



INTERVIEW WITH GARTNER'S DARYL PLUMMER

Group Vice President and Research General Manager, Software Infrastructure Practice

BY DAVID BAUM

As head of the Software Infrastructure Practice at Gartner, Daryl Plummer is an expert on application integration technologies, Internet platforms, Web services, application development and database management. Information Builders spoke with Plummer to gather his insights on "The Extended Enterprise," global-class computing frameworks, and how middleware technology plays a role.

IB MAGAZINE - What are the essential ingredients of an enterprise-class technology framework?

PLUMMER - The term "enterprise" is used in many ways, but I generally consider enterprise-class computing to refer to complex, scalable, mission-critical computing that is focused on the needs of an enterprise. I use the term global-class computing to refer not only to the things that happen within the enterprise, but also to technology that is extended outside the walls of the enterprise. Global-class computing deals with things like the culture of the consumer, as well as with how enterprise-class computing strategies interact with one another. Some people call this the extended enterprise, but I'm not sure that is the best term to use because it implies that you can solve global-class problems with enterprise-class thinking.

IB MAGAZINE - What do global class problems entail?

PLUMMER - Global class problems deal with the boundaries between enterprises, as well as the boundaries between a consumer and an enterprise. They also deal with regional differences, cultural differences, and the performance expectations of different systems. Look at E-Bay or Amazon.com. These are global-class sites. They

aren't measured by the same characteristics of scalability, reliability, serviceability, up-time, and so forth that enterprise class systems are typically measured by. Instead, they're measured on the user experience—on how successfully they can reach a "market of one," as Michael Dell put it.

The distinction is more than just semantic. If you try to build a huge Web site, such as Amazon and E-Bay have done, yet you use the typical enterprise criteria, you'll find yourself building it all over again when you try to scale the site for a global-class audience. We've identified about fifty global-class characteristics that don't fit the enterprise mold. For example, Global-class projects use Internet characteristics to offer an outward view of applications rather than an inward one. They commonly feature multi-owned and multi-operated transactions, meaning transactions operated across application environments and even across enterprises. They use technologies such as Simple Object Access Protocol (SOAP) and Extended Markup Language (XML) to enable communication and cooperation among multiple Web sites.

IB MAGAZINE - How does middleware technology fit into global-class technology frameworks?

PLUMMER - When we consider middleware's role in these frameworks, the primary issue to understand is the difference between services and components. Services are generally used between two entities. Components are shared among entities. Or, to put it differently, global-class interaction is about interoperability, while enterprise-class interaction is about integration. They are two sides of the same coin—very much related, but very different in how they're implemented and how you should think about them.

IB MAGAZINE - Can you give us a business example?

PLUMMER - If a rental car company and a commercial airline wanted to interact with one another, they could either integrate their systems together—and that takes a lot of people, time and money—or they could both adhere to interoperability standards that allow them to exchange information and transactions without modifying the systems on either end.

IB MAGAZINE - You commonly use the term Enterprise Nervous System. How does this concept relate to a global-class infrastructure?

PLUMMER - An Enterprise Nervous System is an intelligent network that provides unifying connectivity among people, applications and

devices in different locations and different business units across the entire virtual enterprise. It is the foundation of both enterprise and global class interaction in that it is built on the traditional enterprise network, but is an evolution of that network, providing value-added functions that elevate the role of the network well beyond that of plain communication.

In traditional IS architecture, intelligent application systems interact through a dumb network. In an Enterprise Nervous System, application systems can be a little less complex because they interact through an intelligent network. The conventional network simply transfers data between sending applications and explicitly defined destinations. By contrast, an Enterprise Nervous System offloads logic from the application systems by supplying higher “quality of service” communication—transforming messages, redirecting messages as appropriate, and sometimes even tracking and controlling business processes.

IB MAGAZINE - Are Enterprise Nervous Systems being built today, and do Web services play a role?

PLUMMER - At this point, we see Web services being adopted in three basic phases. What we call Pre-Web services are anything that use Internet technologies or XML to provide access to processes and data. These include XML/EDI applications or XML-enabled data sources, as well as Web pages and other Web content. They are used for basic Web functions such as downloading stock quotes and syndicating content. Nonstandard Web services are service-oriented but do not use all of the Web services standards. Examples include Enterprise JavaBeans (EJB) or COM component services that are Web-enabled but are not necessarily using SOAP, WSDL or UDDI. Finally, what we call Well-Behaved Web services support all the core Web services standards. These include SOAP, WSDL and UDDI. Optionally, these servic-

es may use WSFL/XLANG, XSLT or other emerging standards to increase the ability of businesses to interact with one another.

IB MAGAZINE - At what point will we see Web services extended outside the firewall?

PLUMMER - As we move into 2004 and 2005 we're going to see a lot more Web Service activity outside the firewall. That's going to come primarily from consumer-based commodity services. Standards such as UDDI are being built into almost every middleware product that's being released today. As companies use these UDDI registries internally to keep track of their services, they will gradually become comfortable extending them to a limited set of known entities across the public Internet.

IB MAGAZINE - Some organizations seem to think Web services will magically connect software components without requiring any manual integration work. Obviously that's not the case. Can you explain how middleware technologies from companies such as iWay Software remain important?

PLUMMER - Remember, there's integration and there's interoperability. Integration allows you to adapt two systems so they look more like one another and can be connected directly together. Interoperability involves adapting those two systems so they can communicate through a common standard. The advantage of interoperability is that when you bring a third company into the picture—or a fourth or fifth or tenth—they all plug into the same standard architecture. If you have specific integration middleware, new companies have to be transitioned over. That involves a lot more custom development work.

IB MAGAZINE - How do these trends affect today's middleware vendors?

PLUMMER - Forward-thinking enterprises are embracing both inte-

gration and interoperability. So a middleware vendor today must provide integration adapters and interoperability adapters, as well as ways for that middleware to use a hub-and-spoke or star-type topology to allow people to connect many kinds of middleware components together and use a service bus between them.

The companies that have been doing integration—who have been doing loose coupling especially—have a very strong leg up on understanding the needs for adapters, translators, connectors and integration products in general. These are still useful in a Web services interoperability world, because clearly somebody's got to create and manage the bus. Additionally, somebody has to develop the SOAP connectors and adapters to connect Web services with all types of legacy systems.

IB MAGAZINE - What types of middleware platforms will dominate in the years ahead?

PLUMMER - Not all middleware companies understand that service management is not necessarily the same as systems management—that integration brokering is not necessarily the same thing as service brokering. One of the key things to understand about brokering services is you can't interfere with what goes on at the ends of the interaction. You have to be able to manage the interactions of the services in the network.

The smart middleware vendors realize they are sitting between two systems already, and that it isn't that much of a leap to establish brokering services—not just message brokering or integration brokering, but Web services management platforms. They will figure out how to manage the brokering of services between two different kinds of systems across a network, as opposed to just inside the enterprise. And they will leverage their existing strengths with message translations and so forth to connect all the

CONTINUED ON PAGE 6