Sun[tm] ONE Technologies

Web Services Reliability (WS-Reliability) Version 1.0: Frequently Asked Questions (FAQ)

This FAQ pertains to the WS-Reliability working draft specification by a group of leading IT vendors, consisting of Fujitsu Limited, Hitachi, Ltd., NEC Corp, Oracle Corp., Sonic Software, and Sun Microsystems, announced on January 9, 2003.

General Questions

What is Web Services Reliability (WS-Reliability)?

WS-Reliability is a specification for open, reliable Web services messaging--including guaranteed delivery, duplicate message elimination and message ordering, enabling reliable communication between Web services. The reliability features are based on extensions to the Simple Object Access Protocol (SOAP), rather than being tied to the underlying transport protocol. The specification will allow a variety of systems to interoperate reliably in a platform- and vendor-neutral manner.

What is meant by reliability for Web service messages?

Reliable message delivery means the ability to ensure the delivery of a message with the desired level of quality of service. Some examples of this quality of service level for message delivery are:
- Message sent at least once (guaranteed delivery)
- Message sent at most once (guaranteed duplicate elimination)
- Message sent exactly once (guaranteed delivery and duplicate elimination)

The WS-Reliability specification defines a method for exchanging SOAP-based messages with a particular level of quality of service, no duplicates, and a particular message order.

How is reliable Web services messaging achieved in the proposed specification?

The specification defines a set of SOAP headers, or instructions within the SOAP envelope, that govern the control of message acknowledgments, sequencing and message persistence.

Why is WS-Reliability important for asynchronous messaging?

Asynchronous messaging de-couples the interaction between applications and systems. As such it helps ensure the health of the total system even if one of the applications in unavailable, which is frequently the case in real-world interactions between business systems. WS-Reliability provides a key enabling technology for allowing asynchronous-style Web services to take place.

What is the main value of WS-Reliability?

Web services are seen as a way of driving down the cost of application integration both between internal systems, and between business partners. Unless Web services communications are made reliable, organizations will not be able to trust them for mission-critical operations, such as

specification will help make a Web service-based architecture relevant for these business-critical needs.

Will this work be donated to a standards organization?

Yes, the authors of this work will donate this work to a recognized standards organization in the near future. WS-Reliability will be licensed under reciprocal royalty-free terms.

Why aren't Microsoft or IBM involved?

Once the specification is submitted to a standards body, all vendors, including Microsoft and IBM, will have the opportunity to contribute to its development and eventual ratification. We welcome their eventual participation.

Technical Questions

Could WS-Reliability be used with other message envelope standards?

WS-Reliability is defined as SOAP header extensions and is independent of the underlying transport protocol. This specification contains a binding to HTTP.
The WS-Reliability specification does not provide defined mappings for message envelope standards other than SOAP. However, its reliability model could be adopted for other message envelope standards, such as ebXML Message Service, AS2 or RNIF.

What is the relationship of WS-Reliability to SOAP? SOAP with attachments?

SOAP1.1 is the base protocol for WS-Reliability. This specification defines extensions to SOAP Header and Body elements. WS-Reliability could be updated, at an appropriate time, to be compliant with SOAP 1.2 and its exchange patterns when SOAP 1.2 becomes a W3C Recommendation.

How does this fit into the currently proposed Web services standards?

WS-Reliability builds upon the foundation of SOAP, which is an important Web service standards. WS-Reliability defines a set of SOAP extensions for reliable messaging and is designed for general purpose Web services usage.

What is the relationship to WS-Routing?

WS-Routing is a proprietary specification published by Microsoft, and their intent around licensing or standardizing this work is unclear. Some of the semantics and functions are similar, and we would look forward to working with Microsoft in a standards organization to converge these ideas.

How does this relate to the ebXML Message Service?

WS-Reliability is complementary to how reliability is defined within the ebXML Message Service specification, yet it is designed as a set of stand alone SOAP extensions for Web services. The WS-Reliability standard consists of two major components: a reliability model for XML messaging and a SOAP v1.1 mapping of that model. It is anticipated that the model will be mapped to ebMS in the future, thus providing architectural continuity between it and other WS-Reliability implementations.

From http://sunonedev.sun.com/platform/technologies/ws-reliability.faq.html

WS-Reliability Frequently Asked Questions (FAQ)

Is WS-Reliablity like the Java[tm] Message Service (JMS)?

WS-Reliability is complementary to JMS.

JMS is a robust, mature specification of a full-featured Java Language API and reliable messaging model for loosely coupled, distrbuted application messaging. JMS does not, however, specify the underlying reliable messaging protocol. WS-Reliability specifies such a protocol, based on SOAP1.1 while focusing on the simplest model for reliable message delivery between endpoints. Because JMS provides a vendor and platform-neutral API for various reliable messaging infrastructures and WS-Reliability provides a particular vendor and platform-neutral protocol, they provide complementary solutions to interoperability for reliable messaging.
It is anticipated that WS-Reliability will be used together with JMS to enable vendor-neutral reliable messaging in an architecture supporting both J2EE[tm] and Web services technologies.