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E-Guide

Ready for virtual desktops? Expert considerations before you start

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***Developing a virtual desktop environment isn't as** easy as many IT professionals think, yet there are many reasons why it's worth the effort. In this e-guide, brought to you by searchVirtualDesktop.com, discover the top four benefits of virtualizing your desktops. Also, learn how IOPS affects storage for virtual desktops and how to choose the best system for your environment.*

Four good reasons to deploy virtual desktops now

By Michael Keen, Contributor

Virtualization has its limits, but its benefits are a driving factor and the technology is rapidly catching up with the user scenarios playing out today. Developing a virtual desktop environment isn't an easy feat, but there are many reasons why it's worth the effort. The top four reasons to invest in virtual desktops now are the desktop support cost reduction possibilities, application and data security improvements, software licensing management options and system stability and reliability.

Reduction of desktop support costs

The provisioning of PCs is much simpler in a virtualized environment. With traditional desktops, administrators must test applications against multiple desktop configurations. With virtual desktops, IT can test applications against only one environment prior to deployment and still eliminate most follow-up support issues.

There are high cost and resource demands that come with managing a wide variety of client form factors, multiple generations of operating systems and hundreds of applications. I've even seen some well-managed PC environments require constant maintenance and support to repair problems and retain compliance with corporate policy. Desktop virtualization will allow for large, global companies with thousands of PCs to better manage their desktops because of the reduced dependence on specific hardware and operating system configurations.

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Application and data security improvements

The traditional PC environment must be patched and updated consistently. There is a need to mitigate viruses and worms and cut the exposure of critical data and applications to malicious behavior from internal and external sources. Security risks increase as more mobile devices enter the workforce. End-users reach the Internet through public and unsecured home Wi-Fi networks. Thousands of laptops are stolen every year, which put confidential corporate data at risk.

Because virtualized environments give us in IT greater control over system and application provisioning and access, it is easier to secure access rights, and in many cases, data. Desktop virtualization helps by making it easier to decouple applications from data, which also makes it easier to de-provision access to applications.

Software licensing management

How many applications in the enterprise do you run today that you have no way of tracking? If you deliver all corporate applications through a virtualized environment, it is easier to track software usage and licenses.

System stability and reliability

Virtual environments can help prevent application conflicts and they are easier to repair when there are problems. There are ways to sandbox applications and prevent these conflicts, such as application streaming from Citrix Systems Inc., App-V from Microsoft and ThinApp from VMware. Plus, you can quickly and easily restore a PC to a working state with a simple reboot, thereby reducing the costs associated with reimaging and redeploying that hardware asset.

Choosing a VDI storage system: What to look for

By Mike Laverick

Implementing virtual desktops puts a strain on your network and storage system, so it's important to get to know some options for VDI storage arrays.

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Before deploying virtual desktop infrastructure (VDI), you must consider your VDI storage network, which may be based around the same Ethernet infrastructure from which end users access their desktops. While the network layer is rarely the bottleneck, you shouldn't underestimate the amount of input/output operations per second (IOPS) that virtual desktops generate.

VDI storage stressors

Events such as the simultaneous deployment of a large number of desktops or a surge of end users powering on their desktops in the morning can create bursts of network traffic and IOPS on the data stores that hold the virtual desktop images. That makes it critical to properly test the infrastructure's scalability.

Desktop IOPS do not scale linearly, and you might find an unexpected downward tipping point in performance once you reach a range of 400 to 500 virtual desktops. One solution to this is to use solid-state drives (SSDs) to take the spindle out of the equation.

These SSDs hold the parts of the desktop that present the most I/O. There are a couple of ways to approach this -- for example, some storage vendors offer read-only cache memory that can be added to the VDI storage array. This cache can be used to take the read-only components of a virtual desktop environment (often referred to as the "parent" VM) and locate it in memory to avoid the spindle.

Array options for VDI storage

Another alternative is to remove the storage array from the situation altogether. Companies such as Fusion-IO provide solid-state PCI Express cards that can be fitted to each virtualization host in the cluster. With recent advances, virtual desktops can directly access these devices, giving almost native access to the storage.

This setup requires the IT team to build a "nonpersistent" model for virtual desktops so that it doesn't matter which ones users connect to. The storage is local to the virtualization host, and standard features such as vMotion,

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