

A Guide To Evaluating Desktop Virtualization Solutions

Takeaway Guide

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If your organization is like most enterprises, you are either deploying or considering desktop virtualization. With good reason: Desktop virtualization has the potential to save costs, simplify complex software migrations, improve security, enhance compliance management and enable business agility. More than 75% of mid-size and large enterprises are moving forward with desktop virtualization, according to various research reports.¹

While desktop virtualization seems to be on everyone's radar, there are still many steps between thinking about desktop virtualization and achieving a virtual desktop deployment. A pragmatic approach is to evaluate the features and benefits of desktop virtualization and make important decisions about which platform will give you the best chance of success.

It is critical for IT administrators involved in this evaluation/decision-making process to understand the differences between the various desktop virtualization platforms and to focus on those issues and features that are most relevant for a successful deployment – both for the IT department and for all the end users throughout the organization. This guide will discuss which issues are most relevant in evaluating desktop virtualization platforms and evaluate the ways in which the industry's leading platform is delivering innovative and forward-looking solutions.

What To Look For In Evaluating Desktop Virtualization

A great way to start an evaluation is to list the key benefits and challenges involved in desktop virtualization and then to look at which platform does the best job of delivering the benefits and addressing the challenges. Based on research into the most important drivers of desktop virtualization, the following eight considerations are most essential for IT administrators in evaluating desktop virtualization solutions:

¹ Cost Reduction and Productivity Goals Will Drive 82 Percent of Businesses to Client Virtualization Within Two Years, CDW, January 2011; also Research, VDI Adoption Trends, InformationWeek, September 2010

1. **Reduce Complexity:** With desktop virtualization, particularly the Virtual Desktop Infrastructure (VDI) approach, you have the opportunity to regain control over distributed desktops. With the right platform in place, this should mean a centralized point of control to manage and provision virtual desktops, dynamically balance workloads and simplify technology refresh cycles, such as migrations to Windows 7. The beauty of having a VDI solution in place is that the next time there is a major migration or application upgrade you will already have a flexible infrastructure that makes the migration much simpler, safer and faster, saving you time and your organization a lot of money.
2. **Lower Costs:** Cost reduction is a major consideration in VDI deployments. You can achieve savings through extended hardware lifecycles, or through much lower ongoing maintenance costs with a sharp reduction in desk-side visits and helpdesk requirements. Forrester Research estimates a 60% decrease in ongoing support costs due to VDI and a 40% reduction in helpdesk calls.² Storage is another area where choosing the right platform can make a significant difference in reducing costs, as well as in delivering maximum VDI performance.³ In evaluating the cost benefits of your platform, you need to have a good understanding of where VDI will be used in your organization, identifying the most likely end users, and devices and applications, particularly for the early deployments where end user support will be critical. With the right VDI platform in place you can save an average of \$610 or more each year for each end user, according to research from IDC.⁴

² [Virtual Desktops, Tangible Benefits](#), September, 2010

³ [Managing Storage in a VDI Environment](#), SearchStorage.com, Tech Target, May 2011

⁴ [Quantifying the Business Value of VMware View](#), IDC, May 2011

3. **Deliver Maximum End-User Flexibility:** It is important to choose a platform that delivers the widest range of support for end user devices and mobility. Support for end users can make or break a VDI initiative and you want to ensure that as an IT department you are able to support the shift to a bring-your-own-device (BYOD) paradigm – without sacrificing either IT control or enterprise security. Rather than restrict devices, you need to have a platform that enables access to corporate applications and data from iPads, Macs, Android tablets, and other new non-Windows devices.
4. **Enrich the End-User Experience:** It's not just about supporting end users on multiple devices in all types of remote locations, it's about delivering a consistent experience and level of performance they've come to expect and demand from their desktop environment. This means support for rich media with no performance degradation and the highest fidelity experience for end users who need applications, unified communications, and 3D graphics as part of their daily workspace.
5. **Improve Security:** You want a VDI solution that has built-in security controls, such as encrypted connections, as well as the latest generation of advanced anti-virus solutions. Anti-virus storms can slow desktop performance and impact end-user productivity, so it is necessary to have a platform that can eliminate anti-virus storms and maximize performance and consolidation ratios in the VDI environment. The other important part of security is endpoint compliance management. VDI can help you save money by eliminating the need for device encryption by removing data entirely from the endpoint device. VDI can severely reduce the risks of lost or stolen data, which is becoming a more substantial challenge for organizations because of increased mobility and the acceptance of BYOD approaches. By centralizing data in the data center you are keeping it more secure, and by deploying a VDI solution with the right controls in place you can dramatically reduce your risks in protecting data on remote and mobile devices.

6. **Built-In Scalability and Reliability:** In a VDI environment you can rapidly provision new end users and roll out new applications from a central management platform. Nearly 75% of enterprises that are deploying desktop virtualization have reduced the time involved in operating system and applications upgrades, according to a survey by CDW.⁵ With rapid provisioning and simple scalability you can deliver high availability of applications with reduced need for scheduled downtime to provision new devices.
7. **Provide Advanced Integration:** Integrated management is critical, and it is important to deploy a VDI solution that provides maximum integration with your existing server virtualization environment and your legacy architecture. This will make it much simpler for you to deploy integrated applications across the server and desktop environments. For example, with a fully integrated environment across your server and desktop platforms, you will be able to extend the advanced functionality of your server virtualization platform throughout the entire enterprise, touching all applications. This means features and functions such as disaster recovery, fault tolerance and high availability are maximized throughout your entire virtualized environment from server to desktop and, when necessary, into the cloud.
8. **Enable the Journey To Cloud Computing:** Having the right virtual desktop platform can be an important part of any cloud initiative by transforming existing physical desktops into a desktop service accessible from anywhere. With VDI you can deliver desktops as a service from a single integrated platform as part of your overall cloud initiative. By delivering desktops as a service, you create a foundation for IT-as-a-service. Cloud computing will inevitably reach down into the desktop: Choosing the right VDI platform now will help you get way ahead of the curve and make it much simpler to deploy advanced cloud services in the future.

Takeaway: Conduct a Thorough Assessment

One of the first steps in the process of evaluating the potential benefits of desktop virtualization is to conduct a full assessment of your current infrastructure and the operational expenses associated with physical desktops. Among the questions you should ask yourself: What is your desktop acquisition cost? What percent of your IT budget goes into hardware acquisition? What are the challenges of managing desktops? What is involved with testing and configuration, ongoing management, patching, application upgrades, security upgrades, etc.? An experienced vendor will help guide you through this assessment.

Achieving the Optimal Benefits of Desktop Virtualization

Using these criteria as the basis for evaluating desktop virtualization solutions will give you a set of guideposts to analyze, compare and contrast the offerings from various vendors. While all vendors bring some value to the party, thorough analysis will show that VMware is the only vendor that delivers on all of the key criteria to provide a full enterprise-ready VDI solution that enables industry-leading manageability, end-user flexibility, performance, integration with legacy architectures, and support for cloud initiatives. Here are some of the points for comparison in conducting your evaluation.

Reducing Complexity: VMware View has a single administrative console to oversee all of your desktop services and manage tasks such as provisioning, updates and patches. You can perform all administrative functions from the View Administrator console.

Managing end users is also much simpler with VMware View through features such as View Persona Management, which is an alternative to Windows roaming profiles and allows you to manage end user profiles without relying on Active Directory for configuration. Instead, you can manage and configure all end user profiles within the View environment and any changes you make to test View Persona Management do not have a global effect on other desktops, such as physical desktops. By minimizing the amount of data uploaded or downloaded at one time, View Persona Management provides a performance improvement over Windows roaming profiles.

In allowing you to centrally manage user personas, policies, performance and other settings, View simplifies migration from physical to virtual desktops. Management of end-user devices is also simplified. Clients are locked down and only the master virtual desktop needs to be updated. The task of patch management becomes smooth and predictable. Also, because applications are running in the datacenter, you do not have to be concerned about software or driver upgrades on the endpoints.

Lowering Costs: By deploying VMware View, organizations have saved an average of \$610 per supported end-user per year compared with organizations using unmanaged PCs, according to research from IDC. More than \$480 of those savings came from lower device and IT support costs; the rest from improved productivity and reduced downtime. With advanced features such as ThinApp and View Composer, savings increased by an additional \$122 per end user per year. VMware View will also save you significant time in supporting end users. IDC also notes that end-user downtime is reduced by 68% and time spent dealing with the helpdesk is reduced by 57% using VMware View. Organizations achieve dramatic time and cost savings in administration, installation and helpdesk labor. Labor savings can be as much as 94% in desk-side service reductions and 85% in desktop imaging. Overall, companies have reduced labor costs by an average of more than 50% per user per year with a VMware View virtual desktop implementation, with the IT department saving up to seven hours per year per end user in providing end-user support.⁵

Delivering Maximum Flexibility/Performance For End Users: VMware View with PCoIP delivers the optimal experience to end users across devices and networks. PCoIP adapts to network conditions to deliver a seamless end-user experience by adjusting to the available bandwidth and providing a functioning desktop at all times. Optimization controls allow administrators to configure the performance requirements for each-use case.

VMware View clients are supported on all endpoint device types – desktops, laptops, thin clients, zero clients and tablets – and across all platforms, including Windows 7, Max OS X, Android, and iOS on the iPad. PCoIP support is now available for Mac and Linux users. View Client with Local Mode enables end users to take their virtual desktops with them and synchronize changes to the datacenter upon reconnection to the network.

View Media Services offers fully virtualized 3D graphics that perform over the LAN or WAN. This capability enables basic 3D applications requiring DirectX9 and OpenGL in the virtual desktop, without the need to purchase a physical GPU or specialized client hardware. Support for Aero and Office 2010 enables a new generation of productivity applications for end users. With View Media Services integrated and scalable unified communications, quality of service is separated from the desktop, and the desktop doesn't become a bottleneck for voice communications. This solution delivers performance and scalability with a seamless end-user experience.

View Security Server allows end users to work from anywhere, on any device, without the complexity of a VPN.

⁵ [Quantifying the Business Value of VMware View](#), IDC, May 2011

Takeaway: Providing the Best End-User Experience

Delivering a great user experience is essential. VMware View provides an integrated set of features designed to deliver the optimal experience for all users, regardless of location, regardless of device. These include PCoIP performance and configuration, Persona Management, vShield, Local Mode, ThinApp and 3D, among others. PCoIP is one of the keys to delivering the rich user experience required to make VDI successful. With VMware View you can customize PCoIP performance to match the needs of your end users. In some cases, such as medical imaging, build-to-lossless is critical and, in other cases, a fully lossless image is less important than other considerations. The ability to configure PCoIP helps you to match your use cases.

Easing Migrations: For IT administrators involved in the lengthy migration to Windows 7, VMware View offers a much simpler migration path and one that is somewhat future-proofed for the next major migration to Windows 8 a few years down the road. VMware View reduces costs and removes complexity in migrations through features such as ThinApp, which separates the application from the operating system layer by encapsulating a virtual operating system within the ThinApp package. With ThinApp you can run a single application across multiple Windows operating systems, dramatically reducing the time and complexity required to get end users up and running with Windows 7. By using ThinApp with View Composer image management, you can effect a much simpler migration by building a new desktop image to incorporate virtualized applications and separate them from the operating system. VMware View desktops based on master images stored in the data center can be easily distributed to remote users, eliminating the need for desktop administrators to travel.

Providing Bulletproof Cloud Integration: Because VMware View is built on and is tightly integrated with VMware vSphere for Desktops, it can take advantage of all the functionality of the vSphere platform. For administrators, this means the ability to deliver enterprise-level performance, high availability, security, disaster recovery, fault tolerance and other critical functions throughout the virtualized infrastructure. The tight integration is unmatched by any competitor and makes deploying VMware View much simpler and less time consuming. As organizations look at virtualization as the foundation for cloud computing deployments, the choice of VMware View allows IT personnel to standardize on a common cloud infrastructure platform from the desktop, through the data center, and to the cloud.

Delivering A Scalable and Reliable Infrastructure: The elastic scalability provided by VMware View is another important benefit in deploying cloud solutions. The VMware approach is to decouple applications, data and desktops from their silos so that you can quickly allocate resources as needed to meet the changing needs of the business. Because functions such as provisioning, patching, maintenance and software updating are centralized and simplified in a VMware View environment, it is much faster and simpler to roll out new desktops to meet new business opportunities. This type of elastic scalability is a major enabler of cloud computing and a major contributor to business agility.

One of the other advantages of VMware View is that it provides features that enhance management and reliability at large scale, including:

- Event logging into syslog, which improves troubleshooting and reporting
- Stand-alone View composer Server
- Cluster size of up to 32 hosts with NFS storage
- Tested best practices publicized to customers

Enhancing Security: VMware View is designed for enterprise security from the ground up, with encrypted connections, support for two-factor authentication, single-sign-on support, and the ability to run the VDI client off-line or in local mode, among many other security features. If you are deploying rich clients, you can protect access to corporate data and allow end users to check out their desktops from the datacenter to their local devices. If a laptop is lost or stolen, the data on the device is encrypted and has a remote-erase setting that disables it if it doesn't communicate with the corporate network in a specified time frame.

Integration of vShield Endpoint enables you to centralize and offload antivirus and antimalware scanning to simplify management of security functions and improve desktop security. If you use zero clients, you can achieve an ultra-secure environment by using the host rendering option in VMware View. All data remains locked down in the datacenter, centrally protected and managed. In addition, all pixels are host-rendered and encoded in the datacenter before being delivered to the end-user's device. VMware View Security Server provides secure access to VMware View sessions over the Internet or over an unsecured WAN, with Security Server acting as a proxy to connect outside hosts to the trusted inside network.

Takeaway: Antivirus Protection

In deploying antivirus protection in a VDI environment, it is important to maintain ease of maintenance. In a VMware View environment, vShield Endpoint consolidates and offloads antivirus operations onto one centralized virtual appliance. Any changes to the antivirus software are configured only in the virtual appliance, not in each antivirus agents on all of the desktops. Instead, you direct all changes to the virtual appliance.

Conclusion

Desktop virtualization has tremendous potential to give IT organizations more control over the myriad end-user devices in their organizations while reducing costs, enhancing agility and making the entire IT environment more secure. While most enterprises have deployed desktop virtualization to some level, there is still a long way to go before desktop virtualization is as much a part of the mainstream as server virtualization. To get there, IT administrators must go through a full evaluation of both the benefits and challenges involved in desktop virtualization, focusing on the critical issues that will lead to successful deployments, particularly those issues mentioned in this guide: costs, management complexity, security, scalability, device flexibility, end-user experience, and the integration of virtual desktops into existing and future cloud infrastructures. Choosing a strong technology partner fully committed to desktop virtualization is a major part of any successful evaluation. And choosing technology solutions from VMware is a major part of any successful deployment.

Learn why so many IT organizations are reaping the benefits of VMware View. Download a 60-day trial of the desktop virtualization solution and put it to the test. Visit www.vmware.com/go/ViewTrial to get started today.