



Integrating Desktop Virtualization into Your Cloud Strategy

Plan now for near-future server needs

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Abstract

Virtualization is transforming the way organizations deploy, manage, and consume technology resources with the end goal being the creation of leaner and more cost effective IT environments. Although most of the focus on virtualization still centers on the data center, the technology can be used for much more than improving server utilization. The desktop is another area where more IT organizations are beginning to employ virtualization.

Desktop virtualization promises a number of benefits: providing system administrators with the means to accelerate desktop provisioning; simplifying management; limiting downtime; and, improving security profiles. However, making a successful transition from a traditional environment to a virtualized infrastructure requires careful planning. This whitepaper will serve as a guide for organizations looking to build more stable, secure, and efficient computing environments around a virtual desktop infrastructure (VDI). This VDI technology, which can serve as an effective extension of its overarching cloud strategy, can help organizations become more effective and responsive.



This paper will outline how implementing VMware desktop virtualization technology, along with Dell's servers and its managed and professional services, can assist small and medium businesses (SMBs) cut support costs and improve the stability, security, and compliance posture of its organization. This paper will also highlight how desktop virtualization can ultimately lower business risk and promote greater organizational productivity by giving the IT organization better control over what is becoming an increasingly complex, computing environment.

Executive Summary

Complexity is the order of the day in IT environments. Not only are business resources and staff members often distributed across a number of locations, but also workers today rely on an incredible diversity of devices to access information, to collaborate with one another, and to support customers. The burden falls to the IT organization to deploy efficiently new end-user systems and devices and to maintain consistent service levels and adequate security for these heterogeneous and often far-flung environments.

Increasingly, organizations wanting to rein in some of the chaos in their environments are taking a closer look at desktop virtualization as a means to consolidate control, to expedite end-user system deployments and application updates, and to strengthen their overall security posture. The expectation is that the momentum behind VDI implementations will continue to grow, with the market research firm International Data Corporation (IDC) projecting a 16.9 percent compound annual growth rate (CAGR) for desktop virtualization management software between the years 2009 and 2014.

By extracting the desktop environment from the client's physical machine, desktop virtualization allows the IT organization to centralize the deployment and management of all applications to end-users. System administrators not only can accelerate the provisioning of new systems and software updates, but they also can apply the most current security protections. A virtual desktop environment has the potential to be significantly steadier and easier to control than a traditional environment, and VDI support costs are also lower.

Desktop virtualization can dovetail nicely with an organization's cloud strategy, delivering similar advantages in terms of cost savings and flexibility of on-demand services. The environment can be provisioned and managed through the cloud, either by the IT organization or by a third party provider. Companies can also choose to deploy and manage VDI technology using more traditional means.

While the benefits of VDI are numerous, making a successful migration to the virtual desktop entails the right technology solution. Yet, as important as having a solution with the right management tools and features is to be effective, a business also requires a supplier with the experience to guide it through the transition. An organization needs to team with technology suppliers that can assist it through the critical first step of evaluating its particular requirements and mapping the right solution to meet those requirements. This paper details the crucial features, functions, and skill sets a technology supplier must have to lead an organization through a successful passage to a virtual desktop.



Introduction

Technology has transformed business, ushering in an era of automation and rapid-fire response times. End-users today can access exceptionally powerful applications from geographically dispersed sites using a wide array of computing devices that run the gamut from traditional desktop computers and tablets to sophisticated smart phones. Ideally, the result is a flexible IT infrastructure that supports an agile, efficient, and highly productive business where the possibilities are endless.

However, as appealing as this environment is on paper, enough significant challenges associated with managing and securing such a distributed and complex infrastructure exist to give even the most forward thinking business pause. One possible way to get the organization on the right course is to centralize control over the computing environment through desktop virtualization technology. By decoupling the software applications from the end-user device, the IT organization can consolidate the provisioning and management of all applications. Desktop virtualization can also complement a cloud strategy for organizations already comfortable enough with virtualization to use it to power an online IT consumption model all the way to the end-user computing environment.

Desktop virtualization makes it possible for the IT organization to accomplish a number of outcomes beyond the obvious operational cost savings that come from consolidating management of all end-user computing environments. For instance, having central control over the system image makes it easier and much faster to provision new users. The upshot is a more constant and consistent computing environment that from the outset will be simpler to manage and secure. This end result will then translate into higher levels of operational continuity and limited downtime.

System administrators can also get the latest applications to a large volume of end-users faster than they would be able to do in a conventional client/server environment. Desktop virtualization promotes greater application and version consistency.

By consolidating the management of the end-user computing environment, the IT organization can also better enforce security policies. For example, getting new application revisions to clients, VDI technology facilitates obtaining the latest security patches to end-users. These elements all help lower the risk posed by external and even internal threats. The standardization associated with a virtual desktop environment will also assist organizations to demonstrate compliance with industry regulations and corporate mandates.

The expectation is that by streamlining the provisioning and management of the IT environment, the organization lays the foundation for a more flexible and successful work environment. This virtual desktop environment will ultimately encourage greater innovation and corporate productivity by quickly giving users access to the most advanced applications.

A Matter of Trust

A successful desktop virtualization deployment requires both the right technology and the very best suppliers with the appropriate resources to support an effective transition. An organization



needs technology vendors who have mature solutions and the depth of experience to guide what can be an extensive and complicated migration from a conventional client/server architecture to a virtual desktop environment.

Although many technology suppliers exist from which a business can choose, few providers have the breadth of virtualization technology or the managed and professional services' resources that Dell and VMware have on hand to support a successful transition. Dell and VMware offer the combination of hardware and software solutions that are an ideal fit for SMBs that want both the sophisticated virtualization solutions and the support to construct a streamlined migration to the environment.

The journey to the virtual desktop begins with the Dell Desktop Virtualization Workshop (DDVW), an exercise with Dell's team that will help a business understand how VDI technology can resolve particular security, management, and operational issues. Dell's technical experts can advise the customer's IT organization on where virtual desktops might be a good fit within the business. As part of the DDVW, customers have access to Dell's Economic Impact Assessment (EIA), a tool that identifies how and where an organization will see return on its desktop virtualization investment.

A business can use the information from the DDVW to set new objectives and to plan its virtualized desktop implementation. This starts with identifying the virtualization solutions that are the best fit for its organization.

Better By Design

Dell's partner VMware has a rich set of desktop virtualization solutions that a business can utilize to solve some of its most vexing computing issues by laying the groundwork for a flexible and stable virtual environment. VMware View 4.5, the company's desktop virtualization platform, is at the center of this solution set. VMware vSphere, the company's cloud operating system, supplies the foundation for VMware View 4.5, which in turn provides the tools to virtualize operating systems, applications, and data to deliver a more consistent and secure computing experience to end-users.

System administrators can apply VMware View to create what is essentially a private desktop cloud, provisioning and managing client environments from one central control point. VMware View is flexible in that it supports a degree of personalization not available with other VDI technology. This allows administrators to customize clients' environments to meet users' requirements dictated by their roles in the business, as they still stay consistent with security policies and other mandates. To further reinforce security, VMware View utilizes vShield Endpoint, which consolidates anti-virus SSL for encryption and also supports virtual desktop authentication through smart cards and secure tokens.

The technology supports considerable end-user flexibility, using PC over IP (PCoIP) to allow users to connect to their virtual client via a LAN or WAN. Businesses can also employ VMware View Client with Local Mode, which gives users the option of working offline. Essentially, end-users still have access to their virtual client environments, but they tap local resources for processing power.

Through VMware View, system administrators can provision and handle hundreds or even thousands of end-user systems, including those for users in geographically dispersed remote and



branch offices. The benefits of these systems are many, starting with significant cost savings. IDC estimates that using VMware View helps businesses slash total cost of ownership by 50 percent, reducing annual expenses by more than \$500 per client.¹

This consolidated control not only streamlines system administration but also improves its efficacy. Administrators can more quickly issue application updates and security patches, plus provide better continuity guarantees by offering automated failover, load balancing, and backup and recovery, to support client computing environments. Dell's OptiPlex Thin Client offers the kind of compact, energy-efficient hardware that is a perfect complement to VMware View.

Supporting Success

A business moving to a virtual desktop environment can benefit from more than VMware and Dell's software and hardware. Both bring to bear major professional and directed services' capabilities that extend well beyond the initial assessment stage. In addition to standard support services, VMware offers customers specialized assistance around design, deployment, and management of its virtualization software on a better customized basis.

Dell also brings substantial delivery and support resources to each client, with a large and expanding portfolio of hosted and customized services available to businesses managing the transition to VDI technology. Dell gives customers a number of managed service options that include its hosted Virtual Desktop as a Service (vDaaS) offer in which Dell supplies the hardware and handles all the management of the end-user's virtual computing environment. The software is hosted in Dell's data centers.

Dell also offers a Managed Service Solution in which it provisions and manages customer-purchased equipments. In this essence, Dell can deal with the client environment either from its own facilities or on the customer's premises.

Customers who want help deploying virtual desktops but have the resources in-house to manage that environment can choose a Customer Managed Solution. Dell actually implements the customer-owned hardware, and then customers continue the on-going management of the environment. In the Customer Managed Solution option, Dell includes Dell ProSupport for Desktop Virtualization, which extends a support line to clients to handle software troubleshooting and hardware break/fix.

For organizations with more intensive duties, Dell has the skill set to provide Custom Solutions that cover all phases of a virtual desktop deployment from design and build stages to implementation and post-deployment optimization.

Benefiting from Experience

Although many organizations are still in the earliest stages of adopting VDI technology, businesses can take heart that many companies that have gone before them are reaping some very tangible rewards from their virtual desktop implementations. Dell and VMware have many joint customers who not only report more than just a sense of satisfaction from their implementations but also cite some very quantifiable benefits from their implementations.

Consider the University of Toledo in Ohio as an example of how VDI technology can extend access to an organization's resources in a cost-effective and secure way. Using VMware View,



the University allows students to tap into their H drives, applications, and other network resources from any location, so that the students can continue their work beyond the lab. The University also issues updates and patches on a more rapid and consistent basis.

This flexibility drives greater productivity and improves the stability of the environment, and the University is realizing some very significant cost-saving benefits from thin client architecture. The University expects to cut its energy costs by 60 percent using a virtual desktop versus a traditional system.

Another example is iland, a technology company that provides hosted services to enterprise clients and uses the VMware technology and Dell PowerEdge servers to deliver virtual desktop solutions to its customers. The company now offers iland Workforce Cloud to supply customers with very scalable and cost-effective virtual desktop solutions. The company, which reports that cloud services accounted for 95 percent of its revenue growth over the last two years, employs the Dell and VMware View solutions because they provide data center-like speeds to end-users accessing applications from thin clients.

What these and other customer applications demonstrate is the potential desktop virtualization has to improve the agility, efficiency, and manageability of a business' computing environment. Beyond realizing lower support costs and hardware expenses, desktop virtualization offers a path for greater organization flexibility. System administrators can quickly dispatch the latest, most innovative applications to end-users, while they ensure that the most resilient and stable environment supports their work.

Not only will this make collaboration among staff members more effective, but it will also promote greater productivity. Desktop virtualization can literally transform how a business works.

To get the maximum benefit from its investment, an IT organization must be selective in choosing the right technology to provide the best foundation for the environment and in picking the best partners to guide it on this virtual journey. Dell and VMware are uniquely qualified to deliver the most sophisticated and streamlined solutions to help an organization turn its deployment into a success story.

¹ "Quantifying the Business Value of VMware View." IDC Research. Sept. 2009.