

## Virtual Desktop Infrastructure Can Deliver Savings without a Loss of Performance

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As they consider the best way to deploy and leverage their communications investments, many organizations are looking closely at desktop virtualization. Desktop virtualization is server-based computing that uses thin clients or remote-connection software on fat clients. It presents a remote desktop to the user from the remote server, which he or she can access from anywhere and on any compatible device (including public PCs). This makes it easy for employees to work from anywhere, while maintaining data integrity and general information security.

Desktop virtualization also enables centralized desktop management, allowing the thin client to be distributed from a centralized data center. As a result, desktop virtualization greatly reduces the need for PC refreshes, which delivers a demonstrable, or “hard,” return on investment. The benefits of centralized management, disaster recovery and backup continuity provide additional value.

But desktop virtualization can require tradeoffs. For example, terminal services, a form of desktop virtualization that has been around for years and which offers relatively low-cost benefits, still doesn’t offer the levels of performance most organizations require. Since terminal services are based on a multiple-user platform, they provide every desktop with the same services and applications, which limits their use.

On the other hand, virtual desktop infrastructure (VDI), although relatively new, has started to gain traction in the market. Unlike terminal services, VDI is designed to create and deliver a specific set of services and applications for each user, all from a shared centralized server. Although still nascent, VDI represents the future of desktop virtualization; it offers flexible deployment for end-users, and with the costs of VDI itself decreasing, combined with the ongoing operational savings it delivers, VDI can significantly reduce, or even eliminate, the cost of maintaining and managing physical local desktops—without a loss of performance or end-user value.

Still, companies that use VDI in conjunction with real-time communications and bandwidth-intensive applications like videoconferencing should be prepared to handle the additional burden on the network, which, in turn, may limit scalability. Challenges include:

- Server-based audio/video compression requires excessive network bandwidth to allow uncompressed audio/video to be sent over the network;
- Server-based audio/video compression and decompression limits scalability;
- Delivering real-time audio and video on a large scale isn’t practical due to the impact of latency and packet loss (TCP/IP vs. UDP).

Organizations that want to leverage VDI and also run real-time communications applications should look for a solution that optimizes media processing at the terminal, while allowing application control and functionality to continue to run in the virtualized environment or data center. This ensures the terminal doesn’t transmit uncompressed audio or video, minimizing transmission delays and ensuring the network isn’t overwhelmed. These users also need the

ability to offload media processing to the user's Windows device (to increase server scalability); point-to-point UDP/RTP media stream pathways for optimal delivery over WANs and maximum QoS; and a VDI protocol that keeps bandwidth consumption in check.

Companies might also want to look for a solution that delivers additional value for specific UC applications like Microsoft Lync, by, for example, delivering strong bandwidth management, multiparty split screen capabilities, and integration with room-based conferencing systems.

The result: high performance for end-users, and fewer costs and headaches for IT.



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