



Web Services After Five Years: Panel Discussion Proposal

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Panelists

Jeff Barr, *Amazon Web Services*
Mark Baker, *Developer's Day Chair*
Adam Bosworth, *Google*
Tim Bray, *Sun Microsystems*
Jeffery McManus, *eBay Web Services*
David Orchard, *BEA Systems*

ABSTRACT

It has been estimated that all of the Web Services specifications and proposals ("WS-") weigh in at several thousand pages by now. At the same time, their predecessor technologies such as XML-RPC have developed alongside other "grassroots" technologies like RSS. This debate has arguably even risen to the architectural level, contrasting "service-oriented architectures" with REST-based architectural styles.

Unfortunately, the multiple overlapping specifications, standards bodies, and vendor strategies tend to obscure the very real successes of providing machine-automatable services over the Web today. This panel asks: Are current community processes for developing, debating, and adopting Web Services are helping or hindering the adoption of Web Services technology?

Panel Objective

To elucidate the debate between "real" Web services based on SOAP and WS-* specifications and the emerging alternatives of RSS, XML-RPC, and REST-style Web applications.

Target Audience

Web services practitioners, software researchers, and educators.

Panel Length

90 minutes, including short opening statements of no more than 25 minutes. It could fit into a 60-minute session as well.

1. INTRODUCTION

It has been five years since SOAP was first circulated at the IETF and W3C. Since then, a slew of other Web services specifications, collectively known as WS-*, have poured forth from even more players such as OASIS, WS-I, and ad-hoc coalitions of vendors. It has been estimated that the WS-* proposals weigh in at several thousand pages by now! At the same time SOAP's predecessor, a simple HTTP-only XML-RPC have developed alongside other "grassroots"

technologies like RSS. This debate has arguably even risen to the architectural level, contrasting "service-oriented architectures" with REST-based architectural styles.

At CommerceNet, we prepared a brief guide to a debate that flared up along these lines in September 2004 [11].

One of the key themes of dissent is that Web Services are expected to be as robust a distributed computing framework as CORBA [9] or DCE [10].

Web Services are on their way to a CORBA-like market: sort of interoperable, vendor-ridden, and critically important to a small number of people. If that's the case, then maybe the rest of us can return to vanilla XML HTTP, sometimes known as REST.

— Simon St. Laurent [7]

Developers also fear that WS-* has become a venue for a standards "war":

Why has this situation come about? Because smart people had neural spasms? No. Because smart people realise that this stuff is real important and commercial agendas are at work all over the map.

*The most important document to read if you want to understand the WS-
If This Is Progress I'm A Monkey's Uncle cacophony is "How to wage and win a standards war" [12] by Carl Shapiro and Hal Varian [13].*

— Sean McGrath [8]

Microsoft has prepared a useful guide to the current landscape of Web Services and which ones are mature enough to build on and articulating their point of view as one vendor in the marketplace:

An important area in which Web services differ from the World Wide Web is scope. HTTP and HTML were designed around "read-mostly" interactive browsing of content that is often static, or at least highly cacheable. In contrast, the Web services architecture is designed for highly dynamic program-to-program

interactions. In the Web services architecture, many kinds of distributed systems may be implemented. Examples include synchronous and asynchronous messaging systems, distributed computational clusters, mobile-networked systems, grid systems, and peer-to-peer environments. The broad spectrum of requirements in program-to-program interactions forces the Web services protocol stack to be much more general purpose than the first Web protocols. [4]

2. PANELISTS

We already have interest from several key leaders that represent a balance of the user, vendor, and developer communities that have agreed to schedule their time to come to Japan for this panel discussion if it is accepted.

3. Mark Baker *Nanometrics*

On the Internet, practically all forms of distributed computing are coordination problems, requiring that a coordination language be defined that can be used to implement the types of tasks that the parties involved want/need to have implemented. Some of these languages are very specific in scope, whereas others are very general. In my view, HTTP defines the single most general coordination language ever developed (GET/POST), and while not suitable for absolutely all tasks (like a telnet replacement, for example), it is sufficient for very many, including everything that I've seen Web services used for. [1]

Mark Baker is a distributed systems designer, with a special interest in software architectural styles suitable for Internet-scale deployment, in particular REST. He also dabbles in the wireless/mobile Web space, which lead him to join Beduin Communications as CTO in 1998 (prior to its acquisition by Sun), to co-found Idokorro Mobile and serve as its CTO, and now works with sensor networks Nanometrics. He enjoys the time he spends at the W3C, in the XML Protocol and Web Services Architecture working groups, where he's using his knowledge of REST to try to put the "Web" in "Web Services". Mark will serve as Developer Day co-chair at WWW 2005.

Blog: <http://www.markbaker.ca/2002/09/Blog/>

4. Jeff Barr *Amazon Web Services*

Jeffrey Barr has served for two years as Web Services Evangelist for Amazon.com, where he focuses on creating developer awareness for the Amazon Web Services platform. He has held development and management positions at KnowNow, Akopia, and Microsoft, and was a co-founder of Visix Software. His interests include collecting and organiz-

ing news feeds using his site, www.syndic8.com. Barr holds a Bachelor's Degree in Computer Science from the American University.

Blog: <http://www.syndic8.com/~jeff/blog/>

5. Adam Bosworth *Google*

I'm trying, right now to figure out if there is any real justification for the WS- standards and even SOAP in the face of the complexity when XML over HTTP works so well. Reliable messaging would be such a justification, but it isn't there. Eventing might be such a justification, but it isn't there either and both specs are tied up in others in a sort of spec spaghetti. So, I'm kind of a skeptic of the value apart from the toolkits. They do deliver some value, (get a WSDL, instant code to talk to service), but what I'm really thinking about is whether there can't be a much simpler kindler way to do this. [2]*

Adam Bosworth joined Google recently as Vice President of Engineering. Bosworth comes to Google from BEA where he was Chief Architect & Senior VP of Advanced Development and responsible for driving the engineering efforts for BEA's Framework Division. Prior to joining BEA, Bosworth co-founded Crossgain, a software development firm recently acquired by BEA. Known as one of the pioneers of XML, Bosworth held various senior management positions at Microsoft, including General Manager of the WebData group, a team focused on defining and driving XML strategy. While at Microsoft, he was responsible for designing and delivering the Microsoft Access PC Database product and assembling and driving the team that developed Internet Explorer 4.0's HTML engine.

Blog: <http://www.adambosworth.net/>

6. Tim Bray *Sun Microsystems*

No matter how hard I try, I still think the WS- stack is bloated, opaque, and insanely complex. I think it's going to be hard to understand, hard to implement, hard to interoperate, and hard to secure.*

I look at Google and Amazon and EBay and Salesforce and see them doing tens of millions of transactions a day involving pumping XML back and forth over HTTP, and I can't help noticing that they don't seem to need much WS-apparatus.

I'm deeply suspicious of "standards" built by committees in advance of industry experience, and I'm deeply suspicious of Microsoft and IBM, and I'm deeply suspicious of multiple layers of abstraction that try to get between me and the messages full of

angle-bracketed text that I push around to get work done. [3]

Tim Bray has been in the technology business for 20 years; he serves as Technology Director at Sun Microsystems, where he joined in March 2004. In 1987 he managed the New Oxford English Dictionary Project, in 1989 he co-founded Open Text, in 1994 he built one of the first commercial Internet search engines, in 1998 he co-invented XML 1.0, and in 1999 he founded Antarctica Systems, where he served as CEO for several years.

Blog: <http://www.tbray.org/ongoing/>

7. Jeffery McManus **eBay Web Services**

Currently a senior manager, platform evangelism at eBay, McManus has over 15 years experience as a developer, technology manager and technical writer. He is proficient in many development technologies, and has written six books. These include the C# Developer's Guide to ASP.NET, XML and ADO.NET and the VB.NET Developer's Guide to ASP.NET, XML and ADO.NET (Addison Wesley, 2002).

Blog: <http://mcmanus.typepad.com/grind/>

8. David Orchard **BEA Systems**

David Orchard has worked at BEA Systems as a Standards architect since 2001, representing BEA on W3C, WS-I and other standards; he has previously served as an elected member of the W3C Technical Architecture Group (TAG). David currently serves on a large number of committees, including W3C XML Protocol, W3C Web Services Description, W3C Advisory Committee, WS-ReliableMessaging and WS-Addressing. Previously, he worked at Jamcracker, where he served as XML architect and had responsibility for creation and evangelism of XML technologies, such as creating ITML Provisioning. He has created a W3C XML standard, Xinclude, and he serves as co-editor of W3C XInclude and XLink. David was the first hire for IBM's Pacific Development Centre, and was an integral part of bringing the organization to over 200 employees. He has been an evangelist and developer of key architectures and technologies after recognizing their significance to application development, such as discovering the Web in 1994, Java in 1995, and XML in 1997. David holds a B.Sc. from University of British Columbia in 1990.

Blog: <http://www.pacificspirit.com/blog/>

9. Rohit Khare **CommerceNet Labs**

Rohit Khare currently serves as Director of CommerceNet Labs, where he studies the software architecture of decen-

tralized systems. Prior to that, he founded KnowNow in 2000 based on his doctoral research at the Information and Computer Science department at the University of California, Irvine, focusing on next-generation protocols for HTTP and proactive event notification services with Prof. Richard N. Taylor. Rohit's participation in Internet standards development with world renowned technical teams at MCI's Internet Architecture group and the World Wide Web Consortium at the MIT Laboratory for Computer Science, where he focused on security and eCommerce issues, led him to found 4K Associates as well as editing the World Wide Web Journal for O'Reilly & Associates. Rohit received a B.S. in Economics and in Engineering and Applied Science with honors from Caltech in 1995, a Master's degree and Ph.D. in Software Engineering from UC Irvine in 2000 and 2003, respectively. Rohit served as Developer Day co-chair for WWW2003 and WWW2004.

Blog: <http://www.TheNowEconomy.com/>

10. OBJECTIVES

Five years ago, the Web community debated a similar contrast between advocates of new wireless Web specifications tailored for the unique needs of carriers and merely adapting current technology piecemeal, perhaps best embodied by the WAP and i-Mode's HTML offering. At the 2000 Web Conference in Amsterdam, a panel titled Towards a WAP-Wide-Web? [6] debated the provocatively titled report W-* Effect Considered Harmful [5] that surveyed then-current specifications for WTP, WML, WBMP, etc. Eventually, greater collaboration between these efforts led to harmonization and common cause for the Mobile Web and Accessibility. Could something similar occur for Web Services?

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