



1 Web Services ReliableMessaging Policy Assertion (WS-RM Policy)

2 Web Services ReliableMessaging Policy 3 Assertion (WS-RM Policy) 1.1

4 Committee Draft 05

5 1 February 2007

6 Specification URIs:

7 This Version:

8 <http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-spec-cd-05.pdf>

9 <http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-spec-cd-05.html>

10 Previous Version:

11 <http://docs.oasis-open.org/ws-rx/wsrmp/200608/wsrmp-1.1-spec-cd-05.pdf>

12 <http://docs.oasis-open.org/ws-rx/wsrmp/200608/wsrmp-1.1-spec-cd-05.html>

13 Latest Version:

14 <http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-spec-cd-05.pdf>

15 <http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-spec-cd-05.html>

16 Latest Approved Version:

17 <http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-spec-cd-05.pdf>

18 <http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-spec-cd-05.html>

19 Technical Committee:

20 [OASIS Web Services Reliable Exchange \(WS-RX\) TC](#)

21 Chairs:

22 [Paul Fremantle <paul@wso2.com>](mailto:paul@wso2.com)

23 [Sanjay Patil <sanjay.patil@sap.com>](mailto:sanjay.patil@sap.com)

24 Committee Draft 04, August 11, 2006

25 Document identifier:

26 [wsrmp-1.1-spec-cd-04](#)

27 Location:

28 <http://docs.oasis-open.org/ws-rx/wsrmp/200608/wsrmp-1.1-spec-cd-04.pdf>

29 Editors:

30 [Doug Davis, IBM <dug@us.ibm.com>](mailto:dug@us.ibm.com)

31 [Anish Karmarkar, Oracle <Anish.Karmarkar@oracle.com>](mailto:Anish.Karmarkar@oracle.com)

32 [Gilbert Pilz, BEA <gpilz@bea.com>](mailto:gpilz@bea.com)

33 [Ümit Yalçınalp, SAP <umit.yalcinalp@sap.com>](mailto:umit.yalcinalp@sap.com)

Contributors:

See the Acknowledgments (Appendix A).

Abstract:

This specification describes a domain-specific policy assertion for WS-ReliableMessaging [WS-RM] that can be specified within a policy alternative as defined in WS-Policy Framework [WS-Policy].

By using the XML [XML], SOAP [SOAP 1.1], [SOAP 1.2] and WSDL [WSDL 1.1] extensibility models, the WS* specifications are designed to be composed with each other to provide a rich Web services environment. This by itself does not provide a negotiation solution for Web services. This is a building block that is used in conjunction with other Web service and application-specific protocols to accommodate a wide variety of policy exchange models.

Status:

This document was last revised or approved by the WS-RX on the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location noted above for possible later revisions of this document ~~current location noted above for possible later revisions of this document. This document is updated periodically on no particular schedule. 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/ws-rx>. For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the Technical Committee web page (<http://www.oasis-open.org/committees/ws-rx/ipr.php>). The non-normative errata page for this specification is located at <http://www.oasis-open.org/committees/ws-rx>.~~

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/ws-rx>.

For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the Technical Committee web page (<http://www.oasis-open.org/committees/ws-rx/ipr.php>).

The non-normative errata page for this specification is located at <http://www.oasis-open.org/committees/ws-rx>.

68 Notices

69 Copyright © OASIS® 1993–2007. All Rights Reserved. OASIS trademark, IPR and other policies apply.

70 All capitalized terms in the following text have the meanings assigned to them in the OASIS Intellectual
71 Property Rights Policy (the "OASIS IPR Policy"). The full Policy may be found at the OASIS website.

72 This document and translations of it may be copied and furnished to others, and derivative works that
73 comment on or otherwise explain it or assist in its implementation may be prepared, copied, published,
74 and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice
75 and this section are included on all such copies and derivative works. However, this document itself may
76 not be modified in any way, including by removing the copyright notice or references to OASIS, except as
77 needed for the purpose of developing any document or deliverable produced by an OASIS Technical
78 Committee (in which case the rules applicable to copyrights, as set forth in the OASIS IPR Policy, must be
79 followed) or as required to translate it into languages other than English.

80 The limited permissions granted above are perpetual and will not be revoked by OASIS or its successors
81 or assigns.

82 This document and the information contained herein is provided on an "AS IS" basis and OASIS
83 DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY
84 WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY
85 OWNERSHIP RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A
86 PARTICULAR PURPOSE.

87 OASIS requests that any OASIS Party or any other party that believes it has patent claims that would
88 necessarily be infringed by implementations of this OASIS Committee Specification or OASIS Standard, to
89 notify OASIS TC Administrator and provide an indication of its willingness to grant patent licenses to such
90 patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced
91 this specification.

92 OASIS invites any party to contact the OASIS TC Administrator if it is aware of a claim of ownership of any
93 patent claims that would necessarily be infringed by implementations of this specification by a patent
94 holder that is not willing to provide a license to such patent claims in a manner consistent with the IPR
95 Mode of the OASIS Technical Committee that produced this specification. OASIS may include such
96 claims on its website, but disclaims any obligation to do so.

97 OASIS takes no position regarding the validity or scope of any intellectual property or other rights that
98 might be claimed to pertain to the implementation or use of the technology described in this document or
99 the extent to which any license under such rights might or might not be available; neither does it represent
100 that it has made any effort to identify any such rights. Information on OASIS' procedures with respect to
101 rights in any document or deliverable produced by an OASIS Technical Committee can be found on the
102 OASIS website. Copies of claims of rights made available for publication and any assurances of licenses
103 to be made available, or the result of an attempt made to obtain a general license or permission for the
104 use of such proprietary rights by implementers or users of this OASIS Committee Specification or OASIS
105 Standard, can be obtained from the OASIS TC Administrator. OASIS makes no representation that any
106 information or list of intellectual property rights will at any time be complete, or that any claims in such list
107 are, in fact, Essential Claims.

108 The names "OASIS", [insert specific trademarked names, abbreviations, etc. here] are trademarks of
109 OASIS, the owner and developer of this specification, and should be used only to refer to the organization
110 and its official outputs. OASIS welcomes reference to, and implementation and use of, specifications,

111 while reserving the right to enforce its marks against misleading uses. Please see [open.org/who/trademark.php](http://www.oasis-</u>
112 <u><a href=) for above guidance.

Table of Contents

113		
114	1	Introduction..... 6
115	1.1	Goals and Requirements..... 6
116	1.1	Terminology..... 6
117	1.2	Namespace..... 7
118	1.3	Compliance..... 7
119	2	RM Policy Assertions..... 8
120	2.1	Assertion Model 8
121	2.2	Normative Outline..... 8
122	2.3	Assertion Attachment..... 9
123	2.4	Assertion Example..... 11
124	2.5	Sequence Security Policy..... 11
125	3	Security Considerations..... 13
126	4	References..... 14
127	4.1	Normative..... 14
128	4.2	Non Normative..... 15
129		Appendix A. Acknowledgments..... 16
130		Appendix B. XML Schema..... 17
131		Appendix C. Revision History..... 19

1 Introduction

This specification defines a domain-specific policy assertion for reliable messaging for use with WS-Policy and WS-ReliableMessaging.

1.1 Goals and Requirements

1.1.1 Requirements

1.1 Terminology

1.1 ~~Notational Conventions~~

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

This specification uses the following syntax to define normative outlines for messages:

- The syntax appears as an XML instance, but values in italics indicate data types instead of values.
- Characters are appended to elements and attributes to indicate cardinality:
 - "?" (0 or 1)
 - "*" (0 or more)
 - "+" (1 or more)
- The character "|" is used to indicate a choice between alternatives.
- The characters "[" and "]" are used to indicate that contained items are to be treated as a group with respect to cardinality or choice.
- An ellipsis (i.e. "...") indicates a point of extensibility that allows other child, or attribute, content. Additional children and/or attributes MAY be added at the indicated extension points but MUST NOT contradict the semantics of the parent and/or owner, respectively. If an extension is not recognized it SHOULD be ignored.
- XML namespace prefixes (See Section 1.3) are used to indicate the namespace of the element being defined.

Elements and Attributes defined by this specification are referred to in the text of this document using XPath 1.0 [XPATH 1.0] expressions. Extensibility points are referred to using an extended version of this syntax:

- An element extensibility point is referred to using {any} in place of the element name. This indicates that any element name can be used, from any namespace other than the wsrmp: namespace.
- An attribute extensibility point is referred to using @{any} in place of the attribute name. This indicates that any attribute name can be used, from any namespace other than the wsrmp: namespace.

1.2 Namespace

The XML namespace [XML-ns] URI that MUST be used by implementations of this specification is:

<http://docs.oasis-open.org/ws-rx/wsrmp/200702608>

Dereferencing the above URI will produce the Resource Directory Description Language [RDDL 2.0] document that describes this namespace.

Table 1 lists the XML namespaces that are used in this specification. The choice of any namespace prefix is arbitrary and not semantically significant.

Table 1

Prefix	Namespace	Specification
wsdl	http://schemas.xmlsoap.org/wsdl/	[WSDL 1.1]
wsp	http://schemas.xmlsoap.org/ws/2004/09/policy	[WS-Policy]
wsrmp	http://docs.oasis-open.org/ws-rx/wsrmp/200702	This specification.
wsu	http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd	WS-Security-Utility Schema

1.3 Compliance

An implementation is not compliant with this specification if it fails to satisfy one or more of the MUST or REQUIRED level requirements defined herein. A SOAP Node MUST NOT use the XML namespace identifier for this specification (listed in Section 1.3) within SOAP Envelopes unless it is compliant with this specification.

Normative text within this specification takes precedence over normative outlines, which in turn take precedence over the XML Schema [XML-Schema Part1, XML-Schema Part2] descriptions.

2 RM Policy Assertions

WS-Policy Framework and WS-Policy Attachment [WS-PolicyAttachment] collectively define a framework, model and grammar for expressing the requirements, and general characteristics of entities in an XML Web services-based system. To enable an RM Destination and an RM Source to describe their requirements for a given Sequence, this specification defines a single RM policy assertion that leverages the WS-Policy framework.

2.1 Assertion Model

The RM policy assertion indicates that the RM Source and RM Destination MUST use WS-ReliableMessaging to ensure reliable delivery of messages. Specifically, the WS-ReliableMessaging protocol determines invariants maintained by the reliable messaging endpoints and the directives used to track and manage the delivery of a Sequence of messages.

2.2 Normative Outline

The normative outline for the RM assertion is:

```
<wsrmp:RMAssertion [wsp:Optional="true"]? ... >
  <wsp:Policy>
    [ <wsrmp:SequenceSTR/> |
      <wsrmp:SequenceTransportSecurity/> ] ?
    <wsrmp:DeliveryAssurance>
      <wsp:Policy>
        [ <wsrmp:ExactlyOnce/> |
          <wsrmp:AtLeastOnce/> |
          <wsrmp:AtMostOnce/> ]
        <wsrmp:InOrder/> ?
      </wsp:Policy>
    </wsrmp:DeliveryAssurance> ?
  </wsp:Policy>
  ...
</wsrmp:RMAssertion>
```

The following describes the content model of the RMAssertion element.~~additional, normative constraints on the outline listed above:~~

/wsrmp:RMAssertion

A policy assertion that specifies that WS-ReliableMessaging protocol MUST be used when sending messages.

/wsrmp:RMAssertion/@wsp:Optional="true"

Per WS-Policy, this is compact notation for two policy alternatives, one with and one without the assertion. The intuition is that the behavior indicated by the assertion is optional, or in this case, that WS-ReliableMessaging MAY be used.

/wsrmp:RMAssertion/wsp:Policy

This required element allows for the inclusion of nested policy assertions.

/wsrmp:RMAssertion/wsp:Policy/wsrmp:SequenceSTR

When present, this assertion defines the requirement that an RM Sequence MUST be bound to an explicit token that is referenced from a `wsse:SecurityTokenReference` in the `CreateSequence` message. See section 2.5.1.

`/wsrmp:RMAssertion/wsp:Policy/wsrmp:SequenceTransportSecurity`

When present, this assertion defines the requirement that an RM Sequence MUST be bound to the session(s) of the underlying transport-level protocol used to carry the `CreateSequence` and `CreateSequenceResponse` message. When present, this assertion MUST be used in conjunction with the `sp:TransportBinding` assertion, see section 2.5.2.

`/wsrmp:RMAssertion/wsp:Policy/wsrmp:DeliveryAssurance`

This expression, which may be omitted, describes the message delivery quality of service between the RM and application layer. When used by an RM Destination it expresses the delivery assurance in effect between the RM Destination and its corresponding application destination, and it also indicates requirements on any RM Source that transmits messages to this RM destination. Conversely when used by an RM Source it expresses the delivery assurance in effect between the RM Source and its corresponding application source, as well as indicating requirements on any RM Destination that receives messages from this RM Source. In either case the delivery assurance does not affect the messages transmitted on the wire. Absence of this expression from a `wsrmp:RMAssertion` policy assertion simply means that the endpoint has chosen not to advertise its delivery assurance characteristics.

Note that when there are multiple policy alternatives of the RM Assertion, the Delivery Assurance on each MUST NOT conflict.

`/wsrmp:RMAssertion/wsp:Policy/wsrmp:DeliveryAssurance/wsp:Policy`

This required element identifies additional requirements for the use of the `wsrmp:DeliveryAssurance`.

`/wsrmp:RMAssertion/wsp:Policy/wsrmp:DeliveryAssurance/wsp:Policy/wsrmp:ExactlyOnce`

This expresses the `ExactlyOnce` Delivery Assurance defined in [1].

`/wsrmp:RMAssertion/wsp:Policy/wsrmp:DeliveryAssurance/wsp:Policy/wsrmp:AtLeastOnce`

This expresses the `AtLeastOnce` Delivery Assurance defined in [1].

`/wsrmp:RMAssertion/wsp:Policy/wsrmp:DeliveryAssurance/wsp:Policy/wsrmp:AtMostOnce`

This expresses the `AtMostOnce` Delivery Assurance defined in [1].

`/wsrmp:RMAssertion/wsp:Policy/wsrmp:DeliveryAssurance/wsp:Policy/wsrmp:InOrder`

This expresses the `InOrder` Delivery Assurance defined in [1].

`/wsrmp:RMAssertion/{any}`

This is an extensibility mechanism to allow different (extensible) types of information, based on a schema, to be passed.

`/wsrmp:RMAssertion/@{any}`

This is an extensibility mechanism to allow different (extensible) types of information, based on a schema, to be passed.

2.3 Assertion Attachment

The RM policy assertion is allowed to have the following Policy Subjects [[WS-PolicyAttachment](#)]:

- Endpoint Policy Subject

● Message Policy Subject

WS-PolicyAttachment defines a set of WSDL/1.1 policy attachment points for each of the above Policy Subjects. Since an RM policy assertion specifies a concrete behavior, it MUST NOT be attached to the abstract WSDL policy attachment points.

The following is the list of WSDL/1.1 elements whose scope contains the Policy Subjects allowed for an RM policy assertion but which MUST NOT have RM policy assertions attached:

- wsdl:message
- wsdl:portType/wsdl:operation/wsdl:input
- wsdl:portType/wsdl:operation/wsdl:output
- wsdl:portType/wsdl:operation/wsdl:fault
- wsdl:portType

The following is the list of WSDL/1.1 elements whose scope contains the Policy Subjects allowed for an RM policy assertion and which MAY have RM policy assertions attached:

- wsdl:port
- wsdl:binding
- wsdl:binding/wsdl:operation/wsdl:input
- wsdl:binding/wsdl:operation/wsdl:output
- wsdl:binding/wsdl:operation/wsdl:fault

If an RM policy assertion is attached to any of:

- wsdl:binding/wsdl:operation/wsdl:input
- wsdl:binding/wsdl:operation/wsdl:output
- wsdl:binding/wsdl:operation/wsdl:fault

then an RM policy assertion, specifying `wsp:Optional=true` MUST be attached to the corresponding `wsdl:binding` or `wsdl:port`, indicating that the endpoint supports WS-RM. Any messages, regardless of whether they have an attached Message Policy Subject RM policy assertion, MAY be sent to that endpoint using WS-RM. Additionally, the receiving endpoint MUST NOT reject any message belonging to a Sequence, simply because there was no Message Policy Subject RM policy assertion attached to that message. There might be certain RM implementations that are incapable of applying RM Quality of Service (QoS) semantics on a per-message basis. In order to ensure the broadest interoperability, when an endpoint decorates its WSDL with RM policy assertions using Message Policy Subject, it MUST also be prepared to accept that all messages sent to that endpoint might be sent within the context of an RM Sequence, regardless of whether the corresponding `wsdl:input`, `wsdl:output` or `wsdl:fault` had an attached RM policy assertion.

Rather than turn away messages that were unnecessarily sent with RM semantics, the receiving endpoint described by the WSDL MUST accept these messages.

By attaching an RM policy assertion that specifies `wsp:Optional="true"` to the corresponding endpoint that has attached RM policy assertions at the Message Policy Subject level, the endpoint is describing the above constraint in policy.

In the case where an optional RM Assertion applies to an output message, there is no requirement on the client to support an RM Destination implementation

2.4 Assertion Example

Table 2 lists an example use of the RM policy assertion.

Table 2: Example policy with RM policy assertion

```
(01)<wsdl:definitions
(02)   targetNamespace="example.com"
(03)   xmlns:tns="example.com"
(04)   xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
(05)   xmlns:wsp="http://schemas.xmlsoap.org/ws/2004/09/policy"
(06)   xmlns:wsrmp="http://docs.oasis-open.org/ws-rx/wsrmp/200702608"
(07)   xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-utility-1.0.xsd">
(08)
(09)   <wsp:UsingPolicy wsdl:required="true" />
(10)
(11)   <wsp:Policy wsu:Id="MyPolicy" >
(12)     <wsrmp:RMAssertion/>
(13)     <wsp:Policy/>
(14)   </wsrmp:RMAssertion/> <!-- omitted assertions -->
(15)   <!-- omitted assertions --4> </wsp:Policy>
(16) </wsp:Policy>5>
(16) <!-- omitted elements -->
(17)
(18) <!-- omitted elements --wsdl:binding-name="MyBinding"-
type="tns:MyPortType">
(19)   <wsp:PolicyReference URI="#MyPolicy" />
(20)   <wsdl:binding name="MyBinding" type="tns:MyPortType" <!-- omitted
elements -->
(21)   <wsp:PolicyReference URI="#MyPolicy" /></wsdl:binding>
(22)   <!-- omitted elements -->
(23) </wsdl:binding></wsdl:definitions>
(24)
(25)</wsdl:definitions>
```

Line (09) in Table 2 indicates that WS-Policy is in use as a required extension.

Lines (11-16) are a policy expression that includes a RM policy assertion (lines 12-14) are a policy expression that includes a RM policy assertion (Line 12) to indicate that WS-ReliableMessaging must be used.

Lines (20-23) are a WSDL binding. Line (21) indicates that the policy in lines (11-16) are a WSDL binding. Line (19) indicates that the policy in Lines (11-14) applies to this binding, specifically indicating that WS-ReliableMessaging must be used over all the messages in the binding.

2.5 Sequence Security Policy

WS-SecurityPolicy [SecurityPolicy] provides a framework and grammar for expressing the security requirements and characteristics of entities in a XML web services based system. The following assertions MAY be used in conjunction with WS-SecurityPolicy to express additional security requirements particular to RM Sequences.

2.5.1 RM Assertion with Sequence STR Assertion

This version of the RM assertion includes an assertion that defines the requirement that an RM Sequence MUST be bound to an explicit token that is referenced from a wsse:SecurityTokenReference in the CreateSequence message.

350 This assertion MUST apply to [Endpoint Policy Subject]. ~~The normative outline for this form of the~~
351 ~~Sequence STR Assertion is:~~~~is-assertion MUST NOT be used for an endpoint that does not also use the~~
352 ~~RM-assertion:~~

```
353 <wsrmp:RMAssertion [wsp:Optional="true"]? ...>  
354 <wsp:Policy>  
355 <wsrmp:SequenceSTR/>  
356 <wsp:Policy>  
357 </wsrmp:RMAssertion>
```

358 ~~The following describes the content model of the SequenceSTR element.~~

359 ~~The normative outline for the Sequence STR Assertion is:~~

```
360 <wsrmp:SequenceSTR [wsp:Optional="true"]? ... />
```

361 /wsrmp:SequenceSTR

362 A policy assertion that specifies security requirements which MUST be used with an RM Sequence that
363 are particular to WS-RM and beyond what can be expressed in WS-SecurityPolicy.

364 **2.5.2 RM Assertion with Sequence Transport Security Assertion**

365 ~~This version of the RM assertion includes the requirement that an RM Sequence MUST be bound to the~~
366 ~~session(s) of the underlying transport-level security protocol (e.g. SSL/TLS) used to carry the~~
367 ~~CreateSequence and CreateSequenceResponse messages.~~

368 ~~This assertion MUST apply to [Endpoint Policy Subject]. This assertion MUST be used in conjunction with~~
369 ~~the sp:TransportBinding assertion that requires the use of some transport-level security mechanism~~
370 ~~(e.g. sp:HttpsToken).~~

371 ~~The normative outline for this form of the RM Assertion with the Sequence Transport Security Assertion is:~~

```
372 <wsp:Policy>  
373 <wsp:ExactlyOne>  
374 <wsp:All>  
375 <wsrm:RMAssertion [wsp:Optional="true"]> ...>  
376 <wsp:Policy>  
377 <wsrmp:SequenceTransportSecurity/>  
378 </wsp:Policy>  
379 </wsrm:RMAssertion>  
380 <sp:TransportBinding ...>  
381 ...  
382 </sp:TransportBinding>  
383 <wsp:All>  
384 <wsp:ExactlyOne>  
385 </wsp:Policy>
```

386 ~~The following describes the content model of the SequenceTransportSecurity element.~~

387 /wsrm:SequenceSTR /@wsp:Optional="true"

388 ~~Per WS-Policy, this is compact notation for two policy alternatives, one with and one without the assertion.~~
389 ~~The intuition is that the behavior indicated by the assertion is optional, or in this case, that the RM~~
390 ~~Sequence binding to a specific token MAY be used.~~

1.1.1 Sequence Transport Security Assertion

~~This assertion defines the requirement that an RM Sequence MUST be bound to the session(s) of the underlying transport-level security protocol (e.g. SSL/TLS) used to carry the CreateSequence and CreateSequenceResponse messages.~~

~~This assertion MUST apply to [Endpoint Policy Subject]. This assertion is effectively meaningless unless it occurs in conjunction with the RMAssertion and a sp:TransportBinding assertion that requires the use of some transport-level security mechanism (e.g. sp:HttpsToken).~~

~~The normative outline for the Sequence Transport Security Assertion is:~~

```
<wsrmp:SequenceTransportSecurity [wsp:Optional="true"]? ... />
```

~~/wsrmp:SequenceTransportSecurity~~

~~A policy assertion that specifies that any Sequences targeted to the indicated endpoint MUST be bound to the underlying session(s) of the transport-level security used to carry messages related to the Sequence.~~

~~This form of the RM Assertion says that an endpoint MAY have RM as an option but always requires HTTPS to be used. All the SequenceTransportSecurity assertion indicates is that RM's rules for protecting the Sequence over TLS are followed.~~

~~/wsrmp:SequenceTransportSecurity /@wsp:Optional="true"~~

~~Per WS-Policy, this is compact notation for two policy alternatives, one with and one without the assertion. The meaning is that the behavior indicated by the assertion is optional, or in this case, that the binding of RM Sequences to transport-level security sessions MAY be used.~~

3 Security Considerations

It is strongly RECOMMENDED that policies and assertions be signed to prevent tampering.

It is RECOMMENDED that policies SHOULD NOT be accepted unless they are signed and have an associated security token to specify the signer has proper claims for the given policy. That is, a relying party shouldn't rely on a policy unless the policy is signed and presented with sufficient claims to pass the relying parties acceptance criteria.

It should be noted that the mechanisms described in this document could be secured as part of a SOAP message using WS-Security [[WS-Security](#)] or embedded within other objects using object-specific security mechanisms.

4 References

4.1 Normative

[KEYWORDS]

S. Bradner, "Key words for use in RFCs to Indicate Requirement Levels," RFC 2119, Harvard University, March 1997.

<http://www.ietf.org/rfc/rfc2119.txt>

[SOAP 1.1]

W3C Note, "SOAP: Simple Object Access Protocol 1.1" 08 May 2000.

<http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

[SOAP 1.2]

W3C Recommendation, "SOAP Version 1.2 Part 1: Messaging Framework" June 2003.

<http://www.w3.org/TR/2003/REC-soap12-part1-20030624/>

[URI]

T. Berners-Lee, R. Fielding, L. Masinter, "Uniform Resource Identifiers (URI): Generic Syntax," RFC 3986, MIT/LCS, U.C. Irvine, Xerox Corporation, January 2005.

<http://ietf.org/rfc/rfc3986>

[WS-RM]

OASIS WS-RX Technical Committee Draft, "Web Services Reliable Messaging (WS-ReliableMessaging)," ~~August~~September 2005.

<http://docs.oasis-open.org/ws-rx/wsrp/200702/wsrp-1.1-spec-cd-05.pdf>

[WS-Policy]

W3C Member Submission, "Web Services Policy Framework (WS-Policy)," April 2006.

<http://www.w3.org/Submission/2006/SUBM-WS-Policy-20060425/>

[WS-PolicyAttachment]

W3C Member Submission, "Web Services Policy Attachment (WS-PolicyAttachment)," April 2006.

<http://www.w3.org/Submission/2006/SUBM-WS-PolicyAttachment-20060425/>

[WSDL 1.1]

W3C Note, "Web Services Description Language (WSDL 1.1)," 15 March 2001.

<http://www.w3.org/TR/2001/NOTE-wsdl-20010315>

[XML]

W3C Recommendation, "Extensible Markup Language (XML) 1.0 (~~Fourth Edition~~). ~~September 2006~~Second Edition", ~~October 2000~~.

<http://www.w3.org/TR/REC-xml/>

453 **[XML-ns]**

454 W3C Recommendation, "Namespaces in XML," 14 January 1999.

455 <http://www.w3.org/TR/1999/REC-xml-names-19990114/>

456 **[XML-Schema Part1]**

457 W3C Recommendation, "XML Schema Part 1: Structures," ~~October 2004~~ May 2001.

458 <http://www.w3.org/TR/xmlschema-1/>

459 **[XML-Schema Part2]**

460 W3C Recommendation, "XML Schema Part 2: Datatypes," ~~October 2004~~ May 2001.

461 <http://www.w3.org/TR/xmlschema-2/>

462 **[XPath 1.0]**

463 W3C Recommendation, "XML Path Language (XPath) Version 1.0," 16 November 1999.

464 <http://www.w3.org/TR/xpath>

465 **4.2 Non Normative**

466 **[RDDL 2.0]**

467 Jonathan Borden, Tim Bray, eds. "Resource Directory Description Language (RDDL) 2.0," January 2004

468 <http://www.openhealth.org/RDDL/20040118/rddl-20040118.html>

469 **[SecurityPolicy]**

470 G. Della-Libra, et. al. "Web Services Security Policy Language (WS-SecurityPolicy)", July 2005

471 <http://specs.xmlsoap.org/ws/2005/07/securitypolicy/ws-securitypolicy.pdf>

472 **[WS-Security]**

473 Anthony Nadalin, Chris Kaler, Phillip Hallam-Baker, Ronald Monzillo, eds. "OASIS Web Services Security:
474 SOAP Message Security 1.0 (WS-Security 2004)", OASIS Standard 200401, March 2004.

475 <http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0.pdf>

476 Anthony Nadalin, Chris Kaler, Phillip Hallam-Baker, Ronald Monzillo, eds. "OASIS Web Services Security:
477 SOAP Message Security 1.1 (WS-Security 2004)", OASIS Standard 200602, February 2006.

478 [http://www.oasis-open.org/committees/download.php/16790/wss-v1.1-
479 spec-os-SOAPMessageSecurity.pdf](http://www.oasis-open.org/committees/download.php/16790/wss-v1.1-spec-os-SOAPMessageSecurity.pdf)

480 Appendix A. Acknowledgments

481 This document is based on initial contribution to OASIS WS-RX Technical Committee by the following
482 authors:

483 Stefan Batres-Editor(Microsoft), Ruslan Bilorusets(BEA), Don Box(Microsoft), Luis Felipe
484 Cabrera(Microsoft), Derek Collison(TIBCO Software), Donald Ferguson(IBM), Christopher Ferris-
485 Editor(IBM), Tom Freund(IBM), Mary Ann Hondo(IBM), John Ibbotson(IBM), Lei Jin(BEA), Chris
486 Kaler(Microsoft), David Langworthy(Microsoft), Amelia Lewis(TIBCO Software), Rodney
487 Limprecht(Microsoft), Steve Lucco(Microsoft), Don Mullen(TIBCO Software), Anthony
488 Nadalin(IBM), Mark Nottingham(BEA), David Orchard(BEA), Shivajee Samdarshi(TIBCO
489 Software), John Shewchuk(Microsoft), Tony Storey(IBM).

490 The following individuals have provided invaluable input into the initial contribution:

491 Keith Ballinger(Microsoft), Allen Brown(Microsoft), Michael Conner(IBM), Francisco
492 Curbera(IBM), Steve Graham(IBM), Pat Helland(Microsoft), Rick Hill(Microsoft), Scott
493 Hinkelman(IBM), Tim Holloway(IBM), Efim Hudis(Microsoft), Johannes Klein(Microsoft), Frank
494 Leymann(IBM), Martin Nally(IBM), Peter Niblett(IBM), Jeffrey Schlimmer(Microsoft), Chris
495 Sharp(IBM), James Snell(IBM), Keith Stobie(Microsoft), Satish Thatte(Microsoft), Stephen
496 Todd(IBM), Sanjiva Weerawarana(IBM), Roger Wolter(Microsoft).

497 The following individuals were members of the committee during the development of this specification:

498 Abbie Barbir(Nortel), Charlton Barreto(Adobe), Stefan Batres(Microsoft), Hamid Ben
499 Malek(Fujitsu), Andreas Bjarlestam(Ericsson), Toufic Boubrez(Layer 7), Doug Bunting(Sun), Lloyd
500 Burch(Novell), Steve Carter(Novell), Martin Chapman(Oracle), Dave Chappell(Sonic), Paul
501 Cotton(Microsoft), Glen Daniels(Sonic), Doug Davis(IBM), Blake Dournaee(Intel), Jacques
502 Durand(Fujitsu), Colleen Evans(Microsoft), Christopher Ferris(IBM), Paul Fremantle(WSO2),
503 Robert Freund(Hitachi), Peter Furniss(Erebor), Marc Goodner(Microsoft), Alastair
504 Green(Choreology), Mike Grogan(Sun), Ondrej Hrebicek(Microsoft), Kazunori Iwasa(Fujitsu),
505 Chamikara Jayalath(WSO2), Lei Jin(BEA), Ian Jones(BT plc), Anish Karmarkar(Oracle), Paul
506 Knight(Nortel), Dan Leshchiner(Tibco), Mark Little(JBoss), Lily Liu(webMethods), Matt
507 Lovett(IBM), Ashok Malhotra(Oracle), Jonathan Marsh(Microsoft), Daniel Millwood(IBM), Jeff
508 Mischkinsky(Oracle), Nilo Mitra(Ericsson), Peter Niblett(IBM), Duane Nickull(Adobe), Eisaku
509 Nishiyama(Hitachi), Dave Orchard(BEA), Chouthri Palanisamy(NEC), Sanjay Patil(SAP), Gilbert
510 Pilz(BEA), Martin Raeppe(SAP), Eric Rajkovic(Oracle), Stefan Rossmanith(SAP), Tom
511 Rutt(Fujitsu), Rich Salz(IBM), Shivajee Samdarshi(Tibco), Vladimir Videlov(SAP), Claus von
512 Riegen(SAP), Pete Wenzel(Sun), Steve Winkler(SAP), Ümit Yalçınalp(SAP), Nobuyuki
513 Yamamoto(Hitachi).

514 Appendix B. XML Schema

515 A normative copy of the XML Schema [XML-Schema Part1, XML-Schema Part2] description for this
516 specification may be retrieved from the following address:

517 [http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-schema-200702608/wsrmp-1.1-schema-](http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-schema-200702608/wsrmp-1.1-schema-200608.xsd)
518 [200608.xsd](http://docs.oasis-open.org/ws-rx/wsrmp/200702/wsrmp-1.1-schema-200702608/wsrmp-1.1-schema-200608.xsd)

519 The following copy is provided for reference.

```
520 <?xml version="1.0" encoding="UTF-8"?>
521 <!-- Copyright(C) OASIS(R) 1993-2007. All Rights Reserved.
522 OASIS takes no position regarding the validity or scope of any
523 intellectual property or other rights that might be claimed to pertain to
524 the implementation or use of the technology described in this document or
525 the extent to which any license under such rights might or might not be
526 available; neither does it represent that it has made any effort to
527 identify any such rights. Information on OASIS's procedures with respect
528 to rights in OASIS specifications can be found at the OASIS website.
529 Copies of claims of rights made available for publication and any
530 assurances of licenses to be made available, or the result of an attempt
531 made to obtain a general license or permission for the use of such
532 proprietary rights by implementors or users of this specification, can be
533 obtained from the OASIS Executive Director.
534 OASIS invites any interested party to bring to its attention any
535 copyrights, patents or patent applications, or other proprietary rights
536 which may cover technology that may be required to implement this
537 specification. Please address the information to the OASIS Executive
538 Director.
539 Copyright (c) OASIS Open 2002-2006. All Rights Reserved.
540 This document and translations of it may be copied and furnished to
541 others, and derivative works that comment on or otherwise explain it or
542 assist in its implementation may be prepared, copied, published and
543 distributed, in whole or in part, without restriction of any kind,
544 provided that the above copyright notice and this paragraph are included
545 on all such copies and derivative works. However, this document itself
546 does not be modified in any way, such as by removing the copyright notice
547 or references to OASIS, except as needed for the purpose of developing
548 OASIS specifications, in which case the procedures for copyrights defined
549 in the OASIS Intellectual Property Rights document must be followed, or
550 as required to translate it into languages other than English.
551 The limited permissions granted above are perpetual and will not be
552 revoked by OASIS or its successors or assigns.
553 This document and the information contained herein is provided on an "AS
554 IS" basis and OASIS DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED,
555 INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION
556 HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF
557 MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
558 -->
559 <xs:schema xmlns:tns="http://docs.oasis-open.org/ws-rx/wsrmp/200608"
560 xmlns:xs="http://www.w3.org/2001/XMLSchema"
561 targetNamespace="http://docs.oasis-open.org/ws-rx/wsrmp/200608"
562 elementFormDefault="qualified" attributeFormDefault="unqualified">
563 <xs:element name="RMAssertion">
564 OASIS trademark, IPR and other policies apply. -->
565 <xs:schema xmlns:tns="http://docs.oasis-open.org/ws-rx/wsrmp/200702"
566 xmlns:xs="http://www.w3.org/2001/XMLSchema"
567 targetNamespace="http://docs.oasis-open.org/ws-rx/wsrmp/200702"
568 elementFormDefault="qualified" attributeFormDefault="unqualified">
569 <xs:element name="RMAssertion">
```

```

570     <xs:complexType>
571         <xs:sequence>
572             <xs:any namespace="##other" processContents="lax" minOccurs="0"
573 maxOccurs
574             </xs:sequence>
575             <xs:anyAttribute namespace="##any" processContents="lax"/>
576         </xs:complexType>
577     </xs:element>
578     <xs:element name="SequenceSTR">
579         <xs:complexType>
580             <xs:sequence/>
581             <xs:anyAttribute namespace="##any" processContents="lax"/>
582         </xs:complexType>
583     </xs:element>
584     <xs:element name="SequenceTransportSecurity">
585         <xs:complexType>
586             <xs:sequence/>
587             <xs:anyAttribute namespace="##any" processContents="lax"/>
588         </xs:complexType>
589     </xs:element>
590 </xs:schema>

591     <xs:element name="DeliveryAssurance">
592         <xs:complexType>
593             <xs:sequence>
594                 <xs:any namespace="##any" processContents="lax" minOccurs="0"
595 maxOccurs="unbounded"/>
596             </xs:sequence>
597         </xs:complexType>
598     </xs:element>
599     <xs:element name="ExactlyOnce">
600         <xs:complexType>
601             <xs:sequence/>
602         </xs:complexType>
603     </xs:element>
604     <xs:element name="AtLeastOnce">
605         <xs:complexType>
606             <xs:sequence/>
607         </xs:complexType>
608     </xs:element>
609     <xs:element name="AtMostOnce">
610         <xs:complexType>
611             <xs:sequence/>
612         </xs:complexType>
613     </xs:element>
614     <xs:element name="InOrder">
615         <xs:complexType>
616             <xs:sequence/>
617         </xs:complexType>
618     </xs:element>
619 </xs:schema>

```

Appendix C. Revision History

Revision	Date	By Whom	What
wd-01.doc	2005-07-06	Ümit Yalçinalp	Initial version created based on submission by the authors.
1.0-wd-01.swx	2005-09-01	Ümit Yalçinalp	Reformatted using Open Office
1.1-wd-01.swx	2005-09-18	Ümit Yalçinalp	Applied resolution i001 Applied resolution i015/16 (doc identifier) Partial application of i017, final yyyy/mm required, changed doc URI to TBD pending yyyy/mm Deleted original copyright section
1.1-wd-01.swx	2005-10-02	Anish Karmarkar	Applied resolution of i013 + minor editorial changes + fixed resolution of i017
1.1-wd-01.swx	2005-10-04	Ümit Yalçinalp	Applied actual value for yyyy/mm. Added resolution of i009
1.1-wd-01.swx	2005-10-06	Ümit Yalçinalp	Editorial fixes suggested by Anish Updated wd draft date to October 6th
1.1-wd-01.swx	2005-10-19	Ümit Yalçinalp	Editorial change to remove .sxw suffix from doc id
wd-02	2005-11-03	Gilbert Pilz	Start wd-02 by changing title page from cd-01.
wd-02	2005-11-30	Gilbert Pilz	i072 – editorial nits
wd-02	2005-11-30	Gilbert Pilz	i074 - Use of [tcShortName] in artifact locations namespaces, etc
wd-02	2005-12-01	Gilbert Pilz	Updated fix to i074 to remove trailing '/' from wsrmp namespace.
wd-02	2005-12-01	Anish Karmarkar	Applied resolution for i022
wd-02	2005-12-01	Anish Karmarkar	Applied resolution for i024
wd-02	2005-12-01	Anish Karmarkar	Applied resolution for i054
wd-02	2005-12-01	Anish Karmarkar	Applied resolution of i073
wd-2	2005-12-05	Anish Karmarkar	Applied resolution of i055
wd-2	2005-12-05	Ümit Yalçinalp	Changed fixed date in footer to current date
wd-3	2005-12-21	Doug Davis	Added i050
wd-3	2005-12-23	Ümit Yalçinalp	i057 resolution
wd-3	2005-12-23	Ümit Yalçinalp	Changed the ref to WS-RM to the WS-RX committee.

Revision	Date	By Whom	What
			draft instead of original version Fixed Dug's email address
wd-3	2005-12-23	Ümit Yalçınalp	I060 resolution
wd-03	2005-12-27	Gilbert Pilz	Remove schema example and put it in its own artifact (wsrmp-1.1-schema-200510.xsd). Convert source file to OpenDocument format. Make line numbers all the same style.
wd-03	2005-12-28	Anish Karmarkar	Included a section link to c:\temp\wsrmp-1.1-schema-200510.xsd
wd-03	2006-01-04	Gilbert Pilz	Fixed formatting of included section.
wd-03	2006-01-05	Gilbert Pilz	Fix closing tag of normative outline for RMAssertion.
wd-04	2006-11-11	Doug Davis	Minor tweaks/typos
wd-05	2006-01-23	Gilbert Pilz	Start wd-05 by accepting all changes from wd-04
wd-06	2006-01-23	Doug Davis	Minor typos found by Marc
wd-06	2006-02-14	Doug Davis	Issue 075 resolution
wd-06	2006-02-14	Doug Davis	Issues 086, 087 resolutions
wd-06	2006-02-15	Gilbert Pilz	Issue 088; added link for namespace URI; added text describing link; added non-normative reference for RDDL 2.0
wd-06	2006-02-17	Anish Karmarkar	Removed a sentence in section 2.1 that talked about RM assertion parameters, as there aren't any.
wd-06	2006-02-17	Anish Karmarkar	Change the namespace to 200602.
wd-07	2006-02-22	Doug Davis	Accept all changes to create new WD Minor typo fixed – thanks to Paul Cotton
wd-07	2006-02-23	Doug Davis	Added missing namespace table entries - MarcG
wd-07	2006-03-08	Doug Davis	Issue 097 applied
wd-08	2006-04-11	Doug Davis	Issue 021 applied
wd-08	2006-04-24	Gilbert Pilz	Misc cleanups prior to publishing to TC.
wd-09	2006-05-29	Gilbert Pilz	Issue 117 applied
wd-10	2006-06-05	Gilbert Pilz	Accept all changes; bump WD number
wd-10	2006-06-07	Doug Davis	Applied lots of minor edits from Marc Goodner
wd-10	2006-06-13	Doug Davis	Applied a couple of minor edits
wd-10	2006-07-21	Doug Davis	Issues 122-124 applied

Revision	Date	By Whom	What
wd-10	2006-07-27	Doug Davis	Copied list of TC members from RM spec (i134)
wd-10	2006-08-04	Doug Davis	Updated old namespaces – found by PaulC
wd-10	2006-08-04	Doug Davis	Verify all [refs]
wd-10	2006-08-04	Doug Davis	Change namespace to 2006/08
cd-04	2006-08-11	Doug Davis	Issue 158 applied
cd-04	2006-08-16	Gilbert Pilz	Fix date at 08/11/2006; formatting changes for better HTML rendering.
wd-11	2006-10-25	Doug Davis	Accept all changes, update to wd11
wd-11	2006-10-26	Doug Davis	PR004 applied
wd-11	2007-01-26	Doug Davis	PR037 applied
wd-12	2007-01-31	Doug Davis	Lots of typos from MarcG Updated WD number and date
wd-12	2007-02-01	Doug Davis	PR035 (009.020 dups) applied

Revision	Date	By Whom	What
wd-01.doc	2005-07-06	Ümit Yalçınalp	Initial version created based on submission by the authors.
1.0-wd-01.swx	2005-09-01	Ümit Yalçınalp	Reformatted using Open Office
1.1-wd-01.swx	2005-09-18	Ümit Yalçınalp	Applied resolution i001 Applied resolution i015/16 (doc identifier) Partial application of i017, final yyyy/mm required, changed doc URI to TBD pending yyyy/mm Deleted original copyright section
1.1-wd-01.swx	2005-10-02	Anish Karmarkar	Applied resolution of i013 + minor editorial changes + fixed resolution of i017
1.1-wd-01.swx	2005-10-04	Ümit Yalçınalp	Applied actual value for yyyy/mm. Added resolution of i009
1.1-wd-01.swx	2005-10-06	Ümit Yalçınalp	Editorial fixes suggested by Anish Updated wd draft date to October 6th
1.1-wd-01.swx	2005-10-19	Ümit Yalçınalp	Editorial change to remove .swx suffix from doc id
wd-02	2005-11-03	Gilbert Pilz	Start wd-02 by changing title page from cd-01.
wd-02	2005-11-30	Gilbert Pilz	i072 — editorial nits

Revision	Date	By Whom	What
wd-02	2005-11-30	Gilbert Pilz	i074 -- Use of [tcShortName] in artifact locations- namespaces, etc
wd-02	2005-12-01	Gilbert Pilz	Updated fix to i074 to remove trailing '/' from wsrmp- namespace.
wd-02	2005-12-01	Anish Karmarkar	Applied resolution for i022
wd-02	2005-12-01	Anish Karmarkar	Applied resolution for i024
wd-02	2005-12-01	Anish Karmarkar	Applied resolution for i054
wd-02	2005-12-01	Anish Karmarkar	Applied resolution of i073
wd-2	2005-12-05	Anish Karmarkar	Applied resolution of i055
wd-2	2005-12-05	Ümit Yalçınalp	Changed fixed date in footer to current date
wd-3	2005-12-21	Doug Davis	Added i050
wd-3	2005-12-23	Ümit Yalçınalp	I057 resolution
wd-3	2005-12-23	Ümit Yalçınalp	Changed the ref to WS-RM to the WS-RX committee- draft instead of original version Fixed Dug's email address
wd-3	2005-12-23	Ümit Yalçınalp	I060 resolution
wd-03	2005-12-27	Gilbert Pilz	Remove schema example and put it in its own artifact- (wsrmp-1.1-schema-200510.xsd). Convert source file to OpenDocument format. Make line numbers all the same style.
wd-03	2005-12-28	Anish Karmarkar	Included a section link to c:\temp\wsrmp-1.1-schema- 200510.xsd
wd-03	2006-01-04	Gilbert Pilz	Fixed formatting of included section.
wd-03	2006-01-05	Gilbert Pilz	Fix closing tag of normative outline for RMAssertion.
wd-04	2006-11-11	Doug Davis	Minor tweaks/typos
wd-05	2006-01-23	Gilbert Pilz	Start wd-05 by accepting all changes from wd-04
wd-06	2006-01-23	Doug Davis	Minor typos found by Marc
wd-06	2006-02-14	Doug Davis	Issue 075 resolution
wd-06	2006-02-14	Doug Davis	Issues 086, 087 resolutions
wd-06	2006-02-15	Gilbert Pilz	Issue 088; added link for namespace URI; added text describing link; added non-normative reference for RDDDL 2.0
wd-06	2006-02-17	Anish Karmarkar	Removed a sentence in section 2.1 that talked about- RM assertion parameters, as there aren't any.

Revision	Date	By Whom	What
wd-06	2006-02-17	Anish Karmarkar	Change the namespace to 200602.
wd-07	2006-02-22	Doug Davis	Accept all changes to create new WD Minor typo fixed — thanks to Paul Cotton
wd-07	2006-02-23	Doug Davis	Added missing namespace table entries — MarcG
wd-07	2006-03-08	Doug Davis	Issue 097 applied
wd-08	2006-04-11	Doug Davis	Issue 021 applied
wd-08	2006-04-24	Gilbert Pilz	Misc cleanups prior to publishing to TC.
wd-09	2006-05-29	Gilbert Pilz	Issue 117 applied
wd-10	2006-06-05	Gilbert Pilz	Accept all changes; bump WD number
wd-10	2006-06-07	Doug Davis	Applied lots of minor edits from Marc Goodner
wd-10	2006-06-13	Doug Davis	Applied a couple of minor edits
wd-10	2006-07-21	Doug Davis	Issues 122-124 applied
wd-10	2006-07-27	Doug Davis	Copied list of TC members from RM spec (i134)
wd-10	2006-08-04	Doug Davis	Updated old namespaces — found by PaulG
wd-10	2006-08-04	Doug Davis	Verify all [refs]
wd-10	2006-08-04	Doug Davis	Change namespace to 2006/08
ed-04	2006-08-11	Doug Davis	Issue 158 applied
ed-04	2006-08-16	Gilbert Pilz	Fix date at 08/11/2006; formatting changes for better-HTML rendering.

621 **Appendix D. Notices**

622 ~~OASIS takes no position regarding the validity or scope of any intellectual property or other rights that~~
623 ~~might be claimed to pertain to the implementation or use of the technology described in this document or~~
624 ~~the extent to which any license under such rights might or might not be available; neither does it represent~~
625 ~~that it has made any effort to identify any such rights. Information on OASIS's procedures with respect to~~
626 ~~rights in OASIS specifications can be found at the OASIS website. Copies of claims of rights made~~
627 ~~available for publication and any assurances of licenses to be made available, or the result of an attempt~~
628 ~~made to obtain a general license or permission for the use of such proprietary rights by implementors or~~
629 ~~users of this specification, can be obtained from the OASIS Executive Director.~~

630 ~~OASIS invites any interested party to bring to its attention any copyrights, patents or patent applications, or~~
631 ~~other proprietary rights which may cover technology that may be required to implement this specification.~~
632 ~~Please address the information to the OASIS Executive Director.~~

633 ~~Copyright (C) OASIS Open (2006). All Rights Reserved.~~

634 ~~This document and translations of it may be copied and furnished to others, and derivative works that~~
635 ~~comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and~~
636 ~~distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and~~
637 ~~this paragraph are included on all such copies and derivative works. However, this document itself may~~
638 ~~not be modified in any way, such as by removing the copyright notice or references to OASIS, except as~~
639 ~~needed for the purpose of developing OASIS specifications, in which case the procedures for copyrights~~
640 ~~defined in the OASIS Intellectual Property Rights document must be followed, or as required to translate it~~
641 ~~into languages other than English.~~

642 ~~The limited permissions granted above are perpetual and will not be revoked by OASIS or its successors~~
643 ~~or assigns.~~

644 ~~This document and the information contained herein is provided on an "AS IS" basis and OASIS~~
645 ~~DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY~~
646 ~~WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR~~
647 ~~ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.~~