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WS-Reliability: Adoption May Be Low, but Impact Will Be Great

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Vendor announcement

Question

What is the likely impact of the just announced WS-Reliability specification? Will it see widespread adoption?

Answer

The just announced WS-Reliability (reliable Web Services messaging) working draft specification by **Fujitsu, Hitachi, NEC, Oracle, Sonic Software** and **Sun Microsystems** is best viewed as a table-setter for a final specification yet to come. The reliability of Web Services messaging has been one of the issues preventing more rapid adoption of Web Services (see Planning Assumption, [Web Services Outlook Improves](#), Philip Murphy and Uttam Narsu). WS-Reliability hopes to settle this issue by providing a decidedly minimalist (and royalty-free) specification that uses Simple Object Access Protocol (SOAP) 1.1's extensibility mechanism to address guaranteed delivery, elimination of duplicates and ordered message delivery.

There's no question that WS-Reliability solves a real problem. One strong point in the design is that the specification is at the SOAP protocol level (rather than at the HTTP level like **IBM's** HTTPR spec), which allows reliability to be guaranteed no matter what the SOAP messages are ultimately being transmitted over. The ordered message delivery uses the concept of a group ID, which could then be used by a higher level spec to more easily create conversations/choreography. Minimalism is good but WS-Reliability might be too minimalist, for example, it's easy to imagine that reliability could be rolled into choreography/conversations, especially if doing so helps manage messaging to quality of service objectives. That's exactly the approach taken by ebXML's ebMS messaging service (from which WS-Reliability heavily borrows), which provides reliability.

While anyone can create a spec, getting traction is another issue. Historically, the Web Services specifications with the most adoption have been from respected standards organizations (World Wide Web Consortium (W3C) or Organization for the Advancement of Structured Information Standards (OASIS)) or from IBM and **Microsoft** (see IdeaByte, [IBM and Microsoft Take Command of Enterprise Web Services Standards](#), John Rymer). The likelihood of adoption of WS-Reliability spec will be driven by:

1. W3C interest (if this spec is submitted to OASIS or Internet Engineering Task Force (IETF), the probability goes way down)
2. Ability to get either Microsoft or IBM onboard (which we deem unlikely)
3. The authors' ability to get implementations in the hands of developers (ideally through the Apache Foundation in products like Axis), or through Java APIs like JAX-RPC and JAXM
4. The cost of implementation and the ease of transition to an alternate spec if one emerges

5. The quality of the spec itself (Is it minimally sufficient?)

The likely effect of the WS-Reliability spec will be to exert strong pressure on whatever final spec gets adopted by a standards body and users to ensure that it will be royalty free.

Recommendations

For clients with a strong need for reliable messaging solution *now*, it's certainly worth downloading the spec and evaluating whether it will meet an architecture's needs. Using the spec will require implementation support (although it's not difficult to roll your own as one author had done before WS-Reliability debuted, see <http://msdn.microsoft.com/webservices/building/architecture/default.aspx?pull=/library/en-us/dnxml/html/xml11192001.asp>), a better choice would be to send SOAP over a reliable transport where possible. Some vendors who provide support for this are IBM, **Sonic**, **TIBCO** and Microsoft.

For clients that can afford to wait, it will be about six months before (1) a standards organization decides to begin standardizing WS-Reliability and (2) IBM/Microsoft announce their own competing spec.

The WS-Reliability specification working draft is available royalty free for download from each co-editor's Web site, see:

- Fujitsu: http://xml.fujitsu.com/en/about/ws_r.html
- Hitachi: www.hitachi.co.jp/soft/wsrn
- NEC: www.nec.co.jp/press/ja/0301/WS-ReliabilityV1.0Public.zip
- Oracle: <http://otn.oracle.com/tech/webservices/htdocs/spec/ws-reliability.html>
- Sonic Software: www.sonicsoftware.com/wsreliability
- Sun Microsystems: http://sunonedev.sun.com/platform/technologies/technologies_mv.html