‘IMSextensionDType’. The XSD listing is given in Appendix A.

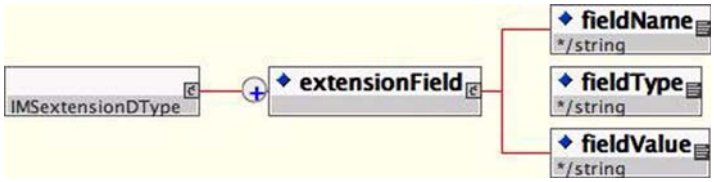

Figure 7.2 IMSextension class XSD binding.

8. LangString and SeqLangString Class Data Models

8.1 LangString Class Data Model

8.1.1 Description

The LangString class diagram is shown in Figure 8.1. This enforces the language of the text string to be supplied along with the text string itself.

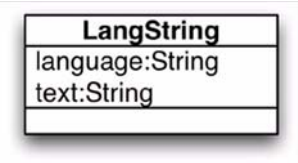

Figure 8.1 LangString class diagram.

8.1.2 Attributes

The set of attributes for the LangString class are summarized in Table 8.1.

Table 8.1 Summary of attributes for the LangString class.

Attribute Name	Type	Multiplicity	Description
language	String	1	The language of the text. This is an enumerated list from ISO 603.
text	String	1	The text entry itself.

8.1.3 Associations

None.

8.1.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context LangString

-- The LangString language set is as per ISO 603.

inv: Set{}.includes(language)

inv: text.size <= 2048

8.1.5 XSD Binding

The XML binding for the Identifier class is shown in Figure 8.2. This binding is based upon the creation of the complex-type ‘LangStringDType’. The XSD listing is given in Appendix A.

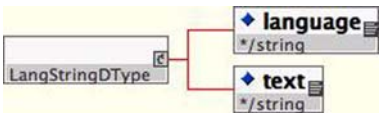

Figure 8.2 LangString class XSD binding.

8.2 SeqLangString Class Data Model

8.2.1 Description

The SeqLangString class diagram is shown in Figure 8.3. This enforces the language of the text string to be supplied along with the text string itself.

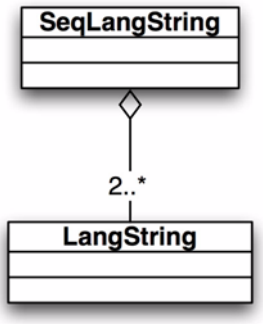

Figure 8.3 SeqLangString class diagram.

8.2.2 Attributes

None.

8.2.3 Associations

The set of associations for the SeqLangString class are summarized in Table 8.2.

Table 8.2 Summary of associations for the SeqLangString class.

Association Class Name	Multiplicity	Description
LangString	2..*	The set of LangStrings. The significance of the order of the LangStrings is not defined as part of the class.

8.2.4 OCL Definitions

None.

8.2.5 XSD Binding

The XML binding for the SeqLangString class is shown in Figure 8.4. This binding is based upon the creation of the complex-type ‘SeqLangStringDType’. The XSD listing is given in Appendix A.

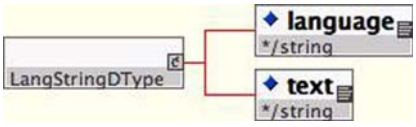

Figure 8.4 SeqLangString class XSD binding.

9. RecordMetadata Class Data Model

9.1 Description

The RecordMataData class diagram is shown in Figure 9.1. This class is the container for all object-specific descriptive meta-data that may be required to define the usage context of the object.

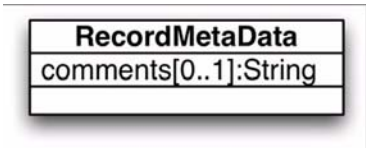

Figure 9.1 RecordMetaData class diagram.

9.2 Attributes

The set of attributes for the RecordMetaData class are summarized in Table 9.1.

Table 9.1 Summary of attributes for the RecordMetaData class.

Attribute Name	Type	Multiplicity	Description
comments	String	0..1	Human readable comments that are used to supply descriptive and contextual information about the object containing this class.

Further attributes will be added as required by other objects. All of the attributes are optional.

9.3 Associations

None.

9.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context RecordMetaData

inv: comments.size <= 2048

9.5 XSD Binding

The XML binding for the Identifier class is shown in Figure 9.2. This binding is based upon the creation of the complex-type ‘RecordMetaDataDType’. The XSD listing is given in Appendix A.

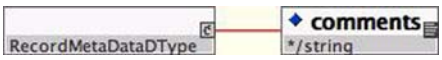

Figure 9.2 Identifier class XSD binding.

10. Status and StatusInfoSet Class Data Model

10.1 Status Class Data Model

10.1.1 Description

The StatusInfo class diagram is shown in Figure 10.1. This class is used to return the status information reporting on the outcome of the associated request.

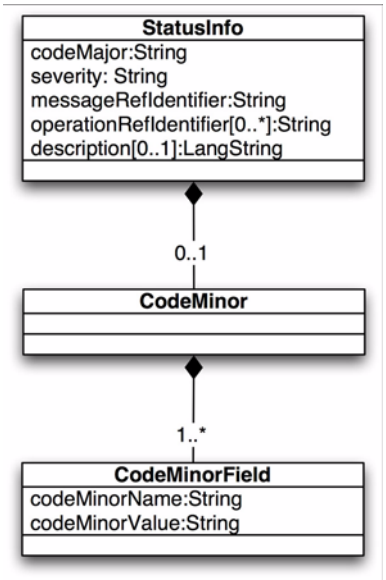

Figure 10.1 StatusInfo class diagram.

10.1.2 Attributes

The set of attributes for the StatusInfo class are summarized in Table 10.1.

Table 10.1 Summary of attributes for the StatusInfo class.

Attribute Name	Type	Multiplicity	Description
codeMajor	String	1	The major code assigned to the status block. This is a fixed enumerated list. This is used in conjunction with the 'severity'.
severity	String	1	The severity of the status report. This is a fixed enumerated list. This is used in conjunction with the 'codeMajor'.
codeMinor	String	0..1	This is a detailed report code that is used to identify specific causes of failure.
messageRefIdentifier	String	1	The message identifier of the request message invoking this response.
operationRefIdentifier	String	0..*	The identifier of the specific operation(s) whose status are being reported in this status block.
description	LangString	0..1	A human readable message or report.

10.1.3 Associations

None.

10.1.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context StatusInfo

inv: Set{'Success', 'Processing', 'Failure', 'Unsupported'}.includes(codeMajor)
inv: Set{'Status', 'Warning', 'Error'}.includes(severity)
inv: codeMinorName.size <= 32
inv: codeMinorValue.size <= 32
inv: messageRefIdentifier.size <= 32
inv: operationRefIdentifier.size <= 32

10.1.5 CodeMajor/Severity Interpretation Matrix

The interpretation of the 'codeMajor/severity' matrix is shown in Table 10.2.

Table 10.2 Interpretation of the 'codeMajor/severity' matrix.

Severity	CodeMajor			
	Success	**Processing**	**Failure**	**Unsupported**
Status	All of the request has been completed successfully.	The request is being processed by the target, i.e., the request has been received and acknowledged by the target.	Not permitted.	Target does not support the requested operation.
Warning	Some of the request has been completed successfully, e.g., partial storage of the data structure sent.	The request is being processed (this does not imply reception by the target communications handler) but it has not yet been acknowledged as received by the target.	Not permitted.	Not permitted.
Error	Not permitted.	An error has been detected in the immediate transmission communications handler, i.e., the message has not left the end-system.	The request has failed but it was issued from the local communications handler. Detailed failure reports could be included.	Not permitted.

10.1.6 CodeMinor Values

The information to be entered in the 'codeMinorName' should reflect the service responsible for generating the state code. In the case of the Enterprise Services these will be:

- 'personmanagement' – for the Person Management Service;
- 'groupmanagement' – for the Group Management Service;

- ‘membershipmanagement’ – for the Membership Management Service;

The set of predefined ‘codeMinor’ codes available for entry in the ‘codeMinorField’ are listed in Table 10.3.

Table 10.3 Set of predefined ‘codeMinor’ codes.

Logical Name	Explanation for Generation
Successful Service Completion Codes	
‘fullsuccess’	The request has been fully and successfully implemented by the target system.
‘statealreadysuccess’	The request has been successfully implemented because the target object was already in the required state.
‘unsupported’	The service requested is not supported by the target system.
...	
Transactions Service Source Failure Condition Codes	
‘incompletesourcedata’	The source cannot send the message as the minimum set of data for the record is not present.
‘invalidsourcedata’	The source cannot send the message as some of the data is invalid, e.g., wrong type.
...	
Transactions Service Target Failure Condition Codes	
‘overflowfail’	The target could not create the object record due to lack of target allocation memory.
‘idallocfail’	The target could not allocate a unique ‘identifier’ to the object as there are no more spare identifiers available.
‘incompletetargetdatafail’	The target has detected that the minimum set of data received for the record is not present.
‘invalidtargetdatafail’	The target has detected that some of the data received is invalid e.g. wrong type.
‘duplicateidallocfail’	The target could not allocate a presented ‘sourcedid’ because it is has already been allocated to an object.
‘unknownidfail’	The target could not find an object that had the supplied ‘sourcedid’
‘invalididfail’	The record that was been identified using the supplied ‘sourcedid was not of the right object type.
‘corruptionfail’	The target found a stored record that was corrupted and as such could not be returned;
‘partialdatastorage’ ...	The target has stored only a subset of the data structure received e.g. only the mandatory elements have been stored.
Common Service Source Failure Condition Codes	
TBD	
Common Service Target Failure Condition Codes	
TBD	
Infrastructure Source Failure Condition Codes	
‘targetcommsfail’	The target system has not responded to the request. There is a communications link failure.
‘sourcecommsfail’	The source system cannot send the request. There is a communications link failure.
...	
Infrastructure Target Failure Condition Codes	

Logical Name	Explanation for Generation
TBD	

10.1.7 XSD Binding

The XML binding for the Identifier class is shown in Figure 10.2. This binding is based upon the creation of the complex-type 'statusInfoDType'. The XSD listing is given in Appendix B.

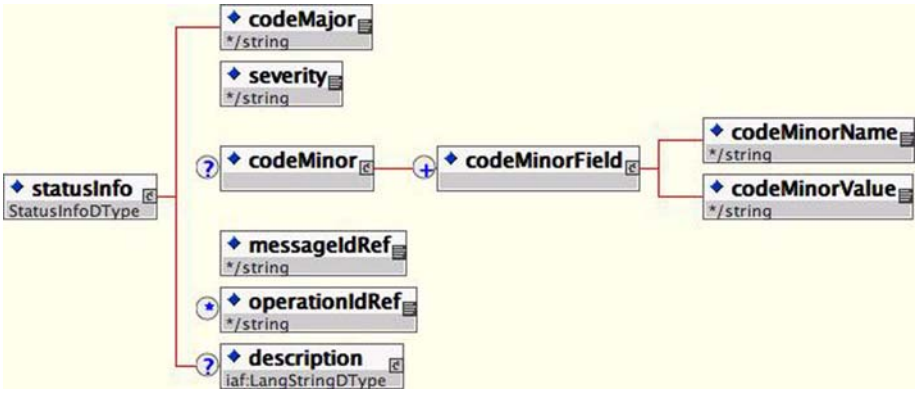

Figure 10.2 Identifier class XSD binding.

10.2 StatusInfoSet Class Data Model

10.2.1 Description

The StatusInfoSet class diagram is shown in Figure 10.3. This is a collection of StatusInfo classes and the order of these reflects the sequence in which the individual operations were requested.

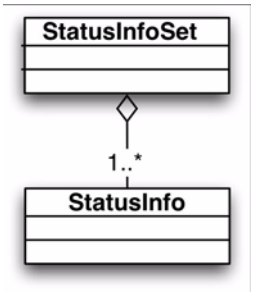

Figure 10.3 StatusInfoSet class diagram.

10.2.2 Attributes

None.

10.2.3 Associations

The set of associations for the StatusInfoSet class are summarized in Table 10.4.

Table 8.4 Summary of associations for the StatusInfoSet class.

Association Class Name	Multiplicity	Description
StatusInfo	1..*	The status information class returned for each and every operation. Each StatusInfo instance references the status of each operation.

10.2.4 OCL Definitions

None.

10.2.5 XSD Binding

The XML binding for the Identifier class is shown in Figure 10.4. This binding is based upon the creation of the complex-type ‘StatusInfoSetDType’. The XSD listing is given in Appendix B.

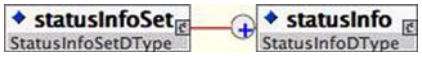

Figure 10.4 StatusInfoSet class XSD binding.

11. TimeFrame Class Data Model

11.1 Description

The TimeFrame class diagram is shown in Figure 11.1. The TimeFrame class defines the period for which a particular activity is permitted.

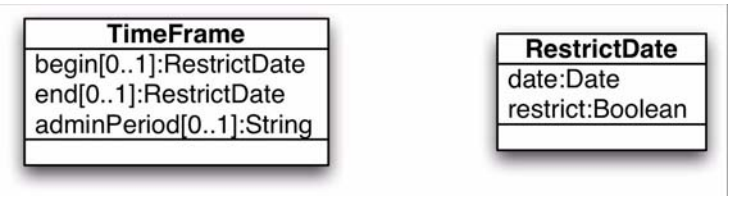

Figure 11.1 TimeFrame class diagram.

11.2 Attributes

The set of attributes for the TimeFrame class are summarized in Table 11.1.

Table 11.1 Summary of attributes for the TimeFrame class.

Attribute Name	Type	Multiplicity	Description
begin	RestrictDate	0..1	The start date of the activity.
begin	RestrictDate	0..1	The end date of the activity.
adminPeriod	String	0..1	A short descriptive name of the period being defined. This should be human readable.

11.3 Associations

None.

11.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context TimeFrame

```
-- Timeframe, where present, cannot be empty.
inv: adminPeriod.size <= 32
```

11.5 RestrictDate Class Data Model

11.5.1 Description

The RestrictDate class allows a restriction on an activity to be defined from a particular date.

11.5.2 Attributes

The set of attributes for the RestrictDate class are summarized in Table 11.2.

Table 11.2 Summary of attributes for the RestrictDate class.

Attribute Name	Type	Multiplicity	Description
date	Date	1	The date at which the restriction is activated. The date is defined as per the ISO 8601 format of: YYYY-MM-DD.
restrict	Boolean	1	If the restriction is active. Enumerated as '0=No' or '1=Yes'.

11.5.3 Associations

None.

11.5.4 OCL Definitions

None.

11.6 XSD Binding

The XML binding for the Identifier class is shown in Figure 11.2. This binding is based upon the creation of the complex-type 'TimeFrameDType'. The XSD listing is given in Appendix A.

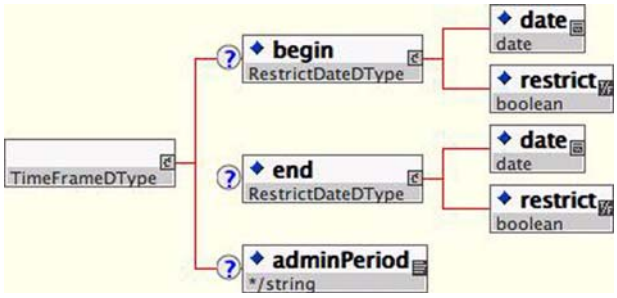

Figure 11.2 TimeFrame class XSD binding.

12. URL Class Data Model

12.1 Description

The URL class diagram is shown in Figure 12.1. The URL class is the container for a Universal Resource Locator There is no internal sub-structure defined for the URL.

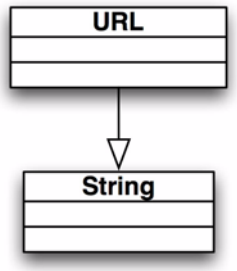

Figure 12.1 URL class diagram.

12.2 Attributes

None.

12.3 Associations

The set of associations for the Identifier class are summarized in Table 12.1.

Table 12.1 Summary of associations for the UserId class.

Association Class Name	Multiplicity	Description
String	1	A URL is a type of String.

12.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context Identifier

inv: URL.size <= 4096

12.5 XSD Binding

The XML binding for the URL class is shown in Figure 12.2. This binding is based upon the simple-type ‘string’. The XSD listing is given in Appendix A.

Figure 12.2 UserId class XSD binding.

13. UserId Class Data Model

13.1 Description

The UserId class diagram is shown in Figure 13.1. This class is used to contain the information that defines the access control for a user to the learning environment.

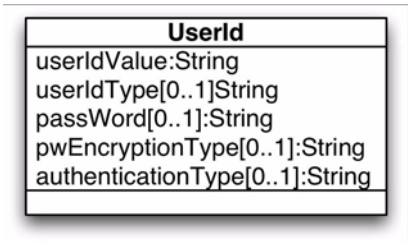

Figure 13.1 UserId class diagram.

13.2 Attributes

The set of attributes for the UserId class are summarized in Table 13.1.

Table 13.1 Summary of attributes for the UserId class.

Attribute Name	Type	Multiplicity	Description
userIdValue	String	1	The actual user identifier for access to the learning environment.
userIdType	String	0..1	The type of user identification. An example could be ‘National Identifier’, etc.
passWord	String	0..1	The password that is assigned to the user for accessing a system.
pwEncryption	String	0..1	The type of encryption that has been applied to the system access. Examples include ‘PKC’, ‘MD5’, etc.
authentication	String	0..1	The type of authentication that is to be applied to the system access. Examples include ‘Kerberos’, etc.

13.3 Associations

None.

13.4 OCL Definitions

The associated object constraint language description for this class is:

package Common

context UserId

inv: userIdValue.size <= 256
inv: userIdType.size <= 32
inv: passWord.size <= 1024

inv: pwEncryption.size <= 32
inv: authentication.size <=32

13.5 XSD Binding

The XML binding for the Identifier class is shown in Figure 13.2. This binding is based upon the creation of the complex-type ‘UserIdDType’. The XSD listing is given in Appendix A.

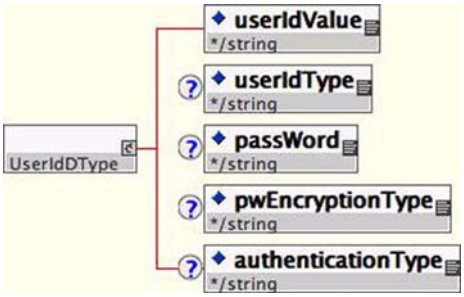

Figure 13.2 UserId class XSD binding.

14. Message Header Structures

The following structures are the message headers that are to be used in the 'Request' and 'Response' messages exchanged to implement the behaviors.

14.1 Synchronous Request Message Header

The synchronous request message header structure is shown in Figure 14.1. The corresponding XSD definition is given in Appendix B.

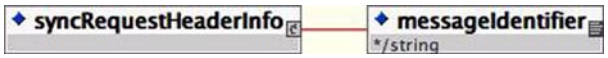

Figure 14.1 SyncRequestHeaderInfo message header XSD binding.

14.1.1 <messageIdentifier> Element

This is the container for the unique message identifier. This is to be assigned by the system constructing the message header. It is the responsibility of the transmitting system to ensure that the message identifier is unique.

14.2 Synchronous Response Message Header

The synchronous response message header structure is shown in Figure 14.2. The corresponding XSD definition is given in Appendix B.

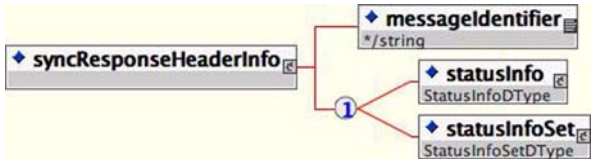

Figure 14.2 SyncResponseHeaderInfo message header XSD binding.

14.2.1 <messageIdentifier> Element

This is the container for the unique message identifier. This is to be assigned by the system constructing the message header. It is the responsibility of the transmitting system to ensure that the message identifier is unique.

14.2.2 <statusInfo> Element

The status information returned as a response to single transaction request; see sub-section 10.1.

14.2.3 <statusInfoSet> Element

The status information returned as a response to multiple transaction request; see sub-section 10.2.

14.3 Asynchronous Request Message Header

The synchronous request message header structure is shown in Figure 14.3. The corresponding XSD definition is given in Appendix B.

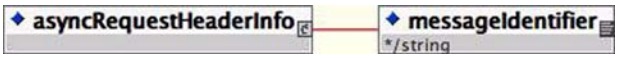

Figure 14.3 AsyncRequestHeaderInfo message header XSD binding.

14.3.1 <messageIdentifier> Element

This is the container for the unique message identifier. This is to be assigned by the system constructing the message header. It is the responsibility of the transmitting system to ensure that the message identifier is unique.

14.4 Asynchronous Request Acknowledgement Message Header

The asynchronous request acknowledgement message header structure is shown in Figure 14.4. The corresponding XSD definition is given in Appendix B.

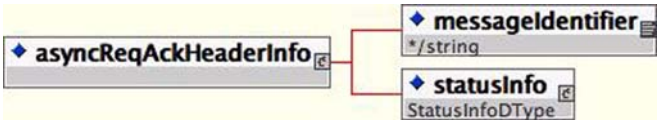

Figure 14.4 AsyncReqAckHeaderInfo message header XSD binding.

14.4.1 <messageIdentifier> Element

This is the container for the unique message identifier. This is to be assigned by the system constructing the message header. It is the responsibility of the transmitting system to ensure that the message identifier is unique.

14.4.2 <statusInfo> Element

The status information returned to indicate the initial status of the asynchronous request; see sub-section 10.1.

14.5 Asynchronous Response Message Header

The synchronous request message header structure is shown in Figure 14.5. The corresponding XSD definition is given in Appendix B.

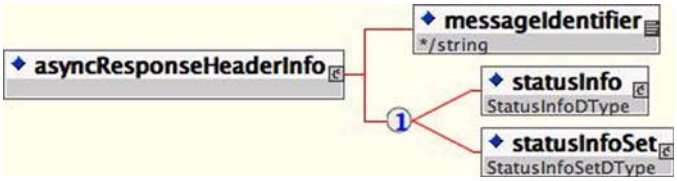

Figure 14.5 AsyncResponseHeaderInfo message header XSD binding.

14.5.1 <messageIdentifier> Element

This is the container for the unique message identifier. This is to be assigned by the system constructing the message header. It is the responsibility of the transmitting system to ensure that the message identifier is unique.

14.5.2 <statusInfo> Element

The status information returned as the final response to original transaction request; see sub-section 10.1.

14.5.3 <statusInfoSet> Element

The status information returned as the final response to the original multiple transaction request; see sub-section 10.2.

14.6 Asynchronous Response Acknowledgement Message Header

The asynchronous response acknowledgement message header structure is shown in Figure 14.6. The corresponding XSD definition is given in Appendix B.

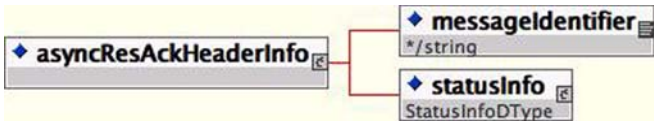

Figure 14.6 AsyncResAckHeaderInfo message header XSD binding.

14.6.1 <messageIdentifier> Element

This is the container for the unique message identifier. This is to be assigned by the system constructing the message header. It is the responsibility of the transmitting system to ensure that the message identifier is unique.

14.6.2 <statusInfo> Element

The status information returned to indicate the final status of the asynchronous request; see sub-section 10.1.

Appendix A – XSD Binding Files for Common Objects

The set of XML binding files for the common objects are listed in Table A.1. The file names are hot links to the files themselves.

Table A.1 XSD binding files for common objects.

Description	File Name
XML binding of the common data objects	/services/common/imsCommonSchema_v1p0.xsd
XML binding of the message headers	/services/common/imsMessBindSchema_v1p0.xsd

About This Document

Title	IMS Enterprise Services Common Data Definitions Specification
Editor	Colin Smythe (IMS)
Team Co-Lead	Chris Vento (WebCT Inc.)
Version	1.0
Version Date	11 June 2004
Status	**Final Specification**
Summary	This document presents the IMS Enterprise Services Common Data Definitions Information Model and XML Binding. The classes described within this document are available as foundation classes to all of the service specifications. This document also includes the XML Binding of the operation message headers for the synchronous and asynchronous protocols.
Revision Information	11 June 2004
Purpose	This document has been approved by the IMS Technical Board and is made available for adoption.
Document Location	http://www.imsglobal.org/es/esv1p0/imscommon_infov1p0.html

To register any comments or questions about this specification please visit:
http://www.imsglobal.org/developers/ims/imsforum/categories.cfm?catid=20

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Revision History

Version No.	Release Date	Comments
Public Draft 1.0	12 January 2004	The final approved Public Draft Document for the IMS Common Data Model Definition. In this document the Common Data Models are described in their own stand-alone information model.
Final Specification 1.0	11 June 2004	This is the formal Final Specification of the IMS Enterprise Services Common Data Definitions specification.

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Date: 11 June 2004