



OASIS ebXML RegRep Version 4.0

Part 0: Overview Document

Committee Specification Draft 02

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Related work:

This specification replaces or supersedes the [OASIS ebXML RegRep 3.0 specifications](#).

This specification consists of the following documents, schemas, and ontologies:

- [Part 0: Overview Document](#) (this document) - provides a global overview and description of the all the other parts
- [Part 1: Registry Information Model \(ebRIM\)](#) - specifies the types of metadata and content that can be stored in an ebXML RegRep

- [Part 2: Services and Protocols \(ebRS\)](#) - specifies the services and protocols for ebXML RegRep
- [Part 3: XML Schema](#) - specifies the XML Schema for ebXML RegRep
- [Part 4: WSDL](#) - specifies the WSDL interface descriptions for ebXML RegRep
- [Part 5: XML Definitions](#) - specifies the canonical XML data for ebXML RegRep as well as example XML documents used in the specification

Declared XML namespaces:

urn:oasis:names:tc:ebxml-regrep:xsd:lcm:4.0
 urn:oasis:names:tc:ebxml-regrep:xsd:query:4.0
 urn:oasis:names:tc:ebxml-regrep:xsd:rim:4.0
 urn:oasis:names:tc:ebxml-regrep:xsd:rs:4.0
 urn:oasis:names:tc:ebxml-regrep:xsd:spi:4.0
 urn:oasis:names:tc:ebxml-regrep:wSDL:NotificationListener:bindings:4.0
 urn:oasis:names:tc:ebxml-regrep:wSDL:NotificationListener:interfaces:4.0
 urn:oasis:names:tc:ebxml-regrep:wSDL:NotificationListener:services:4.0
 urn:oasis:names:tc:ebxml-regrep:wSDL:registry:bindings:4.0
 urn:oasis:names:tc:ebxml-regrep:wSDL:registry:interfaces:4.0
 urn:oasis:names:tc:ebxml-regrep:wSDL:registry:services:4.0
 urn:oasis:names:tc:ebxml-regrep:wSDL:spi:bindings:4.0
 urn:oasis:names:tc:ebxml-regrep:wSDL:spi:interfaces:4.0

Abstract:

This document is the overview document for the OASIS ebXML RegRep 4.0 specification. This specification consists of multiple parts as described in the "Related work" section earlier. This specification may be used to implement registry and repository servers and clients using standard interfaces, protocols and information model for publishing, management, discovery and retrieval of arbitrary content and metadata that describes it.

Status:

This document was last revised or approved by the [OASIS ebXML Registry TC](#) on the above date. The level of approval is also listed above. Check the "Latest Version" location noted above for possible later revisions of this document.

Technical Committee members should send comments on this specification to the Technical Committee's email list. Others should send comments to the Technical Committee by using the "Send A Comment" button on the Technical Committee's web page at <http://www.oasis-open.org/committees/regrep/>.

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1 Introduction

ebXML RegRep is a standard defining the service interfaces, protocols and information model for an integrated registry and repository. The repository stores digital content while the registry stores metadata that describes the content in the repository.

At some later time a more detailed overview of this specification may be provided in the ebXML RegRep 4.0 Primer.

1.1 Terminology

The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this specification are to be interpreted as described in IETF [RFC 2119].

1.2 Normative References

- [RFC 2119]** S. Bradner. *Key words for use in RFCs to Indicate Requirement Levels*. IETF RFC 2119, March 1997. <http://www.ietf.org/rfc/rfc2119.txt>.
- [RFC 1766]** IETF (Internet Engineering Task Force). RFC 1766: Tags for the Identification of Languages, ed. H. Alvestrand. 1995. <http://www.ietf.org/rfc/rfc1766.txt>
- [RFC 2130]** IETF (Internet Engineering Task Force). RFC 2130 The Report of the IAB Character Set Workshop held 29 February - 1 March, 1996 <http://www.faqs.org/rfcs/rfc2130.html>
- [RFC 2277]** IETF (Internet Engineering Task Force). RFC 2277: IETF policy on character sets and languages, ed. H. Alvestrand. 1998. <http://www.ietf.org/rfc/rfc2277.txt>
- [RFC 2278]** IETF (Internet Engineering Task Force). RFC 2278: IANA Charset Registration Procedures, ed. N. Freed and J. Postel. 1998. <http://www.ietf.org/rfc/rfc2278.txt>
- [RFC2616]** IETF (Internet Engineering Task Force). RFC 2616: Fielding et al. *Hypertext Transfer Protocol -- HTTP/1.1*. 1999. <http://www.ietf.org/rfc/rfc2616.txt>
- [RFC2965]** IETF (Internet Engineering Task Force). RFC 2965: D. Kristol et al. *HTTP State Management Mechanism*. 2000. <http://www.ietf.org/rfc/rfc2965.txt>
- [SOAP-MF]** SOAP Version 1.2 Part1 – Messaging Framework, April 2007 <http://www.w3.org/TR/2007/REC-soap12-part1-20070427/>
- [SOAP-ADJ]** SOAP Version 1.2 Part2 – Adjuncts, April 2007 <http://www.w3.org/TR/2007/REC-soap12-part2-20070427/>
- [WSA-CORE]** Web Services Addressing – Core 1.0 <http://www.w3.org/TR/2006/REC-ws-addr-core-20060509/>
- [WSA-SOAP]** Web Services Addressing – SOAP Binding 1.0 <http://www.w3.org/TR/2006/REC-ws-addr-soap-20060509/>
- [WSA-WSDL]** Web Services Addressing 1.0 - WSDL Binding, February 2006. <http://www.w3.org/TR/ws-addr-wsdl>
- [WSDL2]** Web Services Description Language (WSDL) Version 2.0 Part 1: Core Language <http://www.w3.org/TR/wsdl20>

44	[WSS-CORE]	WS-Security Core Specification 1.1, February 2006. http://www.oasis-open.org/committees/download.php/16790/wss-v1.1-spec-os-SOAPMessageSecurity.pdf
45		
46		
47	[WSS-UNT]	WS-Security Username Token Profile 1.1, February 2006. http://www.oasis-open.org/committees/download.php/16782/wss-v1.1-spec-os-UsernameTokenProfile.pdf
48		
49		
50	[WSS-X509]	WS-Security X.509 Token Profile 1.1, February 2006. http://www.oasis-open.org/committees/download.php/16785/wss-v1.1-spec-os-x509TokenProfile.pdf
51		
52		
53	[WSS-SAML]	WS-Security SAML Token profile 1.1, February 2006. http://www.oasis-open.org/committees/download.php/16768/wss-v1.1-spec-os-SAMLTOKENProfile.pdf
54		
55		
56	[WSS-KRB]	WS-Security Kerberos Token Profile 1.1, February 2006. http://www.oasis-open.org/committees/download.php/16788/wss-v1.1-spec-os-KerberosTokenProfile.pdf
57		
58		
59	[XML]	T. Bray, et al. Extensible Markup Language (XML) 1.0 (Second Edition). World Wide Web Consortium, October 2000. http://www.w3.org/TR/REC-xml
60		
61		
62	[XMLDSIG]	XML-Signature Syntax and Processing http://www.w3.org/TR/2001/PR-xmlsig-core-20010820/
63		
64		

65 1.3 Non-normative References

66	[BPMN2]	BPMN 2.0 Specification http://www.omg.org/spec/BPMN/2.0/Beta2/
67		
68	[IANA]	IANA (Internet Assigned Numbers Authority). Official Names for Character Sets, ed. Keld Simonsen et al. http://www.iana.org/
69		
70		
71	[WSDL]	W3C Note. Web Services Description Language (WSDL) 1.1 http://www.w3.org/TR/wsdl
72		
73	[UML]	Unified Modeling Language http://www.uml.org http://www.omg.org/cgi-bin/doc?formal/03-03-01
74		
75		
76	[UUID]	DCE 128 bit Universal Unique Identifier http://pubs.opengroup.org/onlinepubs/009629399/apdx.htm
77		
78	[XPath2]	XML Path Language (XPath) 2.0, W3C Recommendation 23 January 2007 http://www.w3.org/TR/xpath20
79		
80	[XPathFunc]	XQuery 1.0 and XPath 2.0 Functions and Operators, W3C Recommendation 23 January 2007 http://www.w3.org/TR/xpath-functions
81		
82		

83 1.4 The Library Analogy (Informative)

84 To explain what is an ebXML RegRep we use the following familiar analogy. The ebXML Registry-
85 Repository is to digital content, what your local library is to books and other published content. We make
86 this analogy clearer with the comparisons made in the following table:

87

Your Local Library	ebXML RegRep
Manages books and all types of published material	Manages all types of digital content
Has book shelves containing books and other published material	Has a "repository" containing all types of digital content
Has a card catalog that describes the published material that is available in the book shelves	Has a "registry" that describes the digital content that is available in the repository
Multiple libraries can voluntarily participate in a cooperative network and offer a unified service	Multiple ebXML Registry-Repository's can voluntarily participate in a cooperative network and offer a unified service

Table 1: ebXML RegRep comparison with your local library

1.5 RepositoryItems and RegistryObjects

An ebXML Registry is capable of storing any type of electronic content such as XML documents, text documents, images, sound and video. Instances of such content are referred to as a RepositoryItems. RepositoryItems are stored in a content *repository* provided by the ebXML Registry.

In addition to the RepositoryItems, an ebXML Registry is also capable of storing standardized metadata that **MUST** be used to further describe RepositoryItems. Instances of such metadata are referred to as a RegistryObjects (or one of its sub-types, as described later in this document). RegistryObjects are stored in the *registry* provided by the ebXML Registry.

To illustrate these concepts we use the library analogy as follows:

- An ebXML Registry is like your local library.
- The repository is like the bookshelves in the library.
- The repository items in the repository are like book on the bookshelves. The repository items can contain any type of electronic content just like the books in the bookshelves can contain any type of information.
- The registry is like the card catalog. It is organized for finding things quickly.
- A RegistryObject is like a card in the card catalog. All RegistryObjects conform to a standard just like the cards in the card catalog conform to a standard.
- Every repository item **MUST** have a RegistryObject that describes it, just like every book must have a card in the card catalog.

To summarize, ebXML Registry stores any type of content as RepositoryItems in a repository and stores standardized metadata describing the content as RegistryObjects in a registry.

1.6 Namespaces

1.6.1 Namespaces Defined

The following namespaces are defined by this specification.

Prefix	Namespace URI	Defining Specification / Description
lcm	urn:oasis:names:tc:ebxml-regrep:xsd:lcm:4.0	ebXML RegRep Part 3: XML Schema file xsd/lcm.xsd Schema used by the LifecycleManager interface.
query	urn:oasis:names:tc:ebxml-regrep:xsd:query:4.0	ebXML RegRep Part 3: XML Schema file xsd/query.xsd Schema used by the QueryManager interface.
rim	urn:oasis:names:tc:ebxml-regrep:xsd:rim:4.0	ebXML RegRep Part 3: XML Schema file xsd/rim.xsd Schema used for information model objects specified by [regrep-rim-v4.0].
rs	urn:oasis:names:tc:ebxml-regrep:xsd:rs:4.0	ebXML RegRep Part 3: XML Schema file xsd/rs.xsd Common schema used by registry protocols defined by [regrep-rs-v4.0].
spi	urn:oasis:names:tc:ebxml-regrep:xsd:spi:4.0	ebXML RegRep Part 3: XML Schema file xsd/spi.xsd Schema used by the service provider interfaces defined by [regrep-rs-v4.0].
nl-bind	urn:oasis:names:tc:ebxml-regrep:wsdl:NotificationListener:bindings:4.0	ebXML RegRep Part 4: WSDL file wsdl/1.1/NotificationListenerBindings.wsdl WSDL binding definitions for NotificationListeners defined by [regrep-rs-v4.0].
nl-int	urn:oasis:names:tc:ebxml-regrep:wsdl:NotificationListener:interfaces:4.0	ebXML RegRep Part 4: WSDL file wsdl/1.1/NotificationListenerInterfaces.wsdl WSDL interface definitions for NotificationListeners defined by [regrep-rs-v4.0].
nl-serv	urn:oasis:names:tc:ebxml-regrep:wsdl:NotificationListener:services:4.0	ebXML RegRep Part 4: WSDL file wsdl/1.1/NotificationListenerServices.wsdl WSDL service definitions for NotificationListeners defined by [regrep-rs-v4.0].
rr-bind	urn:oasis:names:tc:ebxml-regrep:wsdl:registry:bindings:4.0	ebXML RegRep Part 4: WSDL file wsdl/1.1/regrep-server-binding.wsdl WSDL binding definitions for interfaces defined by [regrep-rs-v4.0].
rr-int	urn:oasis:names:tc:ebxml-regrep:wsdl:registry:interfaces:4.0	ebXML RegRep Part 4: WSDL file wsdl/1.1/regrep-server-interface.wsdl WSDL interface definitions for interfaces defined by [regrep-rs-v4.0].
rr-serv	urn:oasis:names:tc:ebxml-regrep:wsdl:registry:services:4.0	ebXML RegRep Part 4: WSDL file wsdl/1.1/regrep-server-service.wsdl WSDL service definitions for services defined by [regrep-rs-v4.0].
spi-bind	urn:oasis:names:tc:ebxml-regrep:wsdl:spi:bindings:4.0	ebXML RegRep Part 4: WSDL file wsdl/1.1/regrep-server-binding.wsdl

Prefix	Namespace URI	Defining Specification / Description
		WSDL binding definitions for service provider interfaces for server plugins defined by [regrep-rs-v4.0].
spi-int	urn:oasis:names:tc:ebxml-regrep:wsdl:spi:interfaces:4.0	ebXML RegRep Part 4: WSDL file wsdl/1.1/regrep-server-interface.wsdl WSDL interface definitions for service provider interfaces for server plugin defined by [regrep-rs-v4.0].

Table 2: Namespaces Defined

1.6.2 Namespaces Referenced

The following is a list of namespaces referenced by this specification. This list is not exhaustive and may be incomplete.

Namespace Prefix	Namespace URI	Defining Specification
enc	http://www.w3.org/2003/05/soap-encoding	A normative XML Schema [XML Schema Part 1], [XML Schema Part 2] document for the "http://www.w3.org/2003/05/soap-encoding" namespace can be found at http://www.w3.org/2003/05/soap-encoding .
env	http://www.w3.org/2003/05/soap-envelope	SOAP Version 1.2 Part 1. A normative XML Schema [XML Schema Part 1], [XML Schema Part 2] document for the "http://www.w3.org/2003/05/soap-envelope" namespace can be found at http://www.w3.org/2003/05/soap-envelope .
mime	http://schemas.xmlsoap.org/wsdl/mime/	WSDL namespace for WSDL MIME binding.
wsdl	http://schemas.xmlsoap.org/wsdl/	WSDL 1.1 namespace defined by WSDL 1.1 specification.
xacml	urn:oasis:names:tc:xacml:2.0:policy:schema:os	XACML 2.0 Core: eXtensible Access Control Markup Language (XACML) Version 2.0
xacmlc	urn:oasis:names:tc:xacml:2.0:context:schema:os	XACML 2.0 Core: eXtensible Access Control Markup Language (XACML) Version 2.0
xlink	http://www.w3.org/1999/xlink	XML Linking Language (XLink) Version 1.1
xs	http://www.w3.org/2001/XMLSchema	XML Schema [XML Schema Part 1], [XML Schema Part 2] specification
xsi	"http://www.w3.org/2001/XMLSchema-instance"	W3C XML Schema specification [XML Schema Part 1], [XML Schema Part 2].

Table 3: Namespaces Referenced

1.7 Core Specification Documents

ebXML RegRep consists of two core specification documents:

- [Part 1: Registry Information Model \(ebRIM\)](#) specification defines the types of metadata that can be stored in an ebXML RegRep server.
- [Part2: Services and Protocols \(ebRS\)](#) defines the services provided by an ebXML RegRep server and the protocols used by clients of the registry to interact with these services.

1.8 XML Schema

Part 3: XML Schema defines several XSD files that define types and elements referenced in the core specification documents as well. These are described in [Namespaces Define](#) section.

1.8.1 Citation Format

[regrep-xsd-v4.0] OASIS ebXML RegRep Version 4.0 Part 3: XML Schema. 12 May 2011. OASIS Committee Specification Draft 02. <http://docs.oasis-open.org/regrep/regrep-core/v4.0/csd02/xsd>

1.9 WSDL

Part 4: WSDL defines several WSDL files that define the wsdl interfaces, bindings and services referenced in the core specification documents as well. These are described in [Namespaces Define](#) section.

1.9.1 Citation Format

[regrep-wsdl-v4.0] OASIS ebXML RegRep Version 4.0 Part 4: WSDL Definitions. 12 May 2011. OASIS Committee Specification Draft 02. <http://docs.oasis-open.org/regrep/regrep-core/v4.0/csd02/wsdl>

1.10 XML Descriptions

Part 4: XML Descriptions provide various XML files that are referenced within the core specification documents:

- xsd/minDB – Contains the canonical data that MUST be supported within every ebXML RegRep server
- xsd/demoDB – Contains the data that MAY be used to test the operation of an ebXML RegRep server.
- xsd/examples – Contains the data that has been used as illustrative examples within the core specification documents

1.10.1 Citation Format

[regrep-xml-v4.0] OASIS ebXML RegRep Version 4.0 Part 5: XML Definitions. 12 May 2011. OASIS Committee Specification Draft 02. <http://docs.oasis-open.org/regrep/regrep-core/v4.0/csd02/xml>

1.11 Release Notes

For a list of issues addressed by this version of the specification please see:

<http://jira.wx.ll.mit.edu/secure/ReleaseNote.jspa?projectId=10170&version=10372>

2 Conformance

This section defines the requirements for a server implementation claiming to conform to the ebXML RegRep core specifications which consist of [regrep-rim-v4.0] and [regrep-rs-v4.0].

This specification defines two different conformance profiles for a server implementation. Conformance profile RegistryLite requires the least functionality while conformance profile RegistryFull requires additional functionality.

The remainder of this chapter is organized in sections where each section represents a feature set within this specification. Each section has a conformance table where a row defines conformance requirement for a feature within the feature set. The first column of each row describes a feature while the second column titled "Profile" indicates the conformance profile that requires support for that feature. If a feature required for a RegistryLite profile then it is also required for RegistryFull profile.

2.1 QueryManager Interface

Features	Profile
Support for default QueryRequest format "application/x-ebxml+xml"	RegistryLite
Local query invocation	RegistryLite
Stored query publishing and invocation	RegistryLite
Query plugin configuration and invocation	RegistryLite
Iterative query invocation	RegistryFull
Federated query invocation	RegistryFull
Support for depth parameter	RegistryFull

2.1.1 Canonical Queries

Canonical Queries	Profile
AdhocQuery	RegistryLite
BasicQuery	RegistryLite
ClassificationSchemeSelector	RegistryFull
FindAssociations	RegistryLite
FindAssociatedObjects	RegistryLite
GarbageCollector	RegistryLite
GetAuditTrailById	RegistryLite
GetAuditTrailByLid	RegistryLite

Canonical Queries	Profile
GetAuditTrailByTimeInterval	RegistryLite
GetChildrenByParentId	RegistryLite
GetClassificationSchemesById	RegistryLite
GetRegistryPackagesByMemberId	RegistryLite
GetNotification	RegistryFull
GetObjectById	RegistryLite
GetObjectsByLid	RegistryLite
GetReferencedObject	RegistryLite
KeywordSearch	RegistryFull
RegistryPackageSelector	RegistryFull

2.1.2 Canonical Query Functions

Canonical Query Functions	Profile
currentTime	RegistryFull
currentUserId	RegistryFull
relativeTime	RegistryFull
getClassificationNode	RegistryFull

2.2 LifecycleManager Interface

Features	Profile
SubmitObjects protocol	RegistryLite
UpdateObjects protocol	RegistryFull
RemoveObjects protocol	RegistryLite

2.3 Version Control

Features	Profile
Version control of RegistryObjects	RegistryFull
Version control of Repository Items	RegistryFull

2.4 Validator Interface

Features	Profile
Canonical XML Validator Plugin	RegistryFull
Custom Validator Plugin configuration and invocation	RegistryFull

2.5 Cataloger Interface

Features	Profile
Canonical XML Cataloger Plugin	RegistryFull
Custom Cataloger Plugin configuration and invocation	RegistryFull

2.6 Subscription and Notification

Features	Profile
Creating, updating and deleting subscriptions	RegistryFull
Notification delivery to Web Service endpoint	RegistryFull
Notification delivery to email endpoint	RegistryFull
Notification delivery to NotificationListener plugin	RegistryFull
Formatting of Email Notification via XSLT	RegistryFull
Pulling Notifications on demand	RegistryFull

2.7 Multi-Server Features

Features	Profile
Remote Object References	RegistryFull
Local replication of remote objects	RegistryFull
Registry Federations and federated queries	RegistryFull

2.8 Governance Features

Features	Profile
Default Governance Process	RegistryLite
Custom Governance Processes	RegistryFull

2.9 Security Features

Features	Profile
Transport layer security	RegistryFull
SOAP message security	RegistryLite
Message confidentiality	RegistryFull
User registration and identity management	RegistryLite
Authentication	RegistryLite
Authorization using default access control policy	RegistryLite
Authorization using custom XACML access control policies	RegistryFull
Audit Trail	RegistryLite

2.10 Native Language Support

Features	Profile
All features described in Native Language Support (NLS) chapter	RegistryLite

2.11 REST Binding

Features	Profile
Canonical URL for RegistryObjects	RegistryLite
Canonical URL for RepositoryItems	RegistryLite
Query protocol REST binding: queryId and query parameters	RegistryLite
Query protocol REST binding: depth parameter	RegistryFull

Features	Profile
Query protocol REST binding: format parameter	RegistryFull
Query protocol REST binding: federated parameter	RegistryFull
Query protocol REST binding: federation parameter	RegistryFull
Query protocol REST binding: matchOlderVersions parameter	RegistryFull
Query protocol REST binding: startIndex parameter	RegistryFull
Query protocol REST binding: lang parameter	RegistryFull
Query protocol REST binding: maxResults parameter	RegistryFull

2.12 SOAP Binding

Features	Profile
QueryManager SOAP binding	RegistryLite
LifeCycleManager SOAP binding	RegistryLite

Appendix A. Acknowledgements

The following individuals have contributed significantly towards the creation of this specification and are gratefully acknowledged.

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Appendix B. Revision History

Revision	Date	Editor	Changes Made
CSD01	24 March 2011	Farrukh Najmi, Nikola Stojanovic	Initial version for 4.0. For a list of changes since 3.0 see http://wiki.oasis-open.org/regrep/documents/plan/regrep4/SummaryOfChanges
CSD02	8 May 2011	Farrukh Najmi, Nikola Stojanovic	Addressed minor fit-and-finish issues identified in CSD01.