2005: The Year Mainstream Networking Embraced XML

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Abstract

2005 saw landslide activity where major networking vendors embraced XML and positioned themselves in a new market projected to attain 7 billion dollars (source: Gartner). XML is seen by these companies as the key to new network services which offload applications. On May 2, VoIP leader Avaya announced products integrating communication and business applications on platforms such as the Converged Communications Server using XML-capable software and Web Services. On June 21, John Chambers, CEO of Cisco, unveiled the future of networking to a packed hall in the Las Vegas Convention Center - the future was XML. The world got its first glimpse of XML-smart Application-Oriented Networking and a taste of how it would enable the next generation of computing devices. Nortel and Juniper touted partnerships that added XML capabilities to their networking infrastructure. Juniper also purchased network acceleration vendors Peribit and Redline with the stated objective to "assure the delivery and performance of applications over an IP network". These two initiatives toward XML and application acceleration will eventually merge. The activity on networking XML applications did not go unnoticed by Intel who responded by buying XML networking specialist Sarvega on August 17. Intel cited the demand for XML-based solutions to address interoperability within the data center and the deficiencies in security and network traffic routing devices currently in IP-based networks.

This presentation explores XML-based intelligent networking, as enuciated by mainstream networking companies, and how it will alter multiple landscapes including the XML community, the networking industry, application infrastructures, and standards.

The intelligent network has graduated from working only on packets to working on XML messages, from thinking at the network-level to thinking at the application-level. Application servers can now offload to the network such business-critical questions as:

* To whose computer/handheld/telephone should this message go/not go?

* When is a response due? To whom should it go?

* Is this message safe/malformed?

* Should this message be permitted to enter or leave the building?

* Did the message arrive at its internal/external destination?

* In what format should this message from manufacturing arrive at the accounting system?

* Is there an exploitable trend in this week's online orders?

Network equiment vendors are counting on the value prop to be more than irrestible - they are counting on it being a catalyst to profound changes in the computing environment from which they will benefit handsomely.

* Majority of networking devices (routers, switches, appliances) will "understand" XML and offer XML-specific services.

* XML will become another layer on the protocol stack and services will be automatically provisioned by network devices as they are today with TCP/IP and HTTP and lower levels.

* Efficient XML technologies will be demanded, invented, and deployed that will improve XML processing performance by two orders of magnitude.

* Deep changes will take place in application architectures and AppServer technologies as the workload between the network and the application server gets redistributed.

* Web Services and SOA need intelligent networking but an effort will need to be made to merge in intelligent networking concepts.

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1. Late-breaking Talk

The author did not prepare a paper for the proceedings.

Biography

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Michael Leventhal is Senior Director, XML Products for Tarari where he has guided the creation of world's first XML-in-silicon accelerators supporting RAX (random access XML) processing methodology. Mr. Leventhal has been involved with XML from its inception, having authored some of the earliest publications on XML including the first book published on its use for the Internet and was also involved in Web Services from its earliest days, having led the team at Commerce One that created DocSOAP, an open-source, high-performance document-centric SOAP framework. He also worked on DocZilla, an XML-centric mozilla-based browser. Mr. Leventhal is active on Tarari's behalf in the W3C. He holds an EECS degree from U.C. Berkeley.