Cisco Virtualization Solution for EMC VSPEX with Microsoft Windows Server 2012 Hyper-V for 50 Virtual Machines

Solution Brief
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In Collaboration with EMC

Highlights

Reduced Risk

- The solution engages the EMC VSPEX program to size and validate configurations and help ensure interoperability
- Cisco® Validated Designs for Microsoft Hyper-V further accelerates deployment and reduce risk with pretested configurations
- The solution is highly available and reliable, helping ensure continuous application access

Simplified Shared Storage

- EMC VNXe3150 Series storage provides high-performing unified storage that is simplified and efficient, and optimized for virtual application deployment. EMC VNX Series storage provides excellent performance, data protection, standards compliance, and ease of management.

Reduced-Cost Approach

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

Rapid Deployment

- The ease of ordering the complete set of computing and networking components, plus EMC VNXe3150 storage, makes deployment of the solution fast and easy.

Migration Path to Unified Management

- Cisco UCS® C-Series Rack Servers, based on Intel® Xeon® processors offer customers a migration path to unified management with Cisco UCS® Manager whenever they want to implement this option.

Small and medium-sized businesses can easily and cost-effectively deploy server virtualization with a presized and prevalidated solution by Cisco and the EMC VSPEX program.

The Cisco® Server Virtualization Solution for EMC VSPEX with Microsoft Windows Server 2012 Hyper-V for 50 Virtual Machines engages the EMC VSPEX program to accelerate movement to server virtualization with presized and prevalidated configurations. These configurations help ensure interoperability, decrease complexity, accelerate deployment, and increase efficiency with reduced risk for small and medium-sized businesses.

The solution integrates all the components necessary to quickly deploy a Microsoft Hyper-V virtualization environment with support for 50 virtual machines with full redundancy. The solution consists of Cisco UCS® C220 M3 Rack Servers, Cisco Nexus® switches, Microsoft Windows Server 2012 Hyper-V, and EMC VNXe storage. The solution provides a highly scalable and reliable platform (Figure 1) for a variety of virtualized workloads. This solution enables small and medium-sized businesses to take advantage of the power of server consolidation without the complexity entailed in designing and implementing custom solutions.

Solution Benefits

This solution helps organizations quickly deploy the tools they need to reduce server sprawl, lower total cost of ownership (TCO), reduce complexity, and improve operational efficiency.

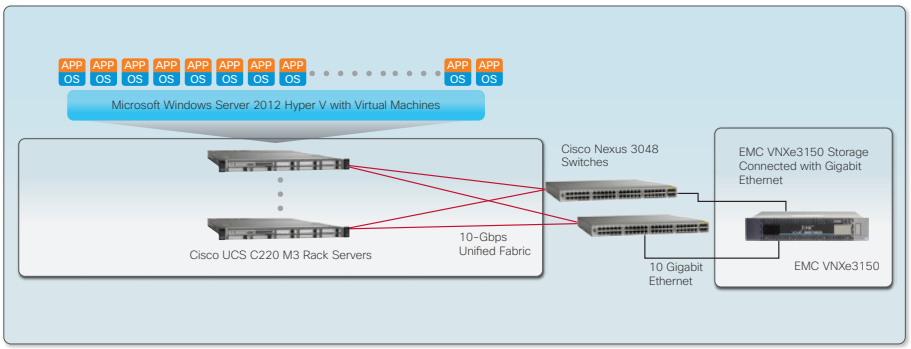

Figure 1. Logical Architecture Supporting 50 Virtual Machines

Cisco UCS C-Series Rack Servers are industry-standard, x86-architecture servers based on intelligent Intel® Xeon® processors. The Cisco UCS C220 M3 delivers outstanding levels of virtual machine density and performance in a compact package using the Intel Xeon processor E5 family, up to 64 GB of RAM, EMC VNXe3150 storage, and two integrated Gigabit Ethernet interfaces.

Cisco Nexus® 3048 Switches deliver high-bandwidth, line-rate, low-latency, economical Gigabit Ethernet connectivity between servers in the virtualization cluster and EMC VNXe storage.

Cisco Nexus 1000V Switches are full-featured Cisco switches that operate within multiple hypervisors as a single distributed virtual switch. The software switches extend the network edge to the virtual machine, providing manageability and scalability for virtualized and cloud environments.

Microsoft Windows Server 2012 Hyper-V helps organizations consolidate their servers and reduce capital expenses by requiring less computing, networking, and storage infrastructure. It reduces operating expenses because there are fewer components to manage.

EMC VNXe provides unified storage that delivers both SAN storage and network-attached storage (NAS) in a single platform optimized for virtualization. This solution takes advantages of the NAS features of the VNXe3150 system. EMC VNXe storage is designed for five-nines availability using redundant components throughout the array.

Table 1. Solution Components

Element	M50 Solution
Virtualization	Microsoft Windows Server 2012 Hyper-V
Computing	3 Cisco UCS C220 M3 Rack Servers, each with: • 2 Intel Xeon processors E5-2650 (2 sockets and 16 cores) • 64 GB of memory (2 GB per virtual machine) • Redundant power supplies
Networking	Gigabit Ethernet connectivity supported through 2 Cisco Nexus 3048 Switches
Storage	EMC VNXe3150 storage • 30 x 600-GB 15,000 rpm SAS drives • 2 dual Gigabit Ethernet I/O modules
Additional software	Cisco Nexus 1000V Switch Essential Edition

Easy Ordering

The solution's computing and networking components are available through Cisco and its partners (Table 1). Cisco solutions for EMC VSPEX make it easy to quickly deploy a powerful, secure virtualized environment without the expense or risk entailed in designing and building your own custom solution.

For More Information

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

For more information about Cisco UCS Microsoft solutions, please visit http://www.cisco.com/go/microsoft.

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