

# DATABASE

## TRENDS AND APPLICATIONS

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## APPLICATIONS INSIGHT



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### Virtualizing the Desktop

Server virtualization is commonplace in almost all IT environments nowadays, offering the ability to consolidate and rationalize hardware resources and to provide more flexible access to a variety of target operating systems for testing new configurations. Desktop virtualization, on the other hand, has had slower uptake, but is clearly now gathering momentum.

Less well-understood than server virtualization, desktop virtualization is subject to a wider variety of technical options. Desktop virtualization offers some compelling business advantages. The administrative nightmare caused by hundreds of implementations of (most commonly) Microsoft Windows, each with its own unique combination of patches, utilities and configurations, creates an unmanageable situation and makes it nearly impossible to implement a corporate-wide security policy. IT likes the idea of maintaining centralized copies of the desktop OS which are then run by end-users in virtual environments.

Another powerful driver is savings in hardware expenditure. The hardware requirements for operating systems such as Windows Vista are high, yet most of that hardware is idle most of the time. If some or all of the load could be run centrally, the hardware required at the user's workstation could be reduced.

From an end-user's perspective, desk-

top virtualization can offer an ability to switch between environments on demand. For many of us, the choice of desktop OS - Windows, Linux or OS X - is a compromise, and it's not unusual for a single individual to want to use different OSs - or different configurations - in their daily activities. Desktop virtualization can be a more attractive solution for this than dual boot systems or multiple personal computers.

Furthermore, a virtualized desktop might be accessible from multiple locations - a boon for travelers or for those who often work from home.

These competing demands lead to competing technical solutions. At one extreme, a virtualized desktop may involve terminal-like access to an OS image that is running entirely on a remote computer - this is how the Citrix and terminal services models work. At another extreme, the virtualized desktop is an OS image running entirely within a virtual machine on your own desktop - this is most obviously demonstrated by running Linux under VMware on Windows, or running Windows under Parallels on a Mac.

While both of these models are useful, they hardly represent a "best of both worlds" approach that maximizes user experience, hardware consolidation and corporate manageability. Consequently, a variety of hybrid approaches are emerging in which some of the desktop is managed centrally while still taking advantage of the

power of the desktop PC.

Application streaming technologies (Microsoft SoftGrid, for example) allow centralized copies of fully configured applications to be centrally managed and maintained. These applications are streamed to the user's desktop on demand. The applications do not need to be installed on the local PC, allowing centralized patch and configuration management. In some models these applications can leverage centralized resources (central file systems for instance).

Experience has shown that few users will sacrifice the flexibility and productivity of the personal computer model in order to give IT the centralized control they desire. On the other hand, running virtual OS images entirely on the desktop actually increases the hardware footprint of the desktop machine which is the opposite of what IT wants. Hybrid approaches - such as application streaming - seem to offer the most promise.

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