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'Virtual desktops' offer new twist on mobile computing

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Startup digital workspace provider RingCube Technologies, one of Gartner's 2007 'Cool Vendors in PC Technologies,' added to its cool factor recently by challenging new entrants from larger competitors with a business version of its MojoPac desktop virtualisation software.

The software enables computer users to access a digital image of their desktop files, applications, settings and security policies through a USB 2.0 memory device. In fact, the digital desktop does not even have to be carried around. In one version of the new offerings from RingCube, MojoNet, the user's workstation is streamed to the host computer over the Internet.

The untethering of the corporate desktop from the hardware that runs it promises to get companies out of the business of provisioning PCs, an expensive proposition for organisations with large distributed workforces, and allows employees to do business securely from any computer with a USB port.

Given that desktop management currently consumes a massive proportion of IT administrators' time and effort, any technology that can make desktop management easier promises to be a lifesaver. Although storing desktops on a memory stick introduces its own security issues, the separation of the operating system environment from fussy underlying hardware is one such improvement.

Sensing the potential market opportunity in such technology, vendors including server virtualisation giant VMWare - with its VMWare ACE desktop virtualisation tool - and Citrix Systems, which offers hosted virtual desktops using its Citrix Desktop Server product - have also weighed in on this emerging technology.

While this form of desktop virtualisation has much in common with that of widely hyped tools that let Windows run on Apple Macintosh computers - such as Parallels Desktop and VMWare's new Fusion - its careful application to large enterprise environments offers significant cost benefits for IT staff. That's why IDC has predicted the market for desktop virtualisation will explode from nearly nothing this year, to be worth \$US1.7 billion by 2011.

"There are real value propositions for desktop virtualisation," said Patrik Bihammar, senior analyst for security solutions and system management software with IDC Australia, "particularly around replacing fat clients with thin clients, thereby centralising and simplifying desktop administration, management and security."

A hybrid approach, combining the reliability of a hosted server-based desktops with the flexibility of portable desktops, resolves the need for constant connectivity that could limit the virtual desktop model's usefulness, Bihammar pointed out.

"There arguably will be value in placing a virtual machine aboard a client machine as well: while the desktop environments are centrally managed, they are also mobile and do not require constant connection to a central server."

Analysts familiar with the technology say the innovative technology moves companies closer to a workplace reality where employees move seamlessly between personal and corporate work, and computing lives are not tied to a piece of hardware.

"From a corporation's perspective, it is like the Second Coming," said Rob Enderle, principal analyst at San Jose-based Enderle Group. "The corporations right now have to manage a unique software image for every piece of hardware they have. With something like this, in theory, they can leave the management of the machine's specific software up to the hardware manufacturers, and then they only have to manage one thing -- and that is the user. It eliminates a lot of the unfortunate complexity that has built up around this whole image management thing."

In addition to simplifying the task of managing desktops, the MojoPac software reduces "rather dramatically" the security profile of employees working from home, Enderle said, and provides many of the advantages of virtualisation without the performance penalty.

"Typically your machine runs 20% to 40% slower with virtualisation because it also has to run all this other stuff. With MojoPac you only take a 1.2% performance penalty, because there is a lot less stuff you have to run to make it work," Enderle said.

Neil MacDonald, vice president of information security research at Gartner, was careful to point out that the MojoPac approach has limitations.

A legal license is required for each operating system installed, so if your permanent desktop and your Mojo desktop both need an application, you'll likely need two licenses, he said. The MojoPac agent requires administrative access to install in a target machine, so it would be hard to walk up to an Internet kiosk and assume it will work. It supports only Windows and Windows applications, and if you have a Windows desktop "in the cloud" and one on a physical device, like a USB, there as yet is no way to synchronise the two.

Still, the positives far outweigh the caveats, said MacDonald, a MojoPac fan. The software does not require another copy of the Windows operating system, it supports Windows applications and USB, PC- and network-based 'portable personality' images. "We think it is the best example of the portable personality on the market today," MacDonald said.

Play pals

RingCube CEO Shan Appajodu said the company avoids the term 'virtualisation' when describing its products, preferring to call itself a provider of managed digital workspaces. Formed in 2004 and with \$16 million in venture capital behind it, RingCube took a page from companies such as WebEx, testing the product first with consumers. "A lot of gamers like our products, using it as a portable PC game cartridge," Appajodu said.

The strategy, capitalising on the so-called consumerisation of IT, gave RingCube valuable feedback for improving the product, he said, and an independent sales force when the company started calling on corporate customers.

"Had we gone out as a virtualisation company, we would have been forced to explain to the CIO or the IT head how we differ from VMWare," Appajodu said. When the company sets up a call, even with some of the largest banks on Wall Street, invariably two people in the room will have already tried it. "So we don't have to do too much of a sell job. They jump in and say, tell us your security story, tell us your management tool story."

Security is always an issue. The MojoPac workstation is password protected. Data encryption is supported by add-on software or with a USB storage device that encrypts the data stored on it.

"Assuming the proper security protocols are used, you can leave the host PC unencrypted and relatively unsecured. If the user would do the personal stuff like playing games on their own side of the partition," Enderle said. If one of the MojoPacs gets stolen, you still have to report it, he said. More laptops are stolen for the laptop than the data, so it's prudent to keep the MojoPac storage device out of the laptop bag.

Despite the potential for small USB storage keys to go missing, IDC's Bihammar still believes the virtual desktop approach improves on existing security. "The complexity of managing virtual environments can also be significant and security is an issue," he explained. "But carrying around an encrypted virtual machine is more secure than carrying around a standard laptop or USB key with no encryption."

Hot desking

Analyst Natalie Lambert, who covers virtualisation at Forrester Research, said portability reconciles a paradox of many modern workplaces: It's hard to rationalise adding desktops for every new employee in a growing company with a mobile workforce, when only 50% to 75% of the office is in on a given day.

"In enterprise space, the idea of carrying around your machine on a USB means that any machine can be yours, so it allows for hot-desking, or the ability to quickly come into an office and find a place to work," Lambert said.

She said virtualisation technology is where corporate computing is headed, because it offers more control over the computing environment and the data.

Third-party contractors can be supplied with USB disks that have the computing environment they need -- and no more, she said. When the worker leaves the company, that workstation can be deprovisioned with a click of a button.

"It's a lot harder to do when you give them an entire PC," Lambert noted. The portable corporate desktop also gives the youngest members of the workforce the independence and customisation they reportedly demand by allowing them to buy their own computers. "Give them the money, have them buy a computer, and send them a copy of the desktop," she said.

The Microsoft factor

Since the software platform requires a Windows environment, Appajodu said the company has taken pains to keep Microsoft abreast of its offerings, including the security functions that prevent pirating, and to explain how RingCube is not violating its licenses. So far, there have been no complaints from the operating system goliath, Appajodu said.

"We have increased their addressable market, basically making the barrier to their market a storage device rather than a computer," Appajodu said.

One question corporate customers might want to ponder is how a small startup can supply a large company, Enderle said.

"Just getting through the government cycle, for example, might bankrupt them." He suspects the full potential of the software technology will not be realised until RingCube becomes part of a larger company. But that will happen sooner rather than later, in his view.

"Any one of the OEMs, were they to grab this company up, would have significant competitive advantage against any of the others. I know of at least one of the majors is looking at them very closely now," Enderle said.

