



With more funding, ClearCube hopes to establish desktop blade model

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ClearCube Technology, which has taken the modular design of blade servers and applied the same principles to client desktops, has gained an additional \$20m in funding. The money will be used to expand its distribution, sales and marketing operations, following significant interest from three vertical markets: government, financial services and healthcare.

Paladin Capital Group's Homeland Security and Partners' Fund - a new investor attracted by the business ClearCube has been doing with customers such as the US Air Force, Department of State, Department of Justice and NORAD - led the round. Government customers like ClearCube's approach because it addresses some of the security risks associated with traditional personal computers by establishing centralized management. Liberty Mutual, Austin Ventures, Techno Venture Management, SAIC, Sternhill Partners and other private investors also contributed to the round.

Impact assessment

The message

With more funding behind it, ClearCube is hoping to gain further traction with large government, financial and healthcare users. Its Client Blade architecture, which enables PC-equivalent desktops to be managed as a centralized server, tackles many of the security and management issues that such users require.

Competitive landscape

ClearCube has this space pretty much to itself at the moment. Software-based thin-client companies such as Citrix and Tarantella can't offer the full functionality of a PC remotely. Thin-client devices such as Sun's Sun Ray and Oracle's New Internet Computer aren't PCs. However, companies such as Avocent and Raritan, which have already developed remote keyboard, video and mouse controller technologies, are now taking an interest in the blade model.

The451 assessment

ClearCube has a good chance of establishing itself in some sizable niche markets. But the technology isn't suitable for those who might want a bit more flexibility over the use and deployment of their desktop systems.

Context

Austin, Texas-based ClearCube, which was founded in 1997, is on its fourth round of funding, with the total amount raised to date now standing at \$52m. It's been shipping its Client Blade products for over a year, has filed for around 50 patents, and now has "several hundred" customer sites deployed. Aside from the government, it's sold systems to financial services clients such as BP, Morgan Stanley and the Chicago Board of Trade, and to healthcare facilities such as Northwestern Memorial Physicians Group and Oklahoma Heart Hospital. The company has 80 staff. It expects the latest funding round to be the last necessary to get it to profitability.

Technology

Instead of using blade architectures for densely packed, modular servers, ClearCube has redesigned the standard PC engine so that it can stack as many as it wants into centrally managed racks. It then connects these with remote display terminals using standard Category 5 cabling, through which it transmits not only standard keyboard-video-mouse data, but also full USB functionality, so that all the ports normally found on the back of a PC can be put beside the desktop unit and used normally. The desktop units can be up to 200m away from the back-end PC rack. Eight PC units will fit into a 3U rack, or 100 PCs in a full-sized rack. So far, ClearCube has deployed systems with up to a thousand desktops, and is working on some with several thousand.

The advantage over the standard PC model is all about the management. Dell PCs may cost \$900 on average, compared to \$1,200-1,800 for each ClearCube desktop. But each Dell desktop can cost up to \$4,500 annually to manage. ClearCube is keeping up with Intel's recent chip releases, and offers the latest 3GHz Pentium 4 processors. It also offers support for up to four monitors per desktop, a useful feature for financial traders. The company's own CMS management toolset includes a blade manager, switch manager, data failover and image manager, but other tools, such as the Ghost image manager, can be used for standard tasks. The switch and data failover products enable users to be switched instantly to a spare blade in case of failures.

Some of the new funding will be channeled into continuing product development, such as further management tools and a fiber version that will increase security and extend the distances that desktops can be from the centralized PC blades. ClearCube CEO Mike Frost believes the company has come "closer to the notion of grid and on-demand computing than anyone else."

Competition

ClearCube competes with mainstream PC and server companies, and with thin-client software companies such as Citrix and Tarantella. Proprietary thin-client hardware - such as Sun's Sun Ray devices, Oracle's spectacularly unsuccessful New Internet Computer and devices from Neoware and NCD - aren't PCs at all, and don't offer standard PC functionality. IBM exited that business a year ago, after deciding that the return on investment just wasn't worth it.

But there's also some growing interest from a different source: KVM (keyboard-video-mouse) controller companies like Avocent and Raritan. Both have recently launched KVM switches for remote system control. Each switch has multiple ports that extend the reach and management of keyboards, video monitors and mice for use across multiple servers. But Frost says these companies haven't integrated USB support into their products, so they can't offer remote peripheral functionality, for instance. Even so, both Avocent and Raritan have identified blade servers as a key opportunity.

Eventually, grid companies that tie multiple desktop systems together and enable processing resources to be spread between multiple devices on demand could also prove to be greater competition. Watch this space for further details.

SWOT analysis

Strengths

ClearCube has come up with a novel application of the modular blade server architecture for those who want to keep desktop usage under control.

Weaknesses

There may be some resistance from users who want to own their own desktops, or those who need more flexibility in deployment.

Opportunities

Increasing regulatory control - such as the healthcare sector's HIPPA rules - could do a lot to drive sales of this type of technology. Classic PC vendors will find it harder to compete in these areas.

Threats

ClearCube is a small and unknown company that has to compete with giants such as Dell and HP. It's up-front per-desktop costs may put some users off, despite the promise of cheaper overall cost of ownership.