

# Cisco Virtualization Solution for EMC VSPEX with VMware vSphere 5.1 for 50 Virtual Machines

Solution Brief  
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In Collaboration with EMC and VMware



With a presized and prevalidated solution, Cisco and the EMC VSPEX program provide small and medium-sized businesses with an easy path to virtualization.

## Highlights

### Reduced Risk

- The Cisco® Virtualization Solution for EMC VSPEX is based on a tested and validated Cisco Validated Design.
- The solution is validated with EMC as part of the VSPEX program to help ensure interoperability.
- The solution is highly available and reliable, helping ensure continuous application access.

### Simplified Shared Storage

- EMC VNXe3150 Series storage is high-performing unified storage that is simplified and efficient and optimized for virtual application deployment.

### 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 it fast and easy to deploy the solution.

### Migration Path to Cisco Unified Computing System

- Cisco UCS® C-Series Rack Servers, based on Intel® Xeon® processors, offer customers a migration path to integrate into the unified management domain of the Cisco Unified Computing System™ (Cisco UCS) whenever they want to do so.

The Cisco® Virtualization Solution for EMC VSPEX is designed to accelerate movement to server virtualization with presized and prevalidated configurations that 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 VMware vSphere-based virtualization environment to support 50 virtual machines with full redundancy. The solution consists of Cisco UCS® C220 M3 Rack Servers, VMware vSphere 5.1, and EMC VNXe storage. The solution provides a highly scalable and reliable platform (Figure 1) for a variety of virtualized workloads.

## Solution Benefits

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. This approach helps organizations quickly deploy the virtual infrastructure they need to lower total cost of ownership (TCO), reduce complexity, and improve operational efficiency.

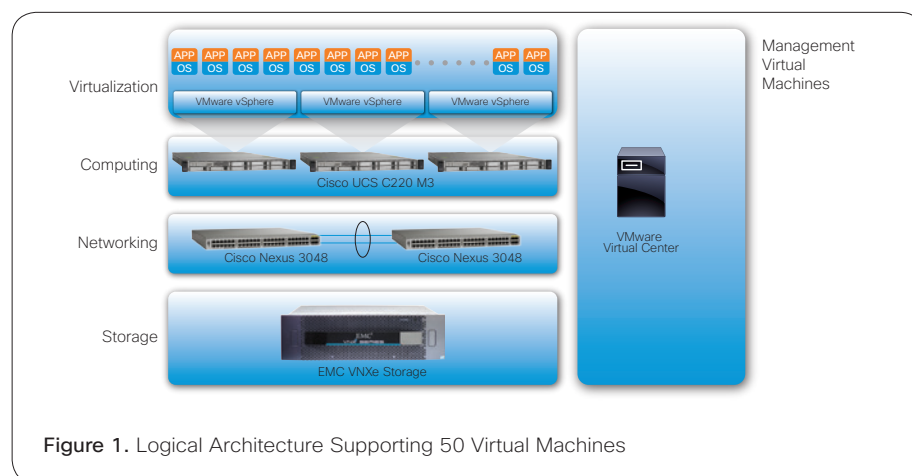


Figure 1. Logical Architecture Supporting 50 Virtual Machines

## Cisco Virtualization Solution for EMC VSPEX with VMware vSphere 5.1 for 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 density and performance in a compact package using the Intel® Xeon® processor E5 family, up to 256 GB of RAM, eight disk drives or solid-state drives (SSDs), and two integrated Gigabit Ethernet interfaces.

The servers can be used in a standalone configuration such as the one described in this document, or they can be integrated with the centralized management domain of the Cisco Unified Computing System™ (Cisco UCS®). Having set more than 70 world performance records, Cisco servers regularly set world records in virtualization and cloud computing.

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

VMware vSphere 5.1 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.

**Table 1.** Solution Components

Element	VMware V50 Solution
Virtualization	VMware vSphere 5.1
Computing	3 Cisco UCS C220 M3 Rack Servers, each with: <ul style="list-style-type: none"><li>• 2 Intel Xeon processors E5-2650 (2 sockets and 16 cores)</li><li>• 64 GB of memory (2 GB per virtual machine)</li></ul>
Networking	1-Gbps fabric supported through <ul style="list-style-type: none"><li>• 2 Cisco Nexus 3048 Switches</li></ul>
Storage	EMC VNXe3150 storage <ul style="list-style-type: none"><li>• 30 600-GB SAS drives</li><li>• 2 dual Gigabit Ethernet I/O modules</li></ul>

EMC VNXe is 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 EMC VNXe3150 system. EMC VNXe storage is designed for five-nines availability using redundant components throughout the array.

environment without the expense or risk entailed in designing and building your own custom solution.

### For More Information

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

### 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



**Americas Headquarters**  
Cisco Systems, Inc.  
San Jose, CA

**Asia Pacific Headquarters**  
Cisco Systems (USA) Pte. Ltd.  
Singapore

**Europe Headquarters**  
Cisco Systems International BV Amsterdam,  
The Netherlands

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