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The JCP: A Quiet Force in Web Services

— Sun Microsystems, Inc.

Hurwitz Report

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Executive Summary

From Hype to Standards — All at the Same Time

Perhaps more than any other industry in human history, except for today's entertainment field, the computer industry seems constantly surrounded by hyperbole and rhetoric — largely of its own making. Leading vendors retain top notch public relations personnel and agencies to constantly spin doctor the press and thereby influence the public mind. Top managers of leading vendors, painted as visionaries and captains of industry, proffer high visibility speeches and interviews, aggrandizing their own organization's wonderfulness, and cynically casting aspersions on their competitors' products and soundness of mind.

Paradoxically, despite the excessive image management, the computer industry has entered an entirely new epoch over the past several years, where standards have shifted from barely perceptible light on the edge of the horizon to creating the pervasive foundations for computing. From the World Wide Web Consortium (W3C), to the Object Management Group (OMG), to the Java Community ProcessSM (JCP) Program, and a long list of others, today every vendor must pay homage to the basic protocols of computing laid down by these nonprofit standards bodies.

Of all of the major computing standards bodies, certainly the W3C, due to its direct involvement with web content standards like HTML and XML, and the OMG, due to its direct involvement with software standards like CORBA and UML, have received a high degree of attention. Even the most casual market observer of the Internet and

software arenas has likely heard of W3C and OMG. The relatively youthful JCP has operated under quieter auspices. By marshalling the standards associated with Java TM technology over the past several years, during which Java technology evolved from an adolescent darling of developers to mainstream Global 1000 technology, the JCP has significantly influenced corporate computing yet received little fanfare for its efforts.

Therefore, this paper aims to raise some awareness about the JCP's value proposition, and how the JCP's work has made itself felt in the market. In addition, we will consider how the JCP might continue to impact the world of computing in the future, particularly in relation to the rapidly evolving technologies associated with Web Services.

The JCP's Core Values and How They Add Value

Like all computing standards bodies, the JCP possesses a mission and a resulting short list of core values. Hurwitz Group characterizes the JCP's core values as follows:

- **Openness.** The JCP welcomes any and all comers, and makes all information and processes public to any interested party.
- **Collaborative.** Managing the evolution of something as complex as Java cannot occur through dictatorship. The rich and unabashed sharing of intellectual capital, however, ultimately can claim responsibility for Java. The JCP, therefore, emphasizes the need for collaboration, and has built collaboration directly into its processes.
- **Proof of industry working together.** JCP members believe that all purveyors of Java technology benefit if potential organizational buyers of Java see the Java supply-side working together as a team. By sending the message that Java vendors agree on foundation technologies, but compete in terms of domain expertise, Java buyers, rightfully so, will feel a sense of heightened safety about Java.
- **Compatibility.** The JCP wants to ensure that products built on top of the core Java technology can readily interoperate with one another. The compatibility core value doesn't just stop at Java however; the JCP extends this concept of compatibility to all other legitimate standards, and has made the commitment to ensure that the core Java technology also meets the test of compatibility with both true industry standards (like XML and Web Services) and de facto standards (like Linux and Windows).
- **Device independence.** Java technology was originally designed for device independence, and that design goal remains tantamount today. The JCP drives the Java technology standards to ensure that Java can, if feasible, operate on any platform,
  no matter the sizes or types of the device/chip(s)/operating system combinations.

How does the JCP's pursuit of these core values translate into actual value to the general business community? In several ways, but Hurwitz Group believes that there are three primary areas where the JCP, and thus Java, helps organizations:

- **Choice.** By engendering open, easy-to-access, noncompetitive core technology — a level playing field in effect —the JCP actually stimulates rivalry by lowering technical barriers to market entry. Buyers benefit by having access to more product choices
  in a market environment that reinforces price competition.

- **Easy integration.** It has been well documented that, particularly as computing has matured and reached complete penetration in large and medium size companies, integration ends up carrying the highest costs. When an organization possesses many computing resources of different heritages running in heterogeneous infrastructures, the cost of getting these resources to interoperate reaches unforeseen heights. The JCP's "compatibility" value proposition directly drives down those costs. Not only does inter-Java compatibility ensure easier integration between Java-based products, but the Java platforms' goal of working with other standards also means that Java can help organizations span across their entire computing resource base. Not only does easier integration dramatically reduce costs, but easier integration also means that organizations can respond to shifting market conditions faster, helping to drive top line revenues as well.
- **Flexibility.** The JCP takes device independence utterly seriously. That means that organizations can, at least to some degree, make software decisions independent of hardware and network decisions. Again, organizations can choose hardware more on its own merits, like price, reliability, and performance, without being forced to limit hardware and device decisions due to hard-wired platforms.

Hurwitz Group has not fabricated these benefits; the incredible success story of the Java 2 Enterprise Edition (J2EE) TM-based software markets, particularly in application servers and related products, directly exhibits the value proof associated with choice, easy integration, and flexibility. The J2EE branding program communicates those benefits to buyers: The product they are buying is indeed flexible, easy to integrate with other software (particularly but not exclusively Java), and usually one of many product choices in a given software market. The J2EE success story takes considerable time to tell in detail, however, so Hurwitz Group will save that story for a separate analysis.

How can the JCP extend its value proposition and benefits to Web Services?

The Web Services story, however, is being written as you read this paper. The JCP, and the J2EE arm of the JCP in particular, has been in a position recently to respond to arguably the hottest subject in the computer industry in 2001 — Web Services. How can the JCP extend its value proposition and benefits to Web Services?

JCP as a Key Enabler of Web Services

The W3C oversees XML and other Web Services related standards, including UDDI, WSDL, and SOAP. The JCP has little direct influence over how Web Services standards evolve. The JCP,

however, has incredible influence on the core implementation of Web Services, and has embraced that opportunity by instituting a JSR (Java specification request) for virtually every approved element of the rapidly growing and changing Web Services standards. How does that help enable Web Services?

The JCP does the industry a service by taking on the responsibility of driving Web Services standards as quickly as possible into J2EE core technology, and into other areas of Java as applicable.

In the arena of corporate computing, two platform standards have emerged, one a de facto standard from Microsoft which Microsoft calls .NET, one a JCP sponsored standard known as J2EE. Make no mistake about it: Web Services offers no silver bullet. It does, however, promise to bridge many of the islands of computing in an easy to use and easy to distribute fashion. Web Services, however, primarily extends the computing resources and investments that organizations and people have already made. In short, in no way does Web Services eliminate the need for core software platforms like .NET or J2EE; in fact, Web Services probably makes the need for those platforms even more critical.

Therefore, the JCP does the industry a service by taking on the responsibility of driving Web Services standards as quickly as possible into J2EE core technology, and into other areas of Java as applicable. By ensuring that the Java platforms map in terms of basic functionality to emerging Web Services standards, the vendors that leverage core Java technology can also quickly leverage Web Services into their implementations. Not only does this help make Web Services available to the general market on a commercial basis, and Web Services available to innovative developers, but it also adds additional value to the Web Services phenomena by extending the JCP's core values to the market. Specifically:

- **Choice.** Although software vendors have the option to use .NET as a base platform on which to build Web Services solutions, many vendors will certainly not attempt to compete with Microsoft in core enabling technologies like development tools and various forms of servers. With Web Services infused into core Java technology, vendors can extend that technology from a level playing field, again bringing choice to the market for Web Services oriented products. The choice afforded by Java in terms of platform independence, with the JCP as the official voice, will continue to resonate in the industry throughout the adoption of Web Services.
- **Easy integration.** The JCP has taken great pains over the past several years to ensure that J2EE offers a rich set of core integration technologies; the Java Messaging Service (JMS) and the J2EE Connector Architecture (JCA) stand out as clear examples of the JCP grasping the important role of integration in today's solutions. By melding Web

Services into the core platform, vendors and developers of all types will even better be able to leverage existing integration solutions with Web Services — cross-platform of course.

- **Flexibility.** At this time, J2EE mainly supports server-side applications, and uses one of its key constructs, Java Server Pages (JSPs), as the piping mechanism to the client side. The JCP, however, is already considering how to add applicable Web Services based constructs to deal with devices through the J2ME (Java 2 Microelectronic Edition) and J2SE (Java 2 Standard Edition) platforms. Given that device independence remains a core value for the JCP, the industry can depend onthe JCP to weave Web Services into device independence.

Again, Web Services cannot, does not, and will not exist in a vacuum. At this point in time it appears that the Web Services implementation platform wars will involve .NET and Java. Due to the JCP's core values and unwavering attention to Web Services standards, the Java/Web Services combination will, as before, bring choice, easy integration, and flexibility to the market equation.

Conclusion: The JCP Continuing as a Quiet Force

As the computer industry, both suppliers and buyers, tries to successfully surf this new tsunami of Web Services, the JCP will continue to operate quietly in the background, ensuring that Java-based products, including those offering Web Services, reflect the unchanged core values of the JCP. The open, inclusive, and international nature of the JCP will help ensure that the Java/Web Services axis will come to the worldwide market in a timely yet responsible fashion. By evolving Java specifications and reference implementations to reflect the movement of Web Services, the JCP will help organizations of all types realize the benefits that Web Services has to offer.

Do not expect the hype about Web Services to die down too quickly, but also do not expect the standards-oriented computer industry to step backwards in time toward lock-in. The JCP will continue to act as a highly effective, albeit mainly discreet force, which helps drive Web Services toward its promise of changing the way we think about and implement computing.

About Hurwitz Group

Hurwitz Group, an analyst, research, and consulting firm, is a recognized leader in identifying and articulating the business value of technology. Known for its real-world experience, consultative style, and pragmatic approach, Hurwitz Group provides strategic guidance to its clients by delivering analysis, market research, custom content, and consulting services. Clients include Global 2000, software, services, systems, and investment companies.

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