

BEA's Grand Plan for SOA

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BEA Systems has developed a strategy detailing its view on the high priorities involved in implementing service-oriented architecture and next-generation composite applications. The guidance comes out of BEA's Office of the Chief Technology Officer (CTO), and lists a series of challenges and suggested methods for mitigating those challenges. Although the guidance is BEA's alone and is not meant to be a panacea, it provides some sound insight.

Officials at BEA, based in San Jose, Calif., discussed some of these issues at its BEA Financial Analyst Conference held in San Francisco last week (March 27-28).

Obviously, BEA correctly states that there are challenges that will exist in an enterprise as SOA matures, and the company attempts to identify the capabilities that will need to exist in order for an organization to move forward.

Some of the issues that will emerge from the SOA infrastructure include things such as guaranteed SLAs (service-level agreements) for high-availability and minimized hardware costs. BEA's suggested mitigation for this is greater use of virtualization technology.

BEA officials heated up the discussion of its virtualization strategy in December at its BEAWorld Beijing conference.

There, the company laid out its product road map, which includes WLS-VE (WebLogic Server Virtual Edition), the first product on the road

map to be launched. WLS-VE combines WebLogic Server with BEA's Liquid VM, a virtualization-optimized JVM (Java virtual machine), and enables Java applications to run on virtualized hardware.

The concept of virtualization has been around for quite some time, and virtualization BEA-style is defined as the process of presenting a logical grouping of computer resources, in a temporary manner, to solve a specific business need. Moreover, according to BEA, the next step is SOA-enabled virtualization. Indeed, the next logical step in the maturity of service infrastructure is the capability of monitoring and managing SLAs. This step results in a service infrastructure that automatically can provision services based on defined SLAs and the current behavior of the infrastructure itself. And the use of closed-loop monitoring and management techniques allow the infrastructure to not only detect when something has changed beyond expected boundaries, but also react accordingly, such as increasing the resources available to meet peak transactions loads. The goal is an SOA infrastructure that controls the service stack, BEA officials said.

A second challenge is the varied configuration of low-level infrastructure. BEA's mitigation strategy for that is the concept of service networks. Although SOA is being used to create a new generation of applications, the pattern of adoption is occurring not at a corporate or enterprise level, but instead at a project or department level, BEA officials observed. And this could lead to islands of services.

Islands, or neighborhoods, of services can be centered on one or more ESB (enterprise service bus) segments, officials said. However, it is the complexity of integrating these various "neighborhoods" into a unified SOA fabric that spans not only a single, virtual enterprise, but also across enterprise boundaries that requires a solution - the service network.

Thus, the concept of a service network must be capable of addressing

several issues that add to the complexity of integrating these various "neighborhoods" of services, including abstracting the location of services, the distributed advertisement of service availability and providing resiliency across the various paths that can be used in the delivery of a service request. To accomplish this, a service network needs to be built using the lessons learned from the technology used to build today's Internet, BEA officials said. And the same principles of computer networks also can be applied to the service space. Service domains can be viewed as service routers, and ESBs can play the role of a service switch.

Meanwhile, BEA officials identified social computing as a third challenge and Web 2.0 as a mitigating factor in overcoming that challenge. BEA officials said the need for business agility will mean that capabilities such as event linking, social tagging and real-time collaboration will need to be provided to the end user. And the emergence of skill sets in the work force, such as blogs and RSS feeds will drive the adoption of Web 2.0 in the enterprise. Last week, BEA officials introduced three new enterprise Web 2.0 offerings at the O'Reilly Emerging Technology Conference in San Diego March 26-29. The company announced AquaLogic Ensemble, AquaLogic Pages and AquaLogic Pathways. -

www.eweek.com/article2/0,1895,2108804,00.asp -

The next generation of enterprise application will empower end users to create their own applications, which will be made up of content, data and functions from various systems. And end users will be able to share their work and results with their colleagues and peers. SOA will be the foundation that makes this transformation possible, BEA officials said. The notion of shared services will be used widely throughout the enterprise, and productivity tools such as portals and BPM (business process management) will play a key role in enabling end users to create their own composite processes and applications, BEA officials said.

The fourth challenge is true interoperability, which can be mitigated by semantic infrastructure, BEA officials said.

The fifth challenge is that business intelligence (BI) must be woven directly into the line-of-business software. BEA officials say this challenge can be mitigated by just-in-time BI delivered in the SOA platform. To get to just-in-time BI, you cannot start with static data, but with data at the time it is created - in the form of persistent data or streaming data, BEA officials say.

Meanwhile, as real-time BI converges with the SOA platform and streaming data flows through enterprise networks, having an infrastructure that can provide guaranteed SLA by implementing things such as deterministic garbage collection and virtualization will be critical, BEA's Office of the CTO strategy said. In addition, technologies such as CEP (Complex Event Processing), which provides the ability to make real-time decisions on multiple events by inferring an outcome, also can help, as can semantic inferencing, another form of CEP, based on relationships and vocabularies.

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