

VDI THE EASY WAY

Converged data center solutions and reference architectures are paving the way for simplified virtual desktop infrastructure implementations.



On paper, there's always been a lot to like about virtual desktop infrastructure, or VDI.

By connecting thin clients and mobile devices to data and business applications managed within the data centers, VDI promises significantly reduced support costs, dynamic provisioning of computing and storage resources, and enhanced security when compared to traditional desktop environments. Reports from the financial services industry, government and a handful of other markets that lead in VDI adoptions show these promises are grounded in reality.

"In cases where customers have architected VDI successfully, they've seen a lot of benefits," says Kevin Beadon, an analyst who heads the workspace and mobility practice at GlassHouse Technologies. "VDI

is all about increasing agility. When IT shop centralizes control of desktops, it can roll out applications more quickly or empower users to work where they want, using the devices they choose. That makes for a much more agile workforce."

Unfortunately, defining a successful VDI architecture has been the rub for many organizations. Recently published research by IDC shows that deployment costs – which span new servers, storage resources, networking gear and professional services – are often the primary inhibitor to further desktop virtualization adoptions.

"Organizations that are moving to VDI understand that it can be a much more demanding workload than perhaps web servers, for example," says Kevin Strohmeier, director of product marketing for Citrix Systems. "VDI tends to be much more storage- and network-intensive."

Is there hope? The answer is a definite yes. Manufacturers have begun releasing preconfigured and integrated data center solutions along with certified reference architectures that organizations can use as the foundation for VDI implementations. Using these new tools, IT departments can significantly reduce complexity and shorten the rollout timeframe for client virtualization initiatives.

"VDI is one of the biggest application areas for preconfigured systems,"

says Mark Bowker, a senior analyst for the IT research firm Enterprise Strategy Group. "We are seeing some vendors getting really smart about delivering solutions that address all the interdependencies involved in a VDI implementation – from the data center all the way down to endpoints."

Targeting the Desktop

Interestingly, the converged solutions trend in the data center is directly affecting VDI efforts. A growing number of IT managers are looking to these alternatives to support the storage and networking demands of desktop virtualization. Converged solutions – integrated packages of servers, storage, networking, server virtualization software and management tools that come pretested and ready to run in a data center – provide a solid foundation for VDI, says Beadon. Meanwhile, reference architectures, a close cousin to these preassembled solutions, serve as a blueprint to guide IT departments in choosing and assembling components certified to work together. Both options are becoming more widely adopted for a variety of applications in virtualized data centers (see *The Urge to Converge*, Page 8).

"Many of the organizations we deal with are using these converged solutions for VDI because IT managers know the solutions are going to work," Beadon says.

Industries with the Highest VDI Adoption Rates

- 1 Manufacturing
- 2 Education
- 3 Healthcare
- 4 Government
- 5 Financial Services

SOURCE: IDC

Examples of preintegrated solutions include VCE Vblock, which comes in various designs tailored for small, medium-sized and large organizations. Reference architecture options include EMC VSPEX, which provides a blueprint for solutions based on Microsoft Hyper-V and VMware vSphere virtualization technologies, along with EMC unified storage and backup solutions. The FlexPod reference architecture – spearheaded by NetApp and Cisco – uses NetApp unified storage systems, Cisco Unified Computing System servers and Cisco Nexus Fabric.

The growth of VDI as a prime use for converged solutions is prompting some manufacturers to tailor configurations specifically for this area. For example, last year VMware introduced its Rapid Desktop Program. The initiative helps both equipment makers and solution providers build and certify VDI appliances based on the VMware Horizon View desktop management platform.

"Across the program today, there are a dozen name brand partners that are producing VDI appliances," says Mason Uyeda, VMware senior director for end-user computing solutions, marketing and management. Some examples:

- Earlier this year, VMware unveiled the Horizon View vFast Track Reference Architectures, a collection of high-performance and certified desktop designs tailored for ease of deployment, speedy scalability and economic efficiency.
- The Citrix XenDesktop built on FlexPod is a desktop virtualization solution from NetApp, Cisco and Citrix. FlexPod is a validated configuration for a virtualized "data center in a rack" that is composed of computing, networking, storage and management components.
- The EMC VSPEX End-User Computing solution uses Citrix XenDesktop or VMware vSphere to support up to 250 virtual desktops. The core components consist of a desktop broker, a virtualization platform and storage, compute

and networking resources.

• VCE offers the Vblock Desktop Virtualization System in three different bundles to address the needs of testing, development and production in enterprise environments. The solution can be custom configured and deployed for one to 5,000 users with a single instance.

Built to Scale

The ability to scale easily to thousands of desktops is an important component of converged platforms for VDI.

"There's often a lot of nervousness among organizations who are confident they can launch those first 500 desktops but wonder what it will take to go to 1,000 or 5,000 desktops," Strohmeyer says. "These organizations are looking for a set of vendors they can trust and the assurance of a converged infrastructure."

The scaling capabilities built into leading converged solutions can alleviate these fears. "If you want to add another 100 desktops, with the right solutions you may only have to put another blade in the infrastructure," Beadon says.

Given the range of choices for VDI-oriented converged solutions, it's also a chief challenge to make sure the underlying environment adequately meets the specific requirements of the organization. "Organizations need to look beyond capacities based on what a vendor may call 'average users,'" Beadon says. "The key is validating capacities against your actual users."

Assessment tools can help. Uyeda advises use of tools such as VMware vCenter Operations Management Suite or Lakeside Software's SysTrack VDI assessment and design software. They can gather statistics about end-user activities, application workloads and the IT resources being consumed. Data from the assessments is valuable in creating profiles that will determine the design needs of a VDI implementation.

But as with any core technology solution, VDI requires careful

management well beyond the implementation stage. As such, notes Uyeda, "Once VDI is running, organizations should conduct ongoing monitoring to make sure they aren't hitting resource thresholds." ■



WHY VDI?

Virtual desktop infrastructure requires careful provisioning of data center resources, a challenge that is being addressed by growing numbers of preintegrated solutions tailored for desktop virtualization. Once the IT foundation is in place, organizations can expect to see a number of benefits from VDI, such as:

• REDUCED MANAGEMENT BURDENS:

By centralizing applications and computing resources in the data center, the IT department can avoid making service calls to individual desktops if problems arise.

• **ENHANCED SECURITY:** Centralized management gives IT administrators better oversight and the ability to enforce security policies more easily. It also allows them to update patches quickly across all desktops.

• **DYNAMIC PROVISIONING OF RESOURCES:** Underlying virtualization technologies help managers quickly allocate available reserves of computing power and storage capacity when demand for applications spikes.

• **MOBILE SUPPORT:** Applications and data stored in the data center can be delivered to end users no matter where they happen to be working or which types of devices they're utilizing at any given time.

• **EASY UPGRADES:** IT managers can make new versions of applications and operating systems readily available by streaming them from the data center versus having to load them on individual endpoint devices.