



Web Service Reliability Requirements

Draft Version 0.1

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Document history	
Version 0.02	Document created by Szabolcs Payrits. Inputs: <ul style="list-style-type: none">• Web Services Reliability Ver1.0, January 8, 2003, C. Evans, D. Chappel, D. Bunting et al.• Nokia Web Service Reliability requirements, March 2003, Sz. Payrits, M. Gerendai
Version 0.03	Requirements separated to accepted Requirements and Proposals. "Transport bindings" and "Compatibility" sections added.
Version 0.1	Open issues removed. Basic functional requirements remained.



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1. Scope

This document provides requirements for the OASIS WS-Reliability standard.

The requirements based on the submitted input papers to the OASIS WSRM Technical Committee.

The requirements specified in this document shall be adhered to by the:

- OASIS WS-Reliability specification



2. References

2.1. Normative references

[RFC2119]	“Key word for use in RFCs to Indicate Requirement Levels” S. Bradner, March 1997. http://www.ietf.org/rfc/rfc2119.txt
[SOAP11]	Simple Object Access Protocol version 1.1, W3C Note Don Box et al. , 8 May 2000
[SOAP12-1]	SOAP Version 1.2 Part 1: Messaging Framework, W3C Candidate Recommendation Martin Gudgin et al., 19 December 2002 http://www.w3.org/TR/soap12-part1/
[SOAP12-2]	SOAP Version 1.2 Part 2: Adjuncts, W3C Candidate Recommendation Martin Gudgin et al., 19 December 2002 http://www.w3.org/TR/soap12-part1/
[WS-I Basic Profile]	Web Service Interoperability Group Basic Profile

2.2. Informative references



3. Terminology and Conventions

3.1. Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY” and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All text in all sections and appendices are normative in their scope unless they are explicitly indicated to be informative.

The figures in this document are for illustration for the normative referencing text. The figures themselves are informative.

3.2. Definitions

The Specification	Denotes the future WS-Reliability specification that is the output document of the Technical Committee.
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3.3. Structuring of requirements

Requirements set by this document are structured in a way that all requirements can contains any number of sub-requirements that refine, clarify or specialize a general requirement for a special case.

This classification of requirements are denoted by numbering of the requirements. The number associated with a requirement consists of numbers separated by dots. The dot-separated numbers are to be read from left to right. The identifier associated with a requirements consist of a capital letter ‘R’ and the number above. This identifier should be in **bold**.

For example:

R1.23 and **R1.8** are two requirements defined by this specification, both beeing a sub-requirement of **R1**.

4. Business use cases

5. Requirements

5.1. Architectural requirements

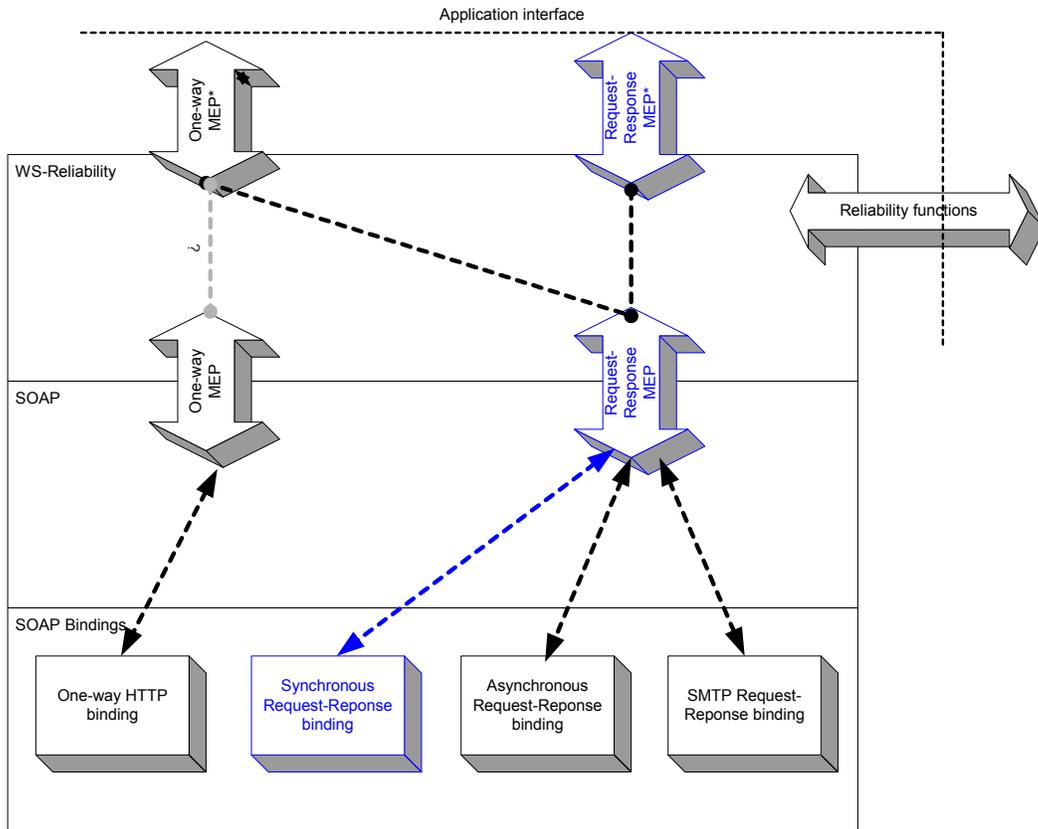


Figure 1: Web Services stack with WS-Reliability [implementation of the Request/Response MEPs (and associated bindings) are for further study]

R1.1 The implementation of the specification must fit into a layered architecture where WS-Reliability is a communication layer between the application and the SOAP layer.



5.2. Usage of SOAP

R2.1	The Specification must adhere to the SOAP message construction rules. The basic messages generated by any implementation of the Specification must be compliant to either the SOAP 1.1 or SOAP 1.2 message format.
R2.1.1	The Specification must prescribe the usage of the different SOAP versions in a consistent way. Therefore, it must be forbidden to mix different SOAP versions

R2.2	The Specification must support Message Exchange Patterns.
R2.2.1	The Specification must support a One-Way Message Exchange Pattern as defined in [WS-I Basic Profile]

5.3. Transport bindings

R3.1	The Specification must support multiple SOAP transport bindings.
R3.1.1	The Specification must support standard HTTP bindings defined in [SOAP11] and [SOAP12-2].

5.4. Reliability features

R4.1	The Specification must address Guaranteed Delivery as a reliability feature. The participating entities must be able to ensure that all application-level information to be sent to the party has actually been received or error reported.
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R4.2	The Specification must address Duplicate Elimination as a reliability feature. The participating entities must be able to ensure that all duplicated application-level information is filtered out during the information exchange and is <u>not</u> received as duplicated.
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R4.3	The Specification must address Ordering as a reliability feature.
R4.3.1	Ordering feature is associated with a pair of WSRM-capable, communicating nodes. Order of MEPs must be guaranteed to be preserved between these two nodes.



R4.4	It must be possible to use different combinations of the functionalities in R4.1, R4.2, R4.3.
R4.4.1	Guaranteed delivery must be independent from Duplicate Elimination.
R4.4.2	Guaranteed delivery must be independent from Ordering.
R4.4.3	Specification may enforce Duplicate Elimination when Ordering is in use

5.5. Backward compatibility

R5.1	A Web Services stack with an implementation of the Standard must not offer less capabilities than a Web Services stack without the implementation of the standard.
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