

# State of the blade server industry

By Dr. Lance A. Leventhal

## The market

Blade servers are an expanding market in a generally depressed market for high-technology products. The idea is an obvious one – shrink a complete server down to a single small card and combine multiple units to handle large tasks. We've all heard similar ideas before applied to other problems, but most have foundered on the problems of dividing tasks appropriately, interconnecting all the individual units, and managing the entire system. So far, the server blade industry has made formative steps toward complete solutions suitable for the average data center or telecom user.

How large is the market today and how fast is it expanding? Most analysts (led by IDC and IMEX Research) figure it at

between \$50 and \$100 million in 2002, with a compound annual growth rate of 100 to 150 percent. Obviously, this is not much revenue to divide among four major OEMs (HP, Sun, Dell, and IBM) and perhaps 50 smaller suppliers. If one assumes the midpoint values (\$75 million and 125-percent compound growth rate), the market would be:

- \$170 million in 2003
- \$380 million in 2004
- \$850 million in 2005
- \$2 billion in 2006

If one assumes (only for argument's sake) that each major player is currently spending \$50 million on its server blade effort and each smaller player is spending \$10 mil-

lion (plus a typical 10-percent growth rate in expenditures as actual product moves through the system), we have approximate expenditures of:

- \$700 million in 2002
- \$770 million in 2003
- \$850 million in 2004
- \$940 million in 2005
- \$1.05 billion in 2006

Thus, 2006 appears to be the nearest break-even year, which means that one should expect to see acquisitions and drop-outs as larger companies develop solutions to address the long-term opportunity, and smaller players seek out the resources to bring their technologies to market.

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## What about heat dissipation?

A simple concern raised recently by Dell Computer President Kevin Rollins is that of heat dissipation. Densely packed systems are surprisingly expensive to cool, and overheated servers are a significant cause of problems. Rollins sees this issue as dampening the server blade market, particularly as blades use next-generation processors that dissipate even more power than today's models.

## Thin clients

Another established market in which blades may play a role is the thin client area. Once thought of as the key application for the infamous *network computer*, thin clients have become a decent-sized market for users who do not need a full

PC. The idea here is to give users only a CPU, I/O devices, and a network connection, with all storage occurring on the network. Users presumably have the kind of tasks, such as data entry, information mining, or customer contact, which do not require local storage or changes in programs. In practice, most users in organizations use only a few fixed programs and keep everything on the network anyway. The advantages for corporate control and security are enormous. A blade, latest term – *client blade*, could take the argument even further. The user would have only an interface, keyboard, mouse, and video display, plus a connection to the blade, which is located physically in a data center. What does the user gain? They gain centralization, ease of maintenance,

security, and corporate control. Blades are all in one place so maintenance problems do not require a visit to a remote location. In fact, if a user reports a system failure, the data center can simply switch that user over to another identical blade, then fix the problem, or dispose of it, at leisure. This idea has worked well on brokerage trading floors where downtime is incredibly expensive, and users do everything on the network.

## Grid computing

At the other end in complexity is grid computing, whereby thousands of tiny systems are connected to solve difficult tasks. Traditionally associated with scientific applications, such as weather forecasting and gene sequencing, grid computing

is now moving into areas such as computer-aided design, video streaming, large file transmission, and shared data access. Server blades make fine grid elements, since they combine the essential computing power and networking capabilities without expensive add-ons.

## A beneficial solution

Overall, blade servers remain a theoretically attractive solution. The idea of dividing large servers into atomic units would clearly help with maintenance and expansion. Propositions such as "buy only what you need" and "maintain only basic units," perhaps by simple replacement, are compelling at a time when capital expenditures are being reduced, and specialized personnel are being laid off.

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*The Server Blade Trade Association (SBTA) is an organization of more than 30 members, founded in October 2002, to develop standards and promote the adoption of server blades. Its goals are to promote interoperability and compliance*

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*with standards, promote server blades in the trade and technical press, make the latest information about server blades available through a newsletter, Web site, and other methods, cooperate with other standards groups and trade associations, and ensure that server blades are represented at major enterprise computing conferences.*

*Visit [www.serverbladeta.org](http://www.serverbladeta.org) for more information.*

