Cisco Desktop Virtualization Solution for EMC VSPEX with Citrix XenDesktop 5.6 for 500 Desktops

Solution Brief
May 2013

In Collaboration with Citrix and EMC

Highlights

Reduced-Cost Approach

- The solution's simplified infrastructure plus outstanding virtual machine density reduces both capital and operating expenses for lower initial costs and reduced total cost of ownership (TCO)

Reduced Risk

- Cisco has engaged the EMC VSPEX program to produce configurations that are presized and prevalidated to reduce risk and accelerate deployment
- The solution is designed to be highly available and reliable, helping ensure continuous application access

Rapid Deployment

- Using the Cisco Unified Computing System™ (Cisco UCS®), Citrix XenDesktop, and EMC VNX Family storage, the solution provides intelligent infrastructure that is ready out of the box

Excellent Performance

- The solution uses a balanced approach to resources, including high-performance Intel® Xeon® processors, 20 Gbps of I/O bandwidth per server, and EMC VNX5300 Family storage

Choice of Storage Network Model

- These solutions offer the option of connecting to versatile EMC VNX5300 storage either using Network File System (NFS) or Fibre Channel

Cisco has engaged the EMC VSPEX program to deliver presized and prevalidated solutions to radically simplify virtual desktop deployment in small and medium-sized businesses.

IT departments are inundated with user demands for broader mobile access, greater choice of computing devices, and more flexible work models. IT is also challenged by limited budgets and resources and delivery of services that demand continuity, compliance, and security. For these reasons, many IT departments are looking to desktop virtualization, or virtual desktop infrastructure (VDI), to address these demands. Gartner's 2012 hosted virtual desktop (HVD) forecast (June 2012 Update) estimates that more than 77 million new virtual desktops will be deployed by the year 2016. Desktop virtualization centralizes the management and maintenance of user desktops and data, which accelerates new desktop deployment, application and operating system migration and patching, application rollout and increases end-user efficiency. However, traditional desktop virtualization deployments present some challenges that stress data center and networking infrastructure, such as login storms when many users login at the same time, shared-storage use patterns that create bottlenecks, and workload spikes that overwhelm CPUs and memory.

In response to these challenges, Cisco has presized and prevalidated a bundled solution that deploys virtual desktop infrastructure for Citrix XenDesktop 5.6. The

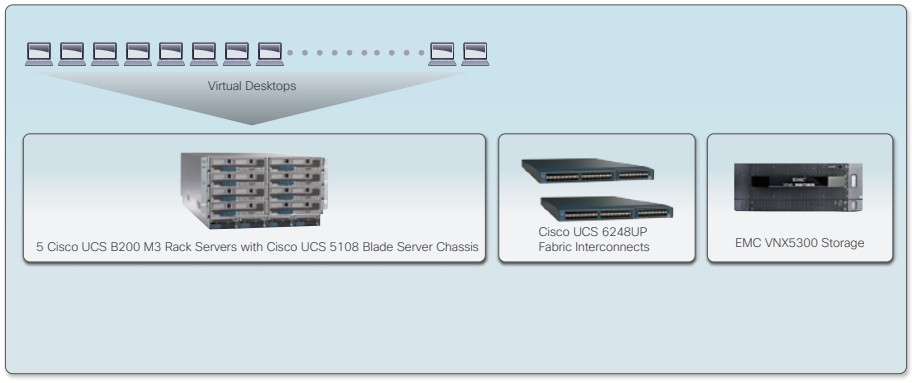

Figure 1. The Solution Supports 500 Virtual Desktops with a Choice of Rack or Blade Servers with Standalone and Cisco UCS Options

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Cisco® Desktop Virtualization Solution for EMC VSPEX with Citrix XenDesktop 5.6 for 500 Desktops is just one of the many desktop virtualization solutions available from Cisco. It integrates all the components necessary to quickly deploy a small environment of virtual desktops. With support for 500 to 600 virtual desktops, this solution is designed to provide an extremely cost-effective, low-risk entry into desktop virtualization (Figure 1). These solutions, with single-wire management, provide simplified physical setup and centralized management, with resiliency and rapid provisioning when new capacity is required.

Choice in Deployment

Two blade server options are available (Table 1), and vary only in how the versatile EMC VNX5300 storage is connected to the solution's Cisco® UCS 6248UP 48-Port Fabric Interconnects. One solution offers Network File System (NFS) connectivity, and the other offers Fibre Channel connectivity. The Cisco UCS fabric interconnects' universal ports allow direct connectivity to either 10 Gigabit Ethernet networks or Fibre Channel SANs.

Industry-Leading Solutions

All options feature industry-leading boot, login, and start-work times, without exhausting system resources. These solutions offer economical entry points into desktop virtualization with shared storage. They are excellent for small deployments or remote and branch office deployments.

Table 1. Cisco SmartPlay Components that Support 500 to 600 Virtual Desktops with Citrix XenDesktop for EMC VSPEX

Element	Blade Server-Based Fibre Channel Solution	Blade Server-Based NFS Solution
Software	Citrix XenDesktop 5.6 VMware ESXi 5.1	
Computing	5 Cisco UCS B200 M3 Blade Servers, each with: • 2 Intel Xeon processors E5-2690 (8 cores each) • 256 GB of memory • Cisco UCS VIC 1240 1 Cisco UCS 5108 Blade Chassis	5 Cisco UCS B200 M3 Blade Server, each with: • 2 Intel Xeon processors E5-2690 (8 cores each) • 256 GB of memory • Cisco UCS VIC 1240 1 Cisco UCS 5108 Blade Chassis
Networking	• 2 Cisco UCS fabric interconnects • 2 Cisco UCS fabric extenders	• 2 Cisco UCS fabric interconnects • 2 Cisco UCS fabric extenders
Storage	EMC VNX5300 storage • 2 storage controllers • Redundant Fibre Channel modules • Redundant 10 Gbps Ethernet modules (NFS) • 3 100-GB flash drives for Fast Cache • 15 600-GB SAS drives for virtual desktops • 2 600-GB SAS drives for expansion	

Solution Components

The solution helps organizations quickly move away from silos of desktop operations and move quickly toward a more cost-effective virtualized desktop environment.

The Cisco Unified Computing System™ (Cisco UCS) combines high-performance computing, networking, virtualization, and storage-access resources in a single unified system. Management is provided through Cisco UCS Manager.

Citrix XenDesktop 5.6 transforms desktops and applications into a secure, on-demand service available to any user, anywhere, on any device. Citrix XenDesktop can deliver individual Microsoft Windows, web and software as a service (SaaS) applications or full virtual desktops to PCs, Apple Macintosh computers, tablets, smartphones, laptops, and thin clients.

EMC VNX Family storage solutions provide unified storage that delivers both storage area networking (SAN)

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storage and network-attached storage (NAS) in a single platform optimized for virtualization. EMC VNX storage makes the addition, management, and monitoring of storage straightforward. The storage solution provides space savings and allows more data to be stored at a lower cost.

Easy Ordering

The solution's computing and networking components are available through the Cisco SmartPlay program. With an economical solution available by ordering a single part number, the program makes it easy to quickly deploy a powerful, secure virtual desktop environment without the expense or risk entailed in designing and building your own custom solution.

For More Information

For more information about the Cisco SmartPlay program, please visit http://www.cisco.com/go/smartplay.

For more information about Cisco VSPEX solutions, please visit http://www.cisco.com/go/vspex.

For more information about Cisco Desktop Virtualization, please visit: http://www.cisco.com/go/vdi.

For more information about Cisco Desktop Virtualization with Citrix XenDesktop, please visit: http://www.cisco.com/go/citrix.

For more information about Cisco solution bundles with Citrix, please visit: http://www.cisco.com/go/solutionpak.

For more information about Cisco DesignZone for VDI, please visit: http://www.cisco.com/go/vdidesigns.

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