ADDITIONAL

Revised 5/16/2012

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VMWare ThinApp

Course Length
1 Day

TE6611_20111112

Course Description: VMware ThinApp™ is an exciting technology which allows for the virtualization of applications, rather than operating systems. Imagine the convenience of being able to carry around all of your key productivity applications on a flash drive and being able to run them anywhere! Imagine the economy of being able to license only the number of applications which are being concurrently used, rather than installing a base set of applications on every workstation. Imagine the efficiency of being able to stream applications from a server and update them centrally. VMware ThinApp™ leverages a freshly built (clean) operating system to capture a before and after state of an application installation. By scanning the operating system, ThinApp™ is able to establish a baseline, then by scanning it again after installation, ThinApp™ is able to virtualize only the application with its key dependencies. In this exciting class, participants will be exposed to every part of the ThinApp™ application virtualization process. At course completion, students have the option of taking home with them an application package virtualized with ThinApp™.

Who Should Attend: This course is for students wishing to learn the VMware ThinApp™.

Prerequisites: Students should have familiarity with Microsoft Windows operating systems, Windows Registry and Regedit.exe, MSI packages, and Dynamic Link Libraries (DLLs).

Benefits of Attendance: Upon completion of this course, students will be able to:

- Choose a platform for creating Application Packages
- Install ThinApp
- License ThinApp
- Create an Application Package
- Modify Application Packages
- Troubleshoot Application Packages
- Update Application Packages
- Deploy Application Packages from a network share
- Deploy Application Packages from a USB drive
- Integrate ThinApp with VMware View

Course Outline:

What is ThinApp™?
Application virtualization vs. Operating System Virtualization
Components of ThinApp™
Use cases and success stories

Preparing an appropriate host for ThinApp™
Selecting the host platform (VMware Workstation or vSphere)
Choosing an Operating System (Windows XP or Windows 7)
Application compatibility considerations (the 64 bit question)

Installing the ThinApp™ application
Requirements and consideration
Installing the application
Validating installation

Packaging applications with ThinApp™
The capture process
Choosing a format for application deployment (*.ese vs *.msi)

Modifying package parameters
The *.ini file
Application isolation
The sbmerge.exe utility

Application Link
Features
Application Link and the *.ini file

Application performance and troubleshooting
Why packages don't perform well
Why packages don't work
Troubleshooting packages

Updating application packages
Streaming application packages
Using Application Sync
Using the versioning model

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VMware® View™ 5 Virtual Desktop Deployment

Course Length
4 Days

TE6612_20111112

Course Description: Our 4-day VMware View class offers participants the most extensive training available in the Installation, Configuration and Management of VMware View 5. Each participant will work hands-on with real servers to build and administrate their own complete VMware View 5 environment from the ground up. The primary reason that our class offers participants a more comprehensive experience than other classes is that each student gets to install and configure a complete VMware® vSphere™ 5 environment designed specifically to support Virtual Desktops. While other providers cover Virtual Desktops as an isolated topic; we believe that an understanding of the infrastructure (VMware vSphere 5) provides participants with an invaluable insight into the functionality of their VMware View 5 environment! Once the infrastructure has been provisioned, participants install VMware View 5 and begin the process of learning how to maximize their administrative efficiency while managing VMware View 5 environments while maintaining the highest levels of Virtual Desktop security. During class we focus on real-world Virtual Desktop deployment scenarios using the available GUI tools; the vSphere Client, vCenter Server, and the VMware View Manager. Our VMware® View™ 5 Virtual Desktop Deployment follows true Cloud Practice in deploying Infrastructure as a Service (IaaS). Because we provision completely separate resources for each participant, everybody gets unique firewall rules, and everybody gets to connect separately to his/her Virtual Desktop environment from the internet, when it is complete! The VMware® View™ 5 Virtual Desktop Deployment class features over 50 hands-on Step-By-Step Labs (SBS LAB™), complete with detailed instructions, full-color documentation and screenshots of all steps. The book alone is sure to become one of the most valued reference materials in your library.

Who Should Attend: This class is for those students who are familiar with Windows Server and TCP/IP Networking.

Prerequisites: Students must have familiarity with Windows Server and TCP/IP Networking.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Build and configure a VMware vSphere 5 infrastructure suitable for VMware View 5
- Build Virtual Machines suitable for use as Virtual Desktops
- Use Windows Profiles for Virtual Desktops
- Implement Customization Specification
- Use and deploy VM's from Templates and Clones
- Install and Configure the VMware View Connection Server
- Deploy individual Virtual Desktops
- Install and Configure VMware View Composer
- Deploy Linked Clones and Automated Desktop Pools
- Practice Desktop Refresh and Recomposition
- Use Windows Profiles to optimize Virtual Desktop Performance
- Install and Configure the VMware View Security Server
- Configure firewall rules for VMware View
- Connect securely to Virtual Desktop VM's from a variety of platforms/locations
- Manage Infrastructure as a Service (IaaS)
- Use and manage display protocols PCoIP and RDP

Course Outline:

Introduction and Overview
SBS LAB - Accessing your personal Cloud Datacenter environment

Grounds for Virtualization
Virtualization defined
What's in it for me?
Cloud Computing - Infrastructure as a Service (Iaas)

VMware vSphere
What is vSphere?
vSphere Components

What is VMware View
Components of VMware View
VMware View Connection Server
VMware View Security Server
VMware View Composer
VMware View terms and concepts
Next-generation display protocols - PCoIP
Requirements for deploying VMware View

Deploy VMware vSphere specifically for VMware View
Install ESXi Server
SBS LAB - Install ESXi Server
SBS LAB - Post Installation tasks
The vSphere Client
SBS LAB - Install vSphere Client
SBS LAB - Logging in to your ESX Server the first time
Time In a vSphere Environment
SBS LAB - Configure NTP on ESXi with an External Stratum 1 time source
SBS LAB - Validating ESX Time Configuration
Install vCenter Server
Components of vCenter
SBS LAB - The vCenter Database
SBS LAB - Install vCenter
Configure vCenter
SBS LAB - Add host(s)
SBS LAB - Enable Customization Specification
SBS LAB - Rolls, Privileges and Permissions
SBS LAB - Scheduled Tasks

Best Practices for Virtual Machines as VMware View Desktops
Required drivers and storage
Build a "Best Practices" VM
SBS LAB - Install recommended Operating System
SBS LAB - VM files and folders
SBS LAB - VMware Tools
Graphics considerations
Time Considerations
SBS LAB - Convert to template
Deploying virtual machines efficiently
SBS LAB - Creating Templates
SBS LAB - Deploying from Templates

VMware View Connection Server
Types of Connection Server: Standard, Replica, Security
SBS LAB - Install Connection Server
SBS LAB - Configure Connection Server

VMware View Composer
Database Requirements for Composer
SBS LAB - Install Composer
SBS LAB - Link Composer to vCenter

VMware View Transfer Server - Offline Desktop
Terms and Definitions
SBS LAB - Build of Transfer Server
SBS LAB - Create Transfer Repository
SBS LAB - Publish VM in Transfer Server
SBS LAB - Check desktop IN and Out

VMware View Events Database
SBS LAB - Configure Events Database

Manual Desktop Pools
Use cases for Manual Desktop Pools
SBS LAB - Deploy a VM from template
SBS LAB - Prepare VM as Virtual Desktop
SBS LAB - Establish client connection to Individual desktop

Automated Desktop Pools
Use cases for Automated Desktop Pools
SBS LAB - Create a customization specification for Automated Desktop Pool
SBS LAB - Deploy a VM from template
SBS LAB - Prepare VM as Automated Desktop Pool Parent
SBS LAB - Configure Automated Desktop Pool
SBS LAB - Establish client connection to View Composer
SBS LAB - Automatically deploy new Virtual Desktop

Linked Clones a. Use cases for Automated Desktop Pools
SBS LAB - Deploy a VM from template
SBS LAB - Prepare VM as Linked Clone Parent
SBS LAB - Configure Linked Clone Desktop Pool
SBS LAB - Allow linked Clones to propagate as configured
SBS LAB - Establish client connection to Linked Clones
SBS LAB - Desktop Recomposition and Refresh
SBS LAB - Validate Storage efficiency for Linked Clones

VMware View Security
Overview
What types of certificates does VMware View use and where to get them
SBS LAB - Get and install SSL Certificates for VMware View

VMware View Security Server
Firewall and DNS considerations for Security Server
SBS LAB - Install Security Server
Port considerations
Tunneling PCoIP d. Virtual Network (vSwitch) configuration
SBS LAB - Create and implement secure DMZ for VMware View Security Server
Configure networking on Security Server
SBS LAB - Test and validate secure (https://) connections from the internet to participantsvirtual desktops

VDMadmin
Administration from Command Line
SBS LAB - Generate Help Bundle
SBS LAB - List and Display Health Monitors
Connection Server
Events Database
Security Server
Domain
SBS LAB - Display Reports of View Manager Operation

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VMware® vSphere™ 5 - Datacenter Operations

Course Length
4 Days

TE6613_20111113

Course Description: This special "No Command Line" class will focus on providing Administrators with all the information they need to know for successful vSphere administration. In our VMware ® vSphere ™ 5 - Datacenter Operations, each student will install and configure their own ESXi 5 server “the right way” and then build a complete VMware vSphere environment. Every participant will gain a solid understanding of Public, Private, and Hybrid Cloud Computing along with a clear, real-world roadmap for planning and upgrading to vSphere 5 including: What's New in VMware® vSphere™ 5, Cloud Computing - Cloud Control, VMware® vSphere™ 5 Management techniques and utilities, and Infrastructure as a Service (IaaS).

Once each student has had the opportunity to configure his/her own vSphere environment, we will cluster the classroom ESX Servers and explore the more advanced vCenter concepts like Distributed Resource Scheduling, High Availability and Distributed Power Management. All Labs will be done using our state-of-the-art VMware Hardware Compatibility List servers. We will focus on vSphere administration using the available GUI tools; the vSphere Client and vCenter Server. Administrators will learn what they need to know without loading up on deprecated or highly-specific command-line tools useful only in specialized situations. This class is ideal for Administrators who work primarily in Windows and have an immediate need for useful knowledge and ability with VMware vSphere. This class is fully compatible with VMware ® vSphere ™ 5 and VMware ® vSphere ™ 4 The VMware ® vSphere ™ 5 - Datacenter Operations features over 40 interactive Step-By-Step Labs (SBS LAB ™), complete with detailed instructions, full-color documentation and screenshots of all steps. The book alone is sure to become one of the most valued reference materials in your library.

Who Should Attend: Students must have familiarity with Windows Server and TCP/IP Networking.

Prerequisites: The VMware ® vSphere ™ 5 - Datacenter Operations is intended for IT professionals with familiarity with Windows Server and TCP/IP Networking.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install and configure ESXi 5, vCenter Server, VMware Consolidated Backup
- Create and manage Virtual Machines and Appliances
- Connect to SAN Storage, manage storage paths, create VMFS Volumes
- Manage virtual networking including multiple NIC's, Load Balancing and Fail-over
- Use Distributed vSwitches
- Configure Roles, Privileges and Permissions
- Use Host Profiles
- Monitor Tasks, Events and Alarms
- Perform migrations (P2V, V2V, V2P) with the VMware Converter
- Configure ESX Server Clusters
- Implement vMotion and Distributed Resource Scheduling
- Implement High Availability
- Implement and use Distributed Power Management
- Manage resources with Resource Pools
- Remediate both ESX Servers and VM's using the VMware Update Manager
- Backup VM's using VMware Consolidated Backup and the vStorage API
- Utilize and integrate 3rd Party Tools into the datacenter environment

Course Outline:

Introduction and Overview
SBS LAB - Connecting to your server(s)

Grounds for Virtualization
Virtualization defined
What's in it for me?
What is a hypervisor?
Hypervisor Classifications
Comparison of production hypervisors

VMware vSphere
What is vSphere?
vSphere Components

Preparing to deploy vSphere
Understanding Storage Architecture
Understanding the VMFS Filesystem

Install ESXi (The VMware Hypervisor)
SBS LAB - ESX Server Installation process
The vSphere Client
SBS LAB - Install vSphere Client
SBS LAB - Logging in to your ESX Server the first time
Time In a vSphere Environment
SBS LAB - Configure NTP on ESX with an External Stratum 1 time source
SBS LAB - Validating ESX Time Configuration

Virtual Machines
Virtual Machine Concepts
SBS LAB - Configuring a New Virtual Machine
SBS LAB - Install a Guest Operating System
Windows XP the Right Way
SBS LAB - Preparing Diskette Image to install Windows XP
SBS LAB - Creating the VM for Windows XP
SBS LAB - Installing Windows XP
Virtual Machine Files
SBS LAB - Virtual Machine File Extensions
Modifying Virtual Machines, Prepare VM for Production
SBS LAB - VMware Tools
SBS LAB – Choosing the right networking driver for your VM

vCenter Server
vCenter Server Services
vCenter Requirements
vCenter Required Components
vCenter Required Ports
Preparing for a vCenter Server Installation
The vCenter Database
SBS LAB - Creating the Database for vCenter
SBS LAB - Preparing Windows for vCenter
SBS LAB - vCenter Server Installation
Worksheet For installing vCenter Server
Best Practices for a vCenter Server installation

vCenter Management
Initial Configuration
SBS LAB - Connecting to the vCenter Server
SBS LAB - Adding ESX Server(s) to vCenter
Tasks Events and Alarms
SBS LAB - Tasks and Events
SBS LAB – Using Scheduled Tasks
SBS LAB - Create an alarm
Host Profiles
SBS LAB – Create a Host Profile
SBS LAB – Working with Host Profiles
SBS LAB – Apply a Host Profile
vCenter Permissions
SBS LAB - Create a vCenter Permission
SBS LAB – Apply a vCenter Permission
Templates and Clones
SBS LAB - Enable Customization Specification
SBS LAB - Create a vCenter Clone
SBS LAB - Convert to Template
SBS LAB - Convert to Virtual Machine
SBS LAB - Clone to Template

Operating System Migration (P2V, V2V, V2P, P2P)
Migration Methods, Techniques and Tools
SBS LAB – Migration using VMware Converter

VMware vCenter Update Manager (VUM)
How VUM Works
SBS LAB – Installing and configuring VMware Update Manager (VUM)
SBS LAB – Patching ESX Servers

Performance Charts and Monitoring
Charts, Options and Counters
SBS LAB - Setting up Statistics
Using vCenter Performance Charts
SBS LAB - Demonstrate CPU Saturation
SBS LAB - Examine Memory Utilization
SBS LAB - Examine Network Utilization

Virtual Networking
Standard vSwitch Properties
General / Number of ports
Security Policy Exceptions
Traffic Shaping
NIC Teaming, Load Balancing, and Failover Detection
Port Groups (Connection Types)
Virtual Machine Port Group
Service Console Port Group
. VMkernel Port Group
VLAN's
Uplinks (Physical NIC's)
Physical NIC Considerations
Super vSwitch Concept
VMkernel Port Group
SBS LAB - Creating a Standard vSwitch VMkernel Connection
Distributed vSwitch
dvSwitch Properties and Configuration
SBS LAB – Distributed vSwitch Configuration
SBS LAB - Managing dvSwitch Virtual Adapters

ESX Server SAN Storage and Multipathing
SBS LAB - Connecting to iSCSI SAN
SBS LAB - Create a VMFS Volume
SBS LAB – Manage Storage Paths

vMotion and Storage vMotion
vMotion requirements
SBS LAB - Storage vMotion in action
SBS LAB - vMotion in Action

vCenter Clustering
Reasons for Clustering
Types of vSphere Clusters
VMware Distributed Resource Scheduler (DRS)
VMware Distributed Power Management (DPM)
VMware High Availability
Here's how HA works
SBS LAB - Configuring Clusters for DRS and HA
HA Considerations
SBS LAB - HA Options

Distributed Power Management (DPM)
DPM Requirements and Considerations
SBS LAB - Configuring DPM

Resource Management
Memory Management
Transparent Page Sharing
Memory Ballooning
ESX Memory Swapping
Virtual Machine Resource Allocation: Shares, Reservations, and Limits
SBS LAB - Virtual Machine Resource Allocation
Resource Pools
Usage Scenarios for Resource Pools
SBS LAB - Create Resource Pool

Backup Techniques for a Virtualized Datacenter
VMware vStorage API
SBS LAB - Configure Windows optimally for backups with the vStorage API
SBS LAB - The vStorage API and Veeam Backup

Tools and Integrations for a Virtualized Datacenter
Disk Partitioning
SBS LAB – Windows tools for expanding a System Disk
Archive Management – ISO's, ZIP and TAR
SBS LAB – Tools for Managing Archives
SBS LAB - Prepare Slipstreamed Windows Installation
Management and Reporting Tools
SBS LAB – Automating the creation of Reports
SBS LAB – Advanced Performance Monitoring (Windows Tools)

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VMware Training - VSphere Administration, Security, and Enhancement

Course Length
5 Days
TE6614_20111113

Course Description: Our VMware vSphere Administration, Security and Enhancement class offers an in-depth exploration of advanced vSphere operations and administration. Ideally suited for experienced VMware admins, this class emphasizes "best practice" techniques for maintaining a production VMware vSphere environment. The class will begin with a pre-configured vCenter server including available Virtual Machine Templates. Each student will then perform a scripted ESX Server installation and deploy and iSCSI SAN. Students will complete the class with an enhanced knowledge of VMware vSphere administration, security and performance monitoring. All students will have hands-on experience with real servers that will translate directly to their professional environment.

Who Should Attend: This class is for current VMware admins who have experience with both ESX Server and VirtualCenter/vCenter Server.

Prerequisites: Our VMware vSphere Administration, Security and Enhancement is intended for current VMware admins who have experience with both ESX Server and VirtualCenter/vCenter Server. This class does not cover the specifics of ESX Installation or vCenter installation (Please see our Infrastructure Deployment class), but rather focuses on advanced administration techniques, performance monitoring and the basics of scripting.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Perform a scripted ESX installation
- Configure ESX and Active Directory
- Implement iSCSI SAN
- Manage storage paths, create VMFS Volumes
- Manage Network Administration, Distributed vSwitches
- Link vCenter Servers
- Implement and test DRS
- Monitor Enterprise Performance
- Implement and test High Availability and Disaster Recovery
- Use VMware Backup tools
- Configure and use Update Management
- Learn Compliance and Remediation
- Create Host Profiles
- Work with Service Console administration
- Use Remote Command Line Interface(s)

Course Outline:

Understanding the environment
Network considerations
Storage considerations
Hardware considerations
Active Directory
Domain Controller considerations
A-Records

Network Administration
Deploy Distributed vSwitches
VLAN's
Load Balancing

ESX Storage Administration
Deploying a highly available iSCSI SAN
SAN Multipathing
Partition Alignment

Linking vCenter Servers for availability or large environments

DRS Implementation
Test DRS Thresholds
Monitor DRS operation
Implement and Use Distributed Power management

Performance Monitoring
esxtop
Performance Charts
Performance Monitoring and reporting tools

Business Continuity
HA (High Availability)
Snapshots
SAN Replication
Virtual Machine Data Protection and Backup
VMware Consolidated Backup
VMware vStorage API for Data Protection

Compliance and Remediation
Regulatory requirements
DISA STIG's
SOX (Sarbanes–Oxley)
HIPAA
Reporting
Log File Administration
vCenter Log file administration
ESX Log file administration
Remediation
Using VMware Update Manager
Host update management
Guest OS update management
Host Profiles

Command-line Service Console Administration
Create a vSwitch
Assign a new physical NIC to vSwitch
Commit a snapshot
Register a Virtual Machine
Diagnose Service Console Connectivity
Use vmkfstools to manage Virtual Disks and VMFS Volumes
Using fdisk to view partition information

Remote Console Administration

VMware vSphere Management Assistant (vMA)

VMware Power CLI

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VMware vSphere 5 Accelerated Boot Camp

Course Length
5 Days

TE6616_20120118

Course Description: In our VMware® vSphere™ 5 Accelerated Boot Camp we present Cloud Computing (A.K.A. "virtualization") in a logical, easy-to-absorb format. Each participant builds and manages their own complete VMware® vSphere™ 5 environment including ESXi 5, vCenter 5, SAN Storage, Virtual Machines, Virtual Appliances, Backup and more.

What makes our approach so unique is that every participant builds an actual datacenter environment on real servers, from beginning to end. Most importantly, we use the same procedures, in the same order as they would be implemented in your own datacenter.

Our VMware® vSphere™ 5 Accelerated Boot Camp is the most comprehensive class we offer. In a week of classroom instruction, each participant will gain a comprehensive understanding of Public, Private, and Hybrid Cloud Computing with VMware® vSphere™ 5. This course covers all the bases plus advanced management and emphasizes real world and Best Practice techniques and integrations for maintaining a production VMware® vSphere™ environment. This class is fully compatible with both vSphere 4 and vSphere 5!

All Labs will be done using our state-of-the-art VMware Hardware Compatibility List servers. Participants will learn not only vSphere management, but also real-world integrations and datacenter management scenarios which go far beyond the scope of other training programs.

The VMware® vSphere™ 5 Accelerated Boot Camp features over 60 interactive Step-By-Step Labs (SBS LAB ™), complete with detailed instructions, full-color documentation and screenshots of all steps. The book alone is sure to become one of the most valued reference materials in your library.

A CVDX 5 practical examinination is given at the end of the 5th day of class. Each candidate is assigned specific operations which need to be completed cumulatively and correctly in order to pass the practical examination. The goal fo the Practical exam is for each candidate to configure a comlete, functioning VMwarevSphere 5 environment and, in doing so, demonstrate his/her abilities.

Who Should Attend: This course is for IT professionals experienced wishing to learn how to build and manage a VMware® VSphere™ 5 environment.

Prerequisites: The VMware® vSphere™ 5 Accelerated Boot Camp is intended for IT professionals experienced with Windows Server and TCP/IP Networking as well as some Windows or Linux Command Line use.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install and configure ESXi, vCenter Server, vStorage API and VMware Data Protection
- Manage ESXi hypervisor security, firewall, SSH access and Active Directory
- Create and manage Virtual Machines and Appliances
- Connect to SAN Storage, manage storage paths, create VMFS Volumes
- Manage virtual networking including multiple NIC's, Load Balancing and Fail-over
- Configure Jumbo Frames the right way for iSCSI
- Use vNetwork Distributed Switches
- Configure Roles, Privileges and Permissions
- Use Host Profiles
- Monitor Tasks, Events and Alarms
- Perform migrations (P2V, V2V, V2P) both “hot” and “cold”
- Configure ESX Server Clusters
- Implement vMotion and Distributed Resource Scheduling
- Implement High Availability
- Implement and use Distributed Power Management
- Manage resources with Resource Pools
- Install and use the VMware vCenter Update Manager (VUM) to patch ESXi 5 hosts and Virtual Machines

Course Outline:

Introduction and Overview
SBS LAB - Connecting to your classroom resources

Cloud Computing and Virtualization
Public, Private and Hybrid Clouds
Virtualization defined
What's in it for me?
What is a hypervisor?
Hypervisor Classifications
Comparison of production hypervisors

VMware® vSphere™
What is VMware® vSphere™ ?
VMware® vSphere™ Components
What's new in VMware® vSphere™ 5

Preparing to deploy VMware® vSphere™
Server Hardware Configuration

Install ESXi (VMware® vSphere™ Hypervisor)
SBS LAB - ESX Server Installation process
SBS LAB - View install logs
SBS LAB - Downloading files from ESX Server

ESX hypervisor security, user authentication
User accounts
SBS LAB - Enabling remote access via SSH -
SBS LAB - Putty
SBS LAB - Log in via SSH
The VMware® vSphere™ Client
SBS LAB - Install VMware® vSphere™ Client
SBS LAB - Logging in to your ESX Server the first time

Time In a VMware® vSphere™ Environment
SBS LAB - Configure NTP on ESX with an External Stratum 1 time source

ESXi and Active Directory
Directory-based authentication, Default user Groups
SBS LAB - Join ESXi to Active Directory domain

Virtual Machines
Virtual Machine Concepts
SBS LAB - Configuring a New Virtual Machine
SBS LAB - ISO Media location and connection
SBS LAB - Choosing a storage driver
SBS LAB - Installing Server 2008
Student's choice VM
SBS LAB - Build the VM of your choice (any supported OS!)
Virtual Machine Files
SBS LAB - Virtual Machine Files and Extensions
Modifying Virtual Machines, Prepare VM for Production
SBS LAB - VMware Tools
SBS LAB - Improving graphics performance by choosing WDDM video driver
SBS LAB - Editing Virtual Machine properties with the wizard
SBS LAB - Editing advanced Virtual Machine properties in the *.vmx file
SBS LAB - using vmkfstools to Create Command Line Clones
SBS LAB - Add command line clone to Inventory

Virtual Machine Resource Allocation
Memory Management, Transparent Page Sharing, and Memory Ballooning
ESX Memory Swapping
SBS LAB - Shares, Reservations and Limits
SBS LAB - Virtual Machine Performance charts
SBS LAB - Test virtual machine Resource Allocation with cpubusy script

Virtual Networking
Standard vSwitch Properties
General / Number of ports
Security Policy Exceptions
Traffic Shaping
NIC Teaming, Load Balancing, and Failover Detection
Port Groups (Connection Types)
VLAN's
Uplinks (Physical NIC's)
Physical NIC Considerations
Super vSwitch Concept
Network Diagnostics and Recovery
SBS LAB - Command Line Network Management
SBS LAB - Replacing a physical NIC on the fly using Technical Support Mode

ESX Server SAN Storage and Multipathing
The VMFS filesystem
iSCSI SAN
SBS LAB - Create a Jumbo Frames vmkernel connection
SBS LAB - iSCSI Port Binding
VMFS 3 and VMFS 5
SBS LAB - Connecting to SAN
SBS LAB - Create a VMFS Volume
SBS LAB - Manage Storage Paths

Operating System Migration (P2V, V2V, V2P, P2P)
Migration Methods, Techniques and Tools
SBS LAB - Cold migration / Block-level migration
SBS LAB - Migration using VMware Converter

vCenter Server
vCenter Server Services
vCenter Requirements
vCenter Required Components
vCenter Required Ports

Preparing for a vCenter Server Installation
The vCenter Database
SBS LAB - A "Best Practice" build of MS SQL for VMware
SBS LAB - vCenter Server Installation

vCenter Management
Initial Configuration
SBS LAB - Connecting to the vCenter Server
SBS LAB - Adding ESX Server(s) to vCenter
Tasks Events and Alarms
SBS LAB - Tasks and Events
SBS LAB - Using Scheduled Tasks
SBS LAB - Create an alarm
Host Profiles
SBS LAB - Create a Host Profile
SBS LAB - Working with Host Profiles
SBS LAB - Apply a Host Profile
vCenter Permissions
SBS LAB - Create a vCenter Permission
SBS LAB - Apply a vCenter Permission
Templates and Clones
SBS LAB - Enable Customization Specification
SBS LAB - Create a vCenter Clone
SBS LAB - Convert to Template
SBS LAB - Convert to Virtual Machine
SBS LAB - Clone to Template

The VMware Update Manager
SBS LAB - Installing and configuring VMware Update Manager (VUM)
SBS LAB - Creating an Update Baseline
SBS LAB - Update ESX Servers to most current build
SBS LAB - Create a Virtual Machine Baseline
SBS LAB - Use VUM to update VMware Tools automatically

Performance Charts and Monitoring
Charts, Options and Counters
SBS LAB - Setting up Statistics
Using vCenter Performance Charts
SBS LAB - Demonstrate CPU Saturation
SBS LAB - Examine Memory Utilization
SBS LAB - Examine Network Utilization

XVIII. vMotion and Storage vMotion
vMotion requirements
SBS LAB - Storage vMotion in action
SBS LAB - vMotion in Action

vCenter Clustering
Reasons for Clustering
Types of VMware® vSphere™ Clusters
VMware Distributed Resource Scheduler (DRS)
VMware Distributed Power Management (DPM)
Resource Pools
Usage Scenarios for Resource Pools
SBS LAB - Create Resource Pool
VMware High Availability
Here's how HA works
SBS LAB - Configuring Clusters for DRS and HA
HA Considerations iv. SBS LAB - HA Options

Distributed Power Management (DPM)
DPM Requirements and Considerations
SBS LAB - Configuring DPM

Backup Techniques for a Virtualized Datacenter
VMware vStorage API
SBS LAB - Configure Windows optimally for backups with the vStorage API
SBS LAB - The vStorage API and Veeam Backup
SBS LAB - VMware Data Recovery Appliance (a complete backup solution included with vSphere!

Tools and Integrations for a Virtualized Datacenter
Disk Partitioning
SBS LAB - Tools for expanding a System Disk
Management Monitoring and Reporting Tools
SBS LAB - Automating the creation of Reports
SBS LAB - Advanced Management and Performance Monitoring

Using the Remote Command Line to manage ESXi
A summary of Remote Commands
Considerations for Remote Command Line management
SBS LAB - Deploy the vMA
SBS LAB - Configure The vMA
SBS LAB - Run a sample script on the vMA
SBS LAB - vmkfstools
SBS LAB - The 'esxcfg' family of commands
SBS LAB - Using 'esxtop' for performance monitoring
SBS LAB Using 'vmware-cmd' to capture performance data

vNetwork Distributed Switch
Versions and use cases
SBS LAB - Migrate Networking to a vNetwork Distributed Switch