

The vSphere suite of products consisting of ESX Server 4.0, vCenter 4.0, and VMware Consolidated Backup is exceptionally powerful and comprehensive. Our advanced course is intended for students with significant production experience in the vSphere product suite. This Advanced VMware vSphere course will take their existing knowledge base and greatly expand it.

Course Objectives:

- Create and configure enterprise ESX servers.
- Understand the architecture of ESX security.
- Describe the ESX Storage Architecture.
- Connect to an iSCSI SAN
- Utilize advanced third-party tools.
- Work with VMware command line tools.
- Successfully upgrade and patch ESX.

Audience: System Administrators with significant production experience in the vSphere product suite.

Prerequisites: Familiarity with ESX Server, vCenter or vSphere usage and administration, Windows, and some familiarity with Linux.

Number of Days: 4 days

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| <p>1. Creating Enterprise ESX Servers
 Understanding VMFS
 VMFS Limits
 ESX Server Memory
 Required Partitions
 Optional Partitions
 ESX Installation
 Post-installation Tasks
 Scripted Installations</p> | <p>4. Hardening the ESX Server
 The ESX Server Firewall
 XML Configuration for Port Access
 CLI Configuration</p> |
| <p>2. Configuring ESX Servers for the First Time
 Download and Install vSphere Client
 Log in to ESX Server
 Configure VMKernel Port Group
 Make changes to ESX Firewall
 Create VMFS Volume(s)
 Configure NTP Services
 Verify ESX Server Security</p> | <p>5. ESX Storage Architecture
 ESX Storage Architecture
 ESX Storage Systems
 Local Storage
 NAS
 iSCSI
 SAN Overview
 SAN Components
 SAN Reliability
 ESX Storage Comparison</p> |
| <p>3. Virtual Networking and ESX Server Security Architecture
 Understanding ESX Server Security
 The Virtualization Layer</p> | <p>6. Connecting to iSCSI SAN
 Create VMkernel Connection Type</p> |

- Enable ISCSI and Configure Targets
- Attach ESX Servers to iSCSI
- 7. Advanced vCenter Configuration and Clustering**
 - Cluster Types
 - DRS
 - Distributed Power Management
 - VMware High Availability
 - HA Advanced Options
 - Cluster Strategy
 - VMotion
 - Storage VMotion
- 8. Infrastructure Upgrade to vSphere**
 - Review Phases of Upgrade
 - Upgrading Virtual Center
 - Upgrading VIC
 - Use of Update Manager for Upgrade
 - Upgrading vCenter Plugins
 - Upgrading VMware Tools
- 9. Virtual Machines and Appliances**
 - Virtual Appliances
 - Exporting Virtual Machines
 - Importing Virtual Machines
 - OVF - Open Virtualization Format
 - 3rd Party Tools
 - Summary
- 10. Advanced 3rd Party Tools**
 - vCenter Plug-ins
 - VM Disk Partitioning Tools
 - Diagnostic Tools
 - Performance Monitoring Tools
 - Reporting Tools
 - Backup, DR and HA
 - USB and Dongle Support Tools
 - PDA/Smart Phone Tools
- 11. VMware Consolidated Backup**
 - VCB at a Glance
 - Architecture
 - Installation
 - Configuration
 - Integration
- 12. Upgrading and Patching ESX Hosts**
 - Command Line Patches
 - Patch Manager
- 13. vDS**
 - Create vNetwork Distributed Switch (vDS)
 - vDS Achitecture
 - Add Ports
 - Add Hosts
 - Migrate VM's
 - Connect vNics
- 14. Host Profiles**
 - Host Profiles Usage Model
 - Access Host Profiles View
 - Creating a Host Profile
 - Edit a Host Profile
 - Associate with Additional Hosts/Cluster
 - Checking Compliance
 - Benefits
- 15. Linking vCenter Servers**
 - Defining Linking Mode
 - Linked Mode Prerequisites
 - Joining a Linked Mode Group During and After Installation
 - vCenter Maximums
- 16. VM – Fault Tolerance**
 - Fault Tolerance and Virtualization
 - Fault Tolerance in the Physical World
 - Benefits of VMware Fault Tolerance
 - Implementing FT
- 17. Log File Analysis and Session Management**
 - ESX Server Log Files
 - vCenter Server Log Files
 - Virtual Machine Log Files
 - Session Management
- 18. Command Line Tools**
 - ESX CLI Commands
 - esxcfg commands
 - vmkfstools command
 - vmkping
 - vmware-cmd
 - top
 - esxtop
 - vm-support
 - esxupdate
 - ISO and FLP Images
 - VMware Remote CLI

- 19. **Critical ESX and Virtual Machine Files**
 - Critical ESX Files
 - Virtual Machine Files
 - Resilient
 - Non-Resilient
- 20. **Runlevels and Services**
 - Runlevels Defined
 - ESX Runlevels
 - The inittab file
 - Services Available on ESX
 - ESX Specific Services
 - /etc/rcX.d
 - Summary
- 21. **Disaster Recovery**
 - Virtual Infrastructure Architecture
 - Planning for DR
 - Asynchronous Mirroring Defined
 - DR Models
 - DR Components
 - Redundancy and Rebuilding
- 22. **Appendix A – VMware Licensing for ESX Server and vCenter**
- 23. **Appendix B – ESX Server Command Line Tools**
- 24. **Appendix C – Design and Planning Tools**
- 25. **Appendix D – Microsoft Clustering**
- 26. **Appendix E – DR and Site Recovery Manager and Left Hand SAN**