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Grid gets down to business

By Alan Joch

Early enterprise adopters of grid computing praise benefits such as ultra-speedy processing for heavy-duty applications.

Just because a company traces its roots to 1775 doesn't mean it's hidebound. Bowne & Co. certainly isn't. Earlier this year, the centuries-old financial publishing firm did something few other commercial companies have dared to do: Bowne launched a modest production grid, the computing resource-sharing technology that's received a lot of headlines but so far has seen little adoption outside of academia and life sciences.

So far, Bowne's grid bet has paid off. With the grid, the company has cut in half processing time for a key application that helps mutual fund customers meet financial reporting regulations. Now, with the help of DataSynapse's LiveCluster distributed-computing software, reports that used to take two hours to complete are done in an hour. That's a significant reduction for a company that has to churn out hundreds of thousands of reports within production windows that might last only a few days.

"We have a complicated production process with a lot of customers trying to get work out at the same time. We get big spikes in demand," says Ruth Harenchar, CIO at the New York company. "By reducing bottlenecks, grid helps Bowne meet those demands and enables it to seek out additional business."

As an added bonus, the speed boost came about using two Intel Xeon processor machines running Windows 2000, which are less expensive than the stand-alone proprietary Unix servers that used to do the processing. LiveCluster resides on the Windows servers, not in a separate middle tier.

Now Harenchar's IT staff is developing guidelines for future activities, including identifying the applications that stand to benefit most from grid and what technical hurdles might arise. "Because grid is still immature, it's not plug and play," she says. "I want an overall plan for a corporate-wide grid strategy before we go further."

Harenchar's hesitation isn't unique. Despite some enthusiasm by early adopters, IT managers at most large corporations still question [grid's](#) ROI potential. "Much work is still required to convince the more risk-averse majority of users across all verticals that grid investments will pay dividends," The 451 Group concludes in its recent report, "[Grid Computing: Where is the Value?](#)"

So far, grid has made the biggest inroads in the scientific community, especially in life sciences, pharmaceuticals and seismic processing for oil and gas. Financial organizations and manufacturers in aerospace, automotive and electronics also have come onboard slowly, with scattered implementations in other industries. Human resources outsourcer Hewitt Associates recently put grid computing to work on a pension calculation application (see [story](#)). [The Enterprise Grid Alliance](#), an industry consortium formed last spring, promotes grid computing for any company that has to perform complex analyses to get to market faster, says Peter Ffoulkes, chairman of the group's marketing steering committee and a Sun executive.

These pioneers helped grow the worldwide market that includes grid software to \$6 billion in 2003, with gains of almost 20% compounded annually expected through 2008, according to IDC. "We're seeing adoption of this technology largely for applications needing high computational performance that also have application logic or data sets that can be segmented," says Dan Kusnetzky, program vice president for system software at IDC. "Parallel processing techniques can offer some benefit to these applications."

On-demand grids

These types of computing clusters, which string together processing power from multiple networked computers to tackle demand spikes, is just one grid incarnation. A second, more ambitious category that's not yet commercialized, calls for massive sources of on-demand computing power that corporations would draw on from a computing services provider, much like drawing electricity from a traditional power grid.

But except for tests in their R&D labs, non-scientific organizations have been slow to adopt even the more mature clustering approach. The hesitation stems in part from a host of unresolved data management issues. IT executives aren't going to show widespread support for enterprise-grade transactional environments on grids until data management is a smoother process, The 451 Group says.

"Most of the available software is still focused on jobs that require heavy computation, and it isn't good at trying to decide where or when to carry out a task - one of the key requirements of real-time transactional environments. It's also of little use in cases where a task requirement is all communication and no computation, or where an action is dependent upon the result of a previous one" such as in [ERP](#), [CRM](#) or accounting applications, the report says.

That could change as enterprise CIOs seek out new ways to break up processing bottlenecks. Getting the most out of IT investments is another grid selling point, Ffoulkes says. Some large organizations might utilize less than 10% of their available computing resources at any given time. By identifying and allocating idle processors across a network, grid middleware can focus resources during demand spikes and bring utilization rates close to 90%, he says. "If enterprises can harness that potential, they can bring IT costs down and gain a strategic advantage over competitors," Ffoulkes says.

But before that happens, even pioneers like Bowne need to see more in the way of turnkey grid products. "I'm sure products will get better over time, but before we put more grid technology into production we'll have to do more testing to understand what we're dealing with," Harenchar says. "It's not like there are 5,000 other companies out there that have already developed a checklist that says 'if you run into this problem, flip these five switches and everything will work fine.'"

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