Build a Business Case Using Appliances to Simplify Desktop Virtualization

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Appliances have the potential to be a game-changer in desktop virtualization. For several years, pundits and researchers have predicted the dramatic rise of desktop virtualization, only to see their most optimistic prognostications fall by the wayside. The two most often-cited reasons: cost and complexity.

Appliances address both cost and complexity by offering organizations the opportunity to deploy an end-to-end desktop virtualization solution that is simple to install, easy to manage and extremely cost-effective. Dell's Desktop Virtualization Solutions (DVS) Simplified Appliance comes preconfigured with Citrix® VDI-in-a-Box® software and a choice of hypervisors for fast deployment and provisioning of virtual desktops. By using preconfigured hardware platforms purposely designed for hosting virtual desktops, Dell's DVS Simplified Appliance is optimized for a consistent and easily replicable virtual desktop experience.

Appliances allow organizations to control the rollout of desktop virtualization, focusing on specific departments, applications, use cases or business initiatives. As efficiencies are realized in desktop virtualization, organizations can easily scale as they outgrow their initial appliance capacity by adding more appliances in a modular fashion. The DVS Simplified Appliance from Dell can support up to 129 users and easily scales to more users by adding additional appliances. A good initial strategy or proof of concept is to use the appliance to support a limited departmental rollout and then scale out further as demand dictates as part of a companywide solution.

Controlling the deployment

The concept of a controlled rollout is an important one in the development of desktop virtualization initiatives. Some of the initial concerns organizations expressed about desktop virtualization - cost and complexity - were not without reason. Early on, desktop virtualization was touted as a more cost-efficient solution for deploying user devices than traditional PCs and laptops.

But, in reality, many desktop virtualization initiatives required an up-front investment in infrastructure - particularly storage - that offset some of the long-term cost savings in using thinner clients and centralizing management. Complexity has also been a challenge. Think of it this way: With server virtualization, you are consolidating physical servers and reducing your management requirements. With desktop virtualization, you are managing hundreds more devices in a wide range of locations, among users who are sometimes mobile and increasingly wanting to use their personal devices.

Each user is dynamic in nature and their individual usage needs vary, which further complicates the process of determining their unique computing needs. Because of these reasons, success in server virtualization does not necessarily translate into similar success in desktop virtualization.

The benefits of desktop virtualization, however, are too significant to ignore. With desktop virtualization, the organization can centrally manage user devices, allowing the potential for fast provisioning, centralized control, improved security, high availability, simple migrations, rapid on-boarding, rapid disaster recovery and a host of other activities that can make the business more agile, cost-efficient, productive and responsive to the needs of customers and employees.

Many organizations have successfully rolled out desktop virtualization enterprisewide, and many more have taken to piloting desktop virtualization for specific departments or applications. Dell has a wide range of DVS solutions and will help you find the most appropriate solution for your unique business needs. By the end of 2013, an estimated 56% of companies expect to be using desktop virtualization, with approximately 16% expecting to use it extensively.[1]

The successful deployment of pilot projects is a major reason why desktop virtualization is gathering new momentum. These projects give users the opportunity to use desktop virtualization in real-world environments and experience the benefits. They also help to achieve executive level buy-in to support the continued rollout of desktop virtualization companywide. Sometimes it's better to take baby steps - if you try to take on too much, it can be difficult to measure results and show the benefits. It's often easier to monitor progress and measure results on a smaller scale.

Benefits of using an appliance

The advent of an appliance-based approach to desktop virtualization has the potential to shift the market dynamics and expand the deployment of desktop virtualization initiatives. Why? Because appliances can deliver all the benefits of desktop virtualization while solving the dual challenges of cost and complexity.

As you go about building a business case for deploying an appliance for desktop virtualization, here are some of the key points to incorporate:

- **Affordable:** With an appliance, you get desktop provisioning, image and user management that fits into your existing hardware budget. Integrated, all-in-one virtual desktop infrastructure (VDI) appliances can reduce installation, configuration, deployment and management costs. The DVS Simplified Appliance streamlines virtual desktop support and maintenance, and can reduce the risk of data loss and theft, since the data is securely and centrally located. By using the Dell DVS Simplified Appliance, including Citrix® VDI-in-a-Box® software and Dell ProSupport™, with Dell Wyse cloud clients, organizations can help reduce costs further while ensuring a fully featured user experience. Single-vendor solutions from Dell simplify purchasing and support.

[1] "2013 Virtualization Management Survey," InformationWeek, Nov. 1, 2012.

- **Simple to deploy:** An appliance-based approach eliminates the complexity involved in a typical installation. For example, the Dell DVS Simplified Appliance comes with integrated, preconfigured hardware and factory-installed software and hypervisors. The key components of a desktop virtualization deployment are included: load balancers, connection brokers, compute servers and management servers. Shared storage (storage area networks) is not required - the appliance uses the direct-attached local storage. And, through the use of linked clones, the Dell DVS Simplified Appliance can save local storage space.

- **Simple to manage:** With an appliance, you should be able to consolidate and access all of your important management functions from a single location. The management platform should consolidate functions such as connection brokering, load balancing, provisioning and overall management in a central location to simplify the management and provisioning of all client devices. The Dell DVS Simplified Appliance uses Citrix® VDI-in-Box® grid architecture to coordinate activities and balance desktops across each server connected to the same grid.

- **Elastic scalability:** A single appliance can start with any number of users and easily support up to 129. In addition, the appliance will support a wide range of use cases - task-based workers, regular office workers and even workers requiring high-performance desktop solutions. You can choose the amount of resources you need to allocate for each user type in your organization. As you scale your deployment, you simply add new appliances in a modular fashion. With the Dell DVS Simplified Appliance, operations such as managing golden images, templates, desktops and users can be performed at the grid level by connecting to any DVS Simplified Appliance console. Once a golden image is modified on an appliance, the appliance will automatically replicate the new image to any other appliance on the grid.

Overall, by deploying an appliance for any kind of desktop virtualization initiative, you can dramatically speed up the time it takes to roll out the solution and begin realizing the benefits. This is a strong point to make in building any business case and in being able to demonstrate results. Organizations are looking to leverage technology investments that can translate quickly into improved business performance and agility. A successful VDI deployment, even in a pilot project, can help deliver immediate value in terms of reduced total cost of ownership and improved worker productivity. The right solution will also provide other key advantages:

- **Security and data loss prevention**, with features to enable lockdown

- **"Anywhere access"** to applications and data on any Internet-connected computing device

- **An enhanced user experience** that can deliver improvements in application performance, speed and accessibility

- **Flexibility to address the changing mobility requirements** of your workforce

- **Support for bring-your-own-device (BYOD) initiatives** in a highly secure environment that enables workers to use their own devices, while protecting the company against incremental risks due to malicious attacks or employee negligence

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Choosing the right appliance

The Dell DVS Simplified Appliance consists of best-of-breed hardware, desktop virtualization technology, management software and support to offer a fully featured, fully integrated desktop virtualization environment that can be installed and deployed quickly. Users have completed setup in as little as four hours. Key components of the appliance consist of:

- **Dell PowerEdge R720 (rack) or T620 (tower) servers,** which are preconfigured and optimized for price and performance

- **Citrix® VDI-in-a-Box®,** which provides complete Windows® desktops to virtually any device and is deployed in a patent-pending grid architecture that simplifies deployment, management and scalability

- **Dell ProSupport™,** with a three-year Limited Hardware Warranty (LHW)[2] and software support agreement included in the DVS Simplified Appliance solution

In addition, the Dell DVS Simplified Appliance hosts all virtual desktops and supports the leading hypervisors - Citrix® XenServer®, VMware vSphere and Microsoft Hyper-V. The VDI-in-a-Box vdiManager central management console creates and manages virtual desktops and manages the grid architecture. Each hosted machine uses a desktop agent that communicates with the vdiManager.

Another important component of the Dell DVS Simplified Appliance solution is the availability of thin-client solutions from Dell Wyse. The Dell Wyse T10 includes Dell Wyse ThinOS virus-immune software to bolster security. It also offers a rich user experience though the use of a built-in media processor. The Dell Wyse Xenith 2 has been purposebuilt for Citrix environments, offering bulletproof security features and an exceptional user experience at an extremely cost-efficient price point.

When considering a desktop virtualization solution, be sure to consider support and service options. For example, the Dell DVS Simplified Appliance includes three years of hardware support and software maintenance through Dell ProSupport™, access to experts, software updates, patches and product updates for Citrix® VDI-in-a-Box, Microsoft® Hyper-V™ and Citrix XenServer® hypervisors. There are also value-added services available, depending upon your specific situation.

Dell is offering bundled solutions to make it simple and cost-efficient to deploy a desktop virtualization solution quickly. The bundles include the Dell Desktop DVS Simplified Appliance, Citrix® VDI-in-a-Box® software and Dell Wyse T10 thin clients, plus three years of Dell ProSupport™ for hardware3 and software. The bundles are being offered in packages for 30, 100 or 200 users.

[2] For a copy of the LHW, write Dell USA LP, Att: Warranties, One Dell Way, Round Rock, Texas 78682, or visit Dell's website. Please note, all Dell warranties are LHW.

Conclusion

When you think about many of the key challenges facing IT departments these days, you can see why there is continued excitement and pent-up demand for the benefits promised by desktop virtualization. Trends such as BYOD, the consumerization of IT, the rise of social media and increased mobility are making it more incumbent upon the IT department to exert control over what devices are attached to the corporate network and what applications users are deploying.

Overcoming the cost and complexity challenges associated with desktop virtualization has been a hurdle to more widespread deployment. Now, with state-of-the-art appliances such as the Dell DVS Simplified Appliance, IT professionals have a new opportunity to cost-efficiently and simply deploy desktop virtualization solutions. See how the Dell DVS Simplified Appliance can help you bring desktop virtualization into your organization. Learn how Dell's DVS portfolio can help you get started at http://content.dell.com/us/en/enterprise/virtual-client.aspx. And to find out how Citrix and Dell work better together to offer you the best desktop virtualization experience, visit www.dell.com/citrix.

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