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Begin Planning Now for Standards-Based Integration

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Question

What are the prospects for standards-based integration (Web Services, JCA, JMS, etc) during the next several years? How should this affect our planning around application integration?

Answer

As standards mature, Giga sees the bulk of integration outlays moving to standards-based solutions, with the majority of the profit by the year 2005 going to the platform players (**IBM**, **Microsoft**, **Oracle** and possibly **BEA**) and two verticalized surviving application integration vendors (most likely **TIBCO** and **webMethods**). While other vendors may survive in certain vertical niches, they will find that the proportion of each sale devoted to services will sharply rise, simultaneously making them more dependent and competing with their systems integration/consulting partners. Today, standards-based integration, which encompasses approaches based on Web Services, Java Messaging Service (JMS) and Java Connector Architecture (JCA), is relatively limited in functionality as compared to classical application integration (EAI) solutions. Web Services, in particular, are highly immature today, while the classical EAI solutions are overflowing with rich functionality. Therein lie the seeds of the problem. Fewer than 70 percent of application integration users use less than 30 percent of the features of an EAI solution. Moreover, users of current EAI vendor solutions represent a small fraction of the application integration spending by enterprises: the majority of point-to-point integration is still done using file transfers, remote procedure calls and other hand-coding techniques — not EAI products, which remain too expensive for many users.

The need to serve their current high-end customers has forced most of the application integration solutions to complete a transformation begun many years ago, before the threat of Web Services emerged. At the end of the 1990s, application integration vendors incorporated business process integration capability (BPI), targeting real-time data and process exchanges over the Internet, and in the last 18 months, they have added business process management (BPM) functionality to support end-to-end value chain integration (see IdeaByte, High-End Integration Suites Evolve Beyond Integration to Business Process Management, Ken Vollmer). This investment at the high end of the market has precipitated a classic innovator's dilemma, where the vendors' rich investments in *sustaining technologies,* to use Clayton Christensen's terms, have focused on the needs of current customers at the expense of new customers. All that was necessary to complete the picture was a disruptive innovation, and that emerged through the guise of standards-based integration (Web Services, JMS, JCA and JMX). As the threat became clear, platform vendors signaled their intention to be the locus of enterprise integration spending by acquiring EAI vendors.

More tellingly, by simultaneously investing in application integration capability *and* disruptive standards-based integration technology, the platform vendors have won the marketing battle. Today, 60 percent of respondents in a recent Giga survey expect to get their Web Services support from their primary application platform vendor, as opposed to just 17 percent from their application integration vendor. Forty-seven percent of these same respondents pursue Web Services for application construction, 25 percent for application integration and the remaining focusing on the sales value chain. This interest arises despite Web Services' immaturity; of the eventual 10 to 15 Web Services standards, only three (SOAP, WSDL and UDDI) have widespread agreement, and the lack of security, reliability and transaction support are the three biggest inhibitors to widespread enterprise adoption. This interest also spans a range of enterprises, from financial services and banking, to insurance, manufacturing and intriguingly, government at multiple levels. Web Services are clearly moving beyond the early adopters and innovators to early mainstream adoption (see Planning Assumption, Web Services Adoption Outlook Improves, Uttam Narsu and Philip Murphy).

While there's no doubt that Web Services are immature for all but the simplest integration use cases, there's great faith in their potential because they support the higher level macro trend in enterprises: a move to a service orientation. One of the arguments Giga clients make in favor of using Web Services, both for application construction and application integration, is the harmonization and simplification in both the infrastructure they use across custom and packaged applications, and the connections between them. As applications are deconstructed into less monolithic structures, moving toward being composed of smaller components and services, the lines between infrastructure and applications blur. Once the deconstruction is underway, aggregation can begin, constructing services composed as aggregations of other components or services. The point of all this work is to enable greater rates of change to the IT portfolio, in a shorter time, thus realizing the vision of IT for value creation, not as a cost center to be reduced.

To survive in this world, the application integration vendors have focused at the business-process level, the macro level, and the level most connected to the business side. While all these Web Services invocations will take place at the business-process level, business processes differ greatly between a telecom provider and a bank. To succeed at this level will require addressing more business-specific elements. Increasingly, the risks around the survival of application integration vendors will be vertical specific: can they establish a foothold in specific vertical markets that is large enough to sustain them?

Certainly the last quarter's performance for most of the application integration vendors was surprisingly strong, which reflects their ability to do much more beyond the simple point-to-point integration typically found in Web Services solutions, or the publish/subscribe found in JMS. There is also the "trading partner drag effect," which decreases the willingness of a partner to change their infrastructure. Depending on the size of the ecosystem around an EAI vendor, this drag will result in strong maintenance revenue, if nothing else. Yet this drag effect works both ways: standards-based integration offers the lure of a larger potential community that is more independent of the infrastructure each participant has, rather than the smaller communities arrayed around each of the EAI vendors. Even as the EAI vendors embrace standards, they have to compete against cheaper alternatives available from a bigger platform player. And that will be the tolling of the bell.

Recommendations

Don't hold off on current or planned EAI purchases in the next year, but do prioritize your vendors' ability to support standards-based integration. We suggest that enterprises revisit their application and integration strategy, concentrating on developing a multi-faceted strategy to handle integration investments. Focus on integration as a necessity for any new application development, emphasizing architectural best practices to transition IT away from application orientation to service orientation. As a first step, you'll need to thoroughly understand what applications you have. Use an approach based on application portfolio management (APM) as a means to gain control of application inventory, minimize maintenance and enhancement costs, promote expedient application understanding and align applications to their business owners. Doing so will place the role of standards-based integration (including Web Services) firmly in the business context.