Wachovia Tailors Grid for Growth

CHARLOTTE, N.C.—Wachovia Bank is finding that its migration to the DataSynapse FabricServer grid computing software—a step up from the firm's GridServer deployment— has opened up opportunities for ambitious grid and virtualization programs as well as the embrace of service-oriented architectures (SOAs), bank officials tell DWT.

According to Tony Bishop, chief strategist and head of product management at Wachovia, the bank upgraded to FabricServer, beginning this past summer. Bishop says the bank has been an early and enthusiastic adopter of grid computing and various flavors of virtualization.

"We've had pools of grids [and] about a year ago, DataSynapse released its new product called FabricServer, which takes the concept of a dynamic, horizontal-feeling paradigm and applies that to a pure transactional asset like an environment of a J2EE cluster," Bishop says. "We've now taken and applied that same paradigm in a standardized utility platform."

Last summer, Bishop and his team of six dedicated technologists and 20 "virtual" staffers infiltrated the bank's incumbent WebLogic applications from BEA Systems and the new growth of open source JBoss and Spring application servers with FabricServer. The team incorporated FabricServer across eight core production systems and married it to Wachovia's GridServer installation. The new project is powered in large part by PC blades from Austin, Texas-based ClearCube Technology. The other key hardware elements are blade servers from Hewlett-Packard and IBM. "We're even changing those footprints into multi-cores and storage-attached devices," Bishop says.

According to Ken Knotts, a spokesperson for ClearCube, Wachovia has deployed 3,000 PC blade servers over the years.

Currently, Wachovia's trading floors in New York, London and Charlotte, North Carolina, where Wachovia is headquartered, are reaping the benefits of the FabricServer deployment. The implementation serves "hundreds of traders," some of whom have no idea that they are using a computing grid. "All they know is that for some reason, stuff is running faster," Bishop says.

The grid project consists of assorted tools. The server container holds the open source JBoss, Spring and Hibernate. "GridServer and FabricServer are mapped into that along with our utility reporting tool from Evidence Software," Bishop says. "Our data virtualization is a combination of Tangosol, Composite as our federated query and Unicorn as our data management tool. Tibco is our messaging and service product," he says, referring to the Tibco Rendezvous (RV) and Enterprise Message Service (EMS) offerings from Tibco Software.

Susan Certoma, CIO for Wachovia's corporate and investment bank, says that Tibco's products play an important role for Wachovia. "We just cut a landmark deal with Tibco over a five-year enterprise license agreement (ELA) for their products. We are building these rolled-out pieces of global messaging platform on Tibco that will provide communication between our apps as well as across different businesses," Certoma says.

The Wachovia grid/virtualization project makes the next step much easier— incorporating an SOA.

"If you were to break down the drivers for our whole utility and SOA paradigms that we've been incorporating over the last year, this is the run-time infrastructure for our SOA," Bishop says. "Before, there were traditional legacy silos that you tried to virtualize. Now, it's incorporating a lot of our new, more service-oriented applications and services that are in this standardized, utility run-time infrastructure," he says.

Bishops says Wachovia has a 10,000-node utility in place. "We are running various types of virtual processing workloads that are milliseconds in time dimensions to seconds to minutes to hours. We are controlling service levels; we are differentiating by trader; and by wall clock. We are driving utility reporting where I'm going back to the business and saying, 'For this product, we should generate this kind of margin in revenue,' " he says.

One benefit is speed. Bishop says developers now see an 80 percent increase in response time and/or throughput.

In terms of cost savings, Bishop declines to give a precise figure but did say the savings in hardware and personnel are in the "multiple seven-figure range." During the testing phase, Bishop's team used a combination of laboratory testing and the bank's disaster recovery sites. "We get kudos all the time because the executives at the very top say, 'I spend all this money on that stuff and at least I'm getting some return out of it,' " he says.

Bishop says Wachovia considered and decided against grid software from Platform Computing and IBM, and instead opted to remain with DataSynapse. According to Bishop, while IBM officials say that the WebSphere-based grid offering "is supposed to work outside WebSphere, it only works with WebSphere," he says. "All they do is load balance and reprioritize resource allocation within a single cluster that is only a WebSphere cluster."

Bishop says Wachovia found Platform's offering didn't match the bank's needs. "We've looked at them many times over the last number of years, but they're not even close to GridServer's ability. GridServer supports more of a state-full processing model whereas Platform is still a state-less processing model," he says.

"All WebSphere products are based on open standards," says an IBM spokesperson. "This allows them to fully operate with WebSphere and non-WebSphere environments." Wachovia currently uses WebSphere technology, but not for grid computing, the spokesperson says.

Platform officials did not respond to inquiries by press time.