Market Brief

Exploring Hardware Innovation for Centralized Desktop Deployments

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Abstract: *Alternative desktop and application delivery models may require new infrastructure investments. ESG research respondents have shown that adopting alternative delivery models has often required additional investments (including servers, networking, and storage) to meet the performance requirements of knowledge workers and low-end power users. The HP ConvergedSystem 100 for Hosted Desktops with Citrix XenDesktop aims to simplify the cost and complexity of these efforts while enabling IT to embrace hosted desktop delivery with predictable infrastructure investments.*

Innovation Inspires Infrastructure Designed for Desktop Delivery

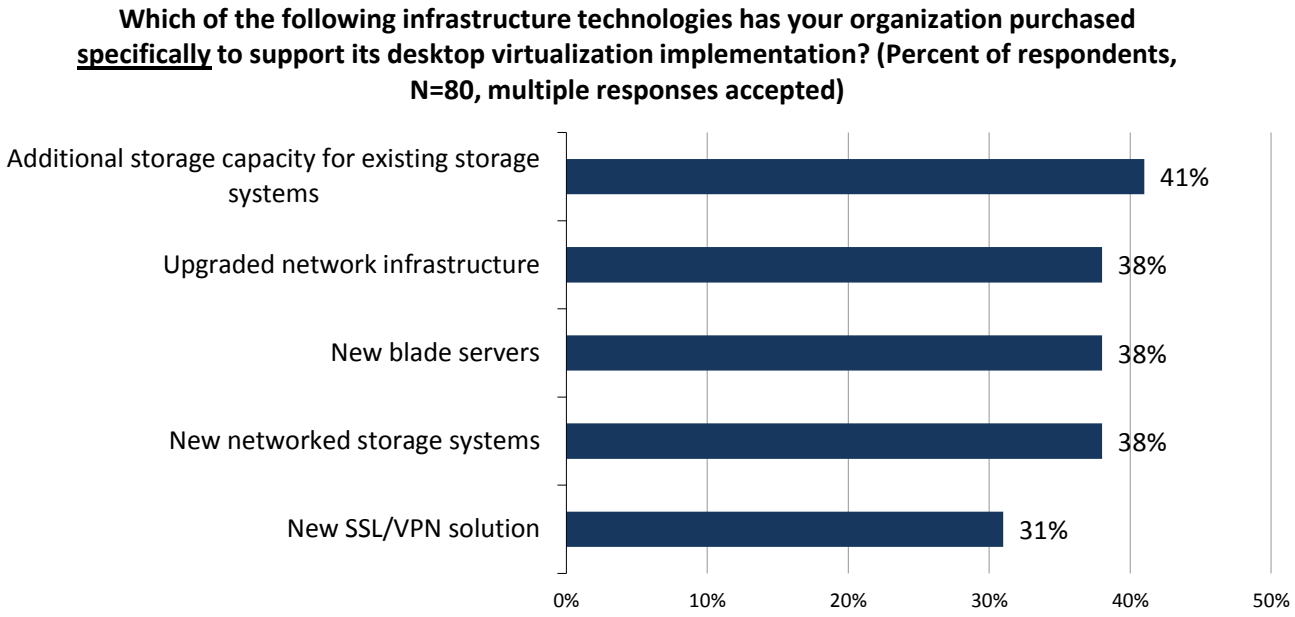
Businesses are off to the races looking for ways to effectively address BYO initiatives, Windows XP to Windows 7 /8.1 migrations, and desktop lifecycle refreshes. Alternative desktop and application delivery models that move applications and entire desktop images into the data center are enabling IT to rein in control while also empowering the workforce with improved access to applications, without compromising the end-user experience or device options. In order to achieve this, IT has to identify and invest in a predictable infrastructure architecture to maximize the success of a new delivery model, scalability planning, and favorable economics. The infrastructure decision process can be a difficult task for IT to navigate until it clearly identifies user segmentation or use cases and maps them directly to a predictable infrastructure. The situation also creates an exciting opportunity for IT to consider new technology and innovations available in the market today.

Infrastructure Considerations

Presenting a desktop image over the network to a mobile or remote endpoint while centralizing IT control and management can have numerous benefits, provided IT can overcome some infrastructure intricacies. Due to the potential costs and complexities that often accompany architectures required for these virtual desktop deployments, traditional methods often pose a real deterrent for both IT and other decision-makers. A recent ESG research study of IT professionals who have embraced desktop virtualization strategies across multiple delivery models reveals that the impact to IT infrastructure is significant, as shown in Figure 1.[1] Respondents indicated that they have made specific purchases in servers, storage, and networking to support their virtualization efforts. But potential investments in these areas typically lead to configuration uncertainties, scalability hurdles, resource contention, and concerns about "noisy neighbors" that consume large quantities of resources at a given time, and negatively impact performance and usability for other end-users. The incremental cost of additional SAN storage alone can put an immediate halt to any deployment plans.

[1] Source: ESG Research Report, *Desktop Virtualization Market Evolution*, February 2014. All other ESG research references and charts found in this brief are taken from this research report.

Figure 1. Top Five Infrastructure Purchases Made Specifically to Support Desktop Virtualization



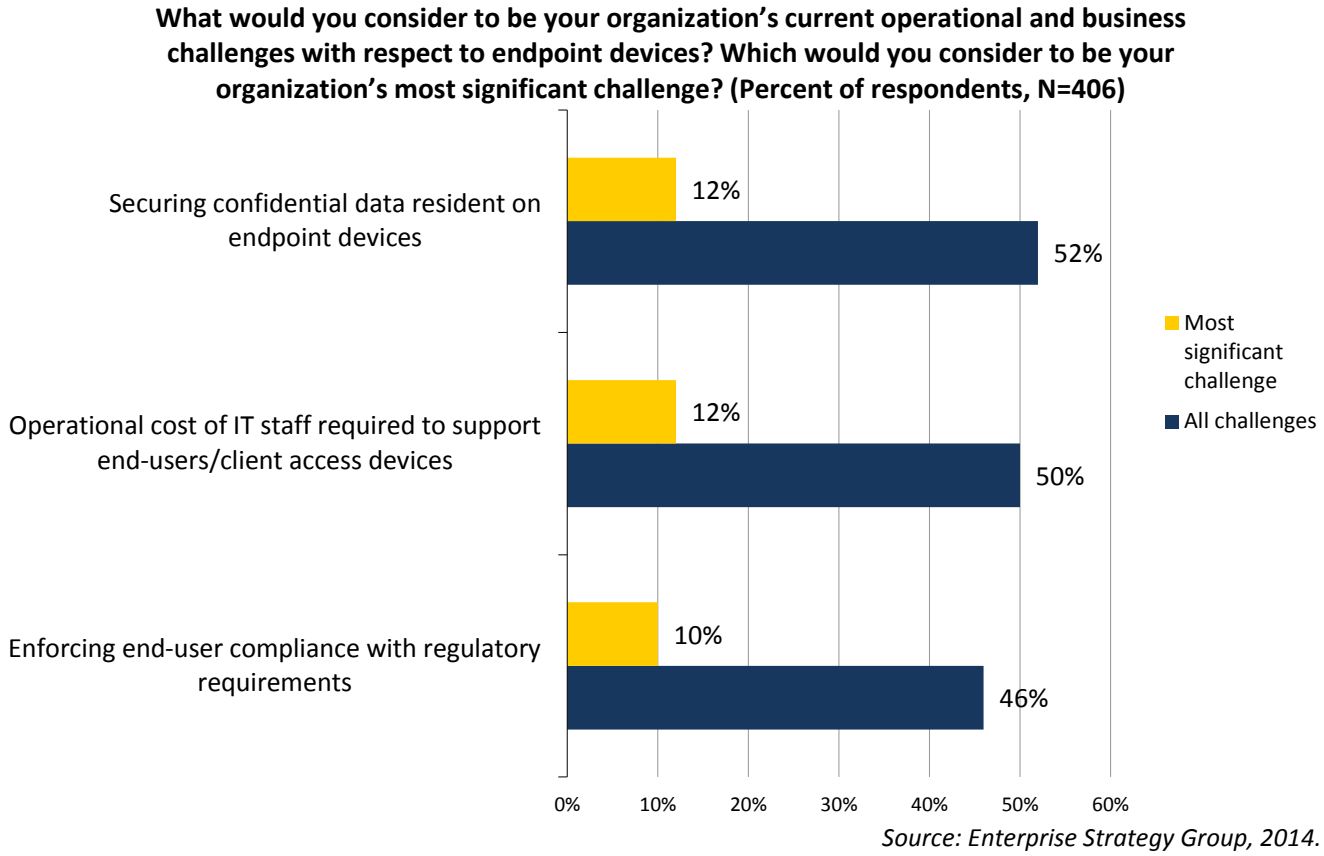
Source: Enterprise Strategy Group, 2014.

Profile the Workforce

IT has the added challenge of matching a wide spectrum of users to the delivery model that meets and exceeds their requirements and expectations. An ideal choice is a delivery model that can address a broad set of use cases from initial high-impact scenarios to long-term efforts. Task workers, with relatively low demands, have often been addressed with a "shared desktop" delivery model consisting of non-persistent desktops. The challenge remains with knowledge workers and low-end power users. This subset of users also happens to be the group that can benefit the most from an investment in a centralized delivery model. However, these users are demanding customers who require consistent performance, while running multiple applications simultaneously; need the ability to play video content; and, in many cases, have graphic-intensive application demands that must be met. Depending on the user's role and responsibility, this may require a persistent image that maintains individual configurations and settings and provides superior graphics performance.

Once IT has identified a subset of users who are ideal targets for alternative desktop delivery, they also have to factor in challenges that blanket the entire population of users. These include the operational and business challenges identified by ESG research respondents in Figure 2. Security, IT staffing, and the enforcement of compliance and regulatory requirements are at the top of this list and are essential factors during any alternative desktop delivery deployment and infrastructure decision.

Figure 2. Top Three Operational and Business Challenges with Respect to Endpoint Devices



Source: Enterprise Strategy Group, 2014.

Once IT identifies an internal infrastructure that can meet the requirements of the most demanding end-users, ESG has witnessed centralized desktop deployments take a strong foothold in many businesses. The convergence of infrastructure elements (such as servers, storage, and networking), as well as new server architectures, provides a compelling platform alternative to traditional IT architectures and methods that can support new desktop delivery models. The HP ConvergedSystem 100 for Hosted Desktops with Citrix XenDesktop is one such unique infrastructure solution. The HP ConvergedSystem 100 is based on HP Moonshot, leveraging the latest system-on-a-chip (SoC) technology from AMD with built-in GPU/APU. The ConvergedSystem 100 chassis holds up to 45 server cartridges, each with 4 SoCs, with local storage in a 4.3U form factor. This new architecture gives each user dedicated compute, graphics, network, and storage.

The ConvergedSystem 100 eliminates the requirement for a SAN and the hypervisor layer to host Microsoft Windows client desktops. A potential consumer can immediately do back-of-the-napkin math and discover that removing the incremental cost of a SAN has a positive impact on the cost per desktop. HP has partnered with Citrix on the ConvergedSystem 100 to address the requirements of the aforementioned knowledge worker and low-end power user by providing predictable performance running multiple applications concurrently plus video and graphics content. One prevalent use case is software developers creating applications utilizing complex financial charts or view-only CAD/CAM files. Citrix XenDesktop provides a complete delivery model for persistent virtual/remote desktops, taking full advantage of the Citrix HDX high-definition user experience and HP ConvergedSystem 100 GPU/APU capabilities. These capabilities unite proven desktop delivery from Citrix with a supported infrastructure designed for the task by HP.

HP has simplified scaling for its customers by sizing the ConvergedSystem 100 to support up to 180 users per chassis. This helps to not only address the initial subset of targeted users, but also provides the flexibility to expand beyond these users without any heavy lifting, simply by adding additional chassis as the demand increases. The predefined sizing characteristics help customers quickly discover how alternative desktop delivery is going to succeed in their environments and provides the ability to easily and predictably scale. HP and Citrix collaborated to ensure the ConvergedSystem 100 delivers a local PC experience without the complexity of desk-side support or the risk of housing

applications and data out on the endpoint. The technology empowers IT to extend centralized desktop and application delivery to a new set of users while addressing security, compliance, and a plethora of other risks that litter desktop computing.

The Bigger Truth

Companies that want to pick up the pace with alternative desktop delivery deployments must invest in infrastructure that is designed to accommodate today's demands and future growth plans. Centralized desktop strategies are an ideal opportunity for IT to explore and consider infrastructure that can deliver benefits in a simplified deployment model with favorable economics. HP and Citrix set the table with extensive experience in hardware and desktop delivery software, which means these solutions deserve further investigation into how they may help address some of the most demanding users when snapped into the overall IT goals of embracing alternative desktop delivery models with predictable infrastructure investments.