

VMware Certified Advanced Professional 5 – Data Center Administration

Exam Blueprint

VCAP5-DCA Exam testing center exam code: VDCA510

Exam Blueprint Version 2.8

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Disclaimer:

This blueprint is intended to provide information about the objectives covered by this exam, related resources, and recommended courses. The material contained within this blueprint is not intended to guarantee that a passing score will be achieved on the exam.

VMware recommends that a candidate thoroughly understands the objectives indicated in this guide and utilizes the resources and courses recommended in this guide where needed to gain that understanding.

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1. The Exam

1.1 Purpose of Exam

The VMware Certified Advanced Professional 5 – Data Center Administration Exam tests certification candidates on their skills and abilities installing, configuring and administering large and/or more complex virtualized environments.

1.2 Number of Questions

The VCAP5-DCA Exam consists of approximately 26 live lab activities and a short pre-exam survey consisting of 9 questions. Live lab activities consist of multiple tasks, where each task is scored. The total number of activities provided is based on the total number of tasks. Because of this, the actual number of lab activities may vary slightly between exams.

1.3 Passing Score

The passing score for this exam is 300. The scale is from 100-500. Scaled scores are calculated using a mathematical formula that considers a variety of factors, including the number and type of exam questions included in a specific version of the exam. Because this combination may vary in different versions of the same examination, scaled scores provide a fair score for each individual based on the version of the exam taken.

Points are awarded for the successful completion of each lab task. Most items on the exam are composed of several tasks, and partial credit is awarded for those tasks that are completed successfully. Candidates can choose to complete a task using different methods, as points are awarded based on successful completion, not on the steps used to complete the task.

1.4 How Objectives Relate to Questions on the Exam

Objectives summarize what the test is designed to measure. Objectives are developed by Exam Developers and Subject Matter Experts based on identified tasks that relate to the job of administering a VMware vSphere® environment. Once the initial development process is complete, these objectives are verified using an external group of individuals in the actual job role. The external survey determines the number of questions for each objective, which relates directly to the criticality of the task in the job role.

1.5 Languages

The exam is available in English.

1.6 Time Limit

The total time for this exam is 210 minutes. Candidates who take the VCAP5-DCA Exam in a country where English is not a primary language will have an additional 30 minutes added to the exam time. This time extension is automatic, no additional action is required from the candidate. For the purposes of this exam, countries where English is considered one of the primary languages include Australia, New Zealand, Belize, South Africa, Bermuda, the United Kingdom, Canada, the United States and Ireland. An additional 15 minutes is provided to complete the survey questions and agreements.

The VMware Certified Advanced Professional 5 – Data Center Administration Exam is a live exam in which candidates at a Pearson VUE testing center connect directly to VMware equipment specially configured for their use in the exam. There is a limited amount of equipment available for these exams and to ensure a candidate has the required equipment, the equipment is scheduled and partitioned for each VCAP5-DCA Exam. After each exam is given, the exam is automatically scored and then equipment is made available for the next exam. The equipment for each candidate is partitioned and made available in a limited time window corresponding to the candidate's scheduled exam time. As a result, candidates can only be seated not more than **15** minutes before and **45** minutes after the scheduled time.

1.7 Scheduling and Taking the Exam

This exam is administered through Pearson VUE. Details on the rules and procedures associated with requesting authorization, registering, and sitting for the exam are available [here](#). For the latest certification news and more, please [sign up for updates](#).

1.8 Certification Tracks

The VCAP5-DCA Exam is a core component of the VCAP5-DCA certification. The certification requires a passing score on the exam, and the candidate must have achieved the VCP5-DCV (VMware Certified Professional 5 – Data Center Virtualization), VCP5-DT (VMware Certified Professional 5 – Desktop), or VCP-Cloud (VMware Certified Professional – Cloud) certification as prerequisite to this certification. There is no course requirement for this exam, though courses are available that cover the objectives in the exam.

The VCAP5-DCA certification is a component of the [VCDX5-DCV](#) certification track.

Note: VCP5 and VCDX5 have been renamed VCP5-DCV (VMware Certified Professional 5 – Data Center Virtualization) and VCDX5-DCV (VMware Certified Design Expert 5 – Data Center Virtualization) respectively.

1.9 Retake Policy

If a candidate fails an exam on the first attempt, he or she must wait 14 calendar days from their original appointment time before he or she can register to retake the exam. If a candidate fails the exam twice or more, there is a 30 calendar day period before being able to take the exam again. If a candidate passes the exam, they cannot take the exam again until a new major revision of the product and certification is released.

1.10 Exam Security

VMware reserves the right to refuse certifying a candidate who violates exam security policies. This includes copying and redistribution of exam material, using any type of study material during the exam itself, attempting to photograph exam items and taking an exam using a false identity. VUE testing centers will take your photo and capture your digital signature upon arrival to take the exam.

1.11 Exam Environment

The exam consists of a number of tasks that are performed using actual equipment consisting of two ESXi hosts and a vCenter Server virtual machine. A number of pre-configured virtual machines will also be present for use with certain tasks. The lab environment is based on vSphere 5.0.

The VCAP5-DCA Exam includes troubleshooting tasks. As a result, some components may not be correctly configured, or may not have been configured at all, which is entirely intentional. In addition, some lab tasks are dependent on the successful completion of previous tasks. Every task can be completed successfully, and knowledge of how the task is completed is essential to determine what component or components must be configured or re-configured.

2. Intended Audience

2.1 Intended Audience

A candidate should have approximately two years of experience administering a VMware virtual environment. The individual is capable of working with large and/or more complex virtualized environments. Large environments are those that require cooperative administration among the members of a team of administrators. Complex environments are those managed in a hierarchical manner, with different policies applied at different levels of the hierarchy.

Candidates demonstrate technical leadership with vSphere technologies. They are capable of using automation tools, implementing virtualized environments, and administering all vSphere enterprise components as detailed in the exam blueprint. The successful candidate will most likely have additional industry-recognized general IT certifications or the equivalent experience (typically 4-7 years). The VCP5-DCV certification is a pre-requisite to this certification.

3. Objectives covered in the VCAP5-DCA Exam

3.1 Introduction

It is recommended that candidates have the knowledge and skills necessary to install, configure and administer a vSphere 5 environment before taking the VCAP5-DCA Exam. While there is no course

requirement for this exam, several courses are available that can help provide knowledge on objectives that are covered by this exam. It is recommended that the candidate utilize these courses and/or other materials where needed to provide background information on the objectives in the exam.

3.2 Objectives

Prior to taking this exam, candidates should understand each of the following objectives. Each objective is listed below; along with related tools the candidate should have experience with, and related documentation that contains information relevant to the objective. All objectives may also be referenced in other product documentation not specifically highlighted below. The candidate should be familiar with all relevant product documentation or have an equivalent skillset.

Section 1 – Implement and Manage Storage

Objective 1.1 – Implement and Manage Complex Storage Solutions

Knowledge

- Identify RAID levels
- Identify supported HBA types
- Identify virtual disk format types

Skills and Abilities

- Determine use cases for and configure VMware DirectPath I/O
- Determine requirements for and configure NPIV
- Determine appropriate RAID level for various Virtual Machine workloads
- Apply VMware storage best practices
- Understand use cases for Raw Device Mapping
- Configure vCenter Server storage filters
- Understand and apply VMFS re-signaturing
- Understand and apply LUN masking using PSA-related commands
- Analyze I/O workloads to determine storage performance requirements
- Identify and tag SSD devices
- Administer hardware acceleration for VAAI
- Configure and administer profile-based storage
- Prepare storage for maintenance
- Upgrade VMware storage infrastructure

Tools

- [vSphere Installation and Setup Guide](#)
- [vSphere Storage Guide](#)

- [vSphere Command-Line Interface Concepts and Examples](#)
- Product Documentation
- vSphere Client / Web Client
- vscsiStats
- vSphere CLI
 - esxcli
 - vifs
 - vmkfstools
 - esxtop/resxtop

Objective 1.2 – Manage Storage Capacity in a vSphere Environment

Knowledge

- Identify storage provisioning methods
- Identify available storage monitoring tools, metrics and alarms

Skills and Abilities

- Apply space utilization data to manage storage resources
- Provision and manage storage resources according to Virtual Machine requirements
- Understand interactions between virtual storage provisioning and physical storage provisioning
- Apply VMware storage best practices
- Configure Datastore Alarms
- Analyze Datastore Alarms and errors to determine space availability
- Configure Datastore Clusters

Tools

- [vSphere Storage Guide](#)
- [vSphere Command-Line Interface Concepts and Examples](#)
- [vCenter Server and Host Management Guide](#)
- Product Documentation
- vSphere Client / Web Client
- vSphere CLI
 - vmkfstools
 - vdf/df

Objective 1.3 – Configure and Manage Complex Multipathing and PSA Plug-ins

Knowledge

- Explain the Pluggable Storage Architecture (PSA) layout

Skills and Abilities

- Install and Configure PSA plug-ins
- Understand different multipathing policy functionalities
- Perform command line configuration of multipathing options
- Change a multipath policy
- Configure Software iSCSI port binding

Tools

- [vSphere Installation and Setup Guide](#)
- [vSphere Storage Guide](#)
- [vSphere Command-Line Interface Concepts and Examples](#)
- Product Documentation
- vSphere Client
- vSphere CLI

Section 2 – Implement and Manage Networking

Objective 2.1 – Implement and Manage Complex Virtual Networks

Knowledge

- Identify common virtual switch configurations

Skills and Abilities

- Configure SNMP
- Determine use cases for and applying VMware DirectPath I/O
- Migrate a vSS network to a Hybrid or Full vDS solution
- Configure vSS and vDS settings using command line tools
- Analyze command line output to identify vSS and vDS configuration details
- Configure NetFlow
- Determine appropriate discovery protocol
 - CDP
 - LLDP

Tools

- [vSphere Installation and Setup Guide](#)
- [vSphere Networking Guide](#)
- [vSphere Command-Line Interface Concepts and Examples](#)
- Product Documentation

- vSphere Client
- vSphere CLI
 - esxcli

Objective 2.2 – Configure and Maintain VLANs, PVLANS and VLAN Settings

Knowledge

- Identify types of VLANs and PVLANS

Skills and Abilities

- Determine use cases for and configure VLAN Trunking
- Determine use cases for and configure PVLANS
- Use command line tools to troubleshoot and identify VLAN configurations

Tools

- [vSphere Installation and Setup Guide](#)
- [vSphere Networking Guide](#)
- [vSphere Command-Line Interface Concepts and Examples](#)
- Product Documentation
- vSphere Client
- vSphere CLI
 - esxcli

Objective 2.3 – Deploy and Maintain Scalable Virtual Networking

Knowledge

- Identify VMware NIC Teaming policies
- Identify common network protocols

Skills and Abilities

- Understand the NIC Teaming failover types and related physical network settings
- Determine and apply Failover settings
- Configure explicit failover to conform with VMware best practices
- Configure port groups to properly isolate network traffic

Tools

- [vSphere Installation and Setup Guide](#)

- [vSphere Networking Guide](#)
- [vSphere Command-Line Interface Concepts and Examples](#)
- Product Documentation
- vSphere Client
- vSphere CLI
 - esxcli

Objective 2.4 – Administer vSphere Distributed Switch Settings

Knowledge

- Describe the relationship between vDS and the vSS

Skills and Abilities

- Understand the use of command line tools to configure appropriate vDS settings on an ESXi host
- Determine use cases for and apply Port Binding settings
- Configure Live Port Moving
- Given a set of network requirements, identify the appropriate distributed switch technology to use
- Configure and administer vSphere Network I/O Control
- Use command line tools to troubleshoot and identify configuration items from an existing vDS

Tools

- [vSphere Installation and Setup Guide](#)
- [vSphere Networking Guide](#)
- [vSphere Command-Line Interface Concepts and Examples](#)
- Product Documentation
- vSphere Client
- vSphere CLI
 - esxcli

Section 3 – Deploy DRS Clusters and Manage Performance

Objective 3.1 – Tune and Optimize vSphere Performance

Knowledge

- Identify appropriate BIOS and firmware setting requirements for optimal ESXi host performance
- Identify appropriate driver revisions required for optimal ESXi host performance

Skills and Abilities

- Tune ESXi host memory configuration
- Tune ESXi host networking configuration
- Tune ESXi host CPU configuration
- Tune ESXi host storage configuration
- Configure and apply advanced ESXi host attributes
- Configure and apply advanced Virtual Machine attributes
- Configure advanced cluster attributes

Tools

- [vSphere Command-Line Interface Concepts and Examples](#)
- [vSphere Monitoring and Performance Guide](#)
- Product Documentation
- vSphere Client / Web Client
 - Performance Graphs
- vSphere CLI
 - esxcli
 - resxtop/esxtop
 - vscsiStats

Objective 3.2 – Optimize Virtual Machine Resources

Knowledge

- Compare and contrast virtual and physical hardware resources
- Identify VMware memory management techniques
- Identify VMware CPU load balancing techniques
- Identify pre-requisites for Hot Add features

Skills and Abilities

- Tune Virtual Machine memory configurations
- Tune Virtual Machine networking configurations
- Tune Virtual Machine CPU configurations
- Tune Virtual Machine storage configurations
- Calculate available resources
- Properly size a Virtual Machine based on application workload
- Modify large memory page settings
- Understand appropriate use cases for CPU affinity
- Configure alternate virtual machine swap locations

Tools

- [vSphere Resource Management Guide](#)
- [vSphere Virtual Machine Administration](#)
- Product Documentation
- vscsiStats
- vSphere Client / Web Client
 - Performance Charts
- vSphere CLI
 - resxtop/esxtop

Objective 3.3 – Implement and Maintain Complex DRS Solutions

Knowledge

- Explain DRS / storage DRS affinity and anti-affinity rules
- Identify required hardware components to support DPM
- Identify EVC requirements, baselines and components
- Understand the DRS / storage DRS migration algorithms, the Load Imbalance Metrics, and their impact on migration recommendations

Skills and Abilities

- Properly configure BIOS and management settings to support DPM
- Test DPM to verify proper configuration
- Configure appropriate DPM Threshold to meet business requirements
- Configure EVC using appropriate baseline
- Change the EVC mode on an existing DRS cluster
- Create DRS and DPM alarms
- Configure applicable power management settings for ESXi hosts
- Properly size virtual machines and clusters for optimal DRS efficiency
- Properly apply virtual machine automation levels based upon application requirements
- Create and administer ESXi host and Datastore Clusters
- Administer DRS / Storage DRS

Tools

- [vSphere Resource Management Guide](#)
- Product Documentation
- vSphere Client
 - DRS / Storage DRS Resource Distribution Chart

Objective 3.4 – Utilize Advanced vSphere Performance Monitoring Tools

Knowledge

- Identify hot keys and fields used with `resxtop/esxtop`
- Identify fields used with `vscsiStats`

Skills and Abilities

- Configure `esxtop/resxtop` custom profiles
- Determine use cases for and apply `esxtop/resxtop` Interactive, Batch and Replay modes
- Use `vscsiStats` to gather storage performance data
- Use `esxtop/resxtop` to collect performance data
- Given `esxtop/resxtop` output, identify relative performance data for capacity planning purposes

Tools

- [vSphere Resource Management Guide](#)
- Product Documentation
- vSphere Client
- vSphere CLI
 - `esxtop/resxtop`
 - `vscsiStats`

Section 4 – Manage Business Continuity and Protect Data

Objective 4.1 – Implement and Maintain Complex VMware HA Solutions

Knowledge

- Identify the three admission control policies for HA
- Identify heartbeat options and dependencies

Skills and Abilities

- Calculate host failure requirements
- Configure customized isolation response settings
- Configure HA redundancy
 - Management Network
 - Datastore Heartbeat
 - Network partitions
- Configure HA related alarms and monitor an HA cluster

- Create a custom slot size configuration
- Understand interactions between DRS and HA
- Analyze vSphere environment to determine appropriate HA admission control policy
- Analyze performance metrics to calculate host failure requirements
- Analyze Virtual Machine workload to determine optimum slot size
- Analyze HA cluster capacity to determine optimum cluster size

Tools

- [vSphere Availability Guide](#)
- Product Documentation
- vSphere Client

Objective 4.2 – Deploy and Test VMware FT

Knowledge

- Identify VMware FT hardware requirements
- Identify VMware FT compatibility requirements

Skills and Abilities

- Modify VM and ESXi host settings to allow for FT compatibility
- Use VMware best practices to prepare a vSphere environment for FT
- Configure FT logging
- Prepare the infrastructure for FT compliance
- Test FT failover, secondary restart, and application fault tolerance in a FT Virtual Machine

Tools

- [vSphere Availability Guide](#)
- Product Documentation
- vSphere Client

Section 5 – Perform Operational Maintenance

Objective 5.1 – Implement and Maintain Host Profiles

Skills and Abilities

- Use Profile Editor to edit and/or disable policies
- Create sub-profiles
- Use Host Profiles to deploy vDS

- Use Host Profiles to deploy vStorage policies
- Manage Answer Files

Tools

- [vSphere Host Profiles Guide](#)
- Product Documentation
- vSphere Client

Objective 5.2 – Deploy and Manage Complex Update Manager Environments

Knowledge

- Identify firewall access rules for Update Manager

Skills and Abilities

- Install and configure Update Manager Download Service
- Configure a shared repository
- Configure smart rebooting
- Manually download updates to a repository
- Perform orchestrated vSphere upgrades
- Create and modify baseline groups
- Troubleshoot Update Manager problem areas and issues
- Generate database reports using MS Excel or MS SQL
- Upgrade vApps using Update Manager
- Utilize Update Manager PowerCLI to export baselines for testing
- Utilize the Update Manager Utility to reconfigure vUM settings

Tools

- [Installing and Administrating VMware vCenter Update Manager](#)
- [Reconfiguring VMware vSphere Update Manager](#)
- Product Documentation
- Update Manager PowerCLI
- vSphere Client
- vmware-umds

Section 6 – Perform Advanced Troubleshooting

Objective 6.1 – Configure, Manage, and Analyze vSphere Log Files

Knowledge

- Identify vCenter Server log file names and locations
- Identify ESXi log files names and locations
- Identify tools used to view vSphere log files

Skills and Abilities

- Generate vCenter Server and ESXi log bundles
- Use `esxcli system syslog` to configure centralized logging on ESXi hosts
- Test centralized logging configuration
- Analyze log entries to obtain configuration information
- Analyze log entries to identify and resolve issues
- Install and configure VMware syslog Collector and ESXi Dump Collector

Tools

- [vSphere Management Assistant Guide](#)
- [vSphere Command-Line Interface Concepts and Examples](#)
- Product Documentation
- vSphere Client
- VMware syslog Collector
- ESXi Dump Collector
- `esxcli`

Objective 6.2 – Troubleshoot CPU and Memory Performance

Knowledge

- Identify `resxtop/esxtop` metrics related to memory and CPU
- Identify vCenter Server Performance Chart metrics related to memory and CPU

Skills and Abilities

- Troubleshoot ESXi host and Virtual Machine CPU performance issues using appropriate metrics
- Troubleshoot ESXi host and Virtual Machine memory performance issues using appropriate metrics
- Use Hot-Add functionality to resolve identified Virtual Machine CPU and memory performance issues

Tools

- [vSphere Resource Management Guide](#)
- Product Documentation
- vSphere Client / Web Client
- vSphere CLI
 - resxtp/esxtp

Objective 6.3 – Troubleshoot Network Performance and Connectivity

Knowledge

- Identify vCLI commands and tools used to troubleshoot vSphere networking configurations
- Identify logs used to troubleshoot network issues

Skills and Abilities

- Utilize `net-dvs` to troubleshoot vSphere Distributed Switch configurations
- Utilize vSphere CLI commands to troubleshoot ESXi network configurations
- Troubleshoot Private VLANs
- Troubleshoot vmkernel related network configuration issues
- Troubleshoot DNS and routing related issues
- Use `esxtp/resxtp` to identify network performance problems
- Analyze troubleshooting data to determine if the root cause for a given network problem originates in the physical infrastructure or vSphere environment
- Configure and administer Port Mirroring
- Utilize Direct Console User Interface (DCUI) and ESXi Shell to troubleshoot, configure, and monitor ESXi networking

Tools

- [vSphere Command-Line Interface Concepts and Examples](#)
- [vSphere Installation and Setup](#)
- [vSphere Resource Management Guide](#)
- Product Documentation
- vSphere Client
- vSphere CLI
 - esxcli
 - net-dvs
 - resxtp/esxtp

Objective 6.4 – Troubleshoot Storage Performance and Connectivity

Knowledge

- Identify logs used to troubleshoot storage issues
- Describe the attributes of the VMFS-5 file system

Skills and Abilities

- Use `esxcli` to troubleshoot multipathing and PSA-related issues
- Use `esxcli` to troubleshoot VMkernel storage module configurations
- Use `esxcli` to troubleshoot iSCSI related issues
- Troubleshoot NFS mounting and permission issues
- Use `esxtop/resxtop` and `vscsiStats` to identify storage performance issues
- Configure and troubleshoot VMFS datastores using `vmkfstools`
- Troubleshoot snapshot and re-signaturing issues
- Analyze log files to identify storage and multipathing problems

Tools

- [vSphere Command-Line Interface Concepts and Examples](#)
- [vSphere Installation and Setup](#)
- [vSphere Resource Management Guide](#)
- [vSphere Troubleshooting Guide](#)
- Product Documentation
- vSphere Client
- vSphere CLI
 - `esxcli`
 - `resxtop/esxtop`
 - `vscsiStats`
 - `vmkfstools`

Objective 6.5 – Troubleshoot vCenter Server and ESXi Host Management

Knowledge

- Identify CLI commands and tools used to troubleshoot management issues

Skills and Abilities

- Troubleshoot vCenter Server service and database connection issues
- Troubleshoot the ESXi firewall
- Troubleshoot ESXi host management and connectivity issues

- Determine the root cause of a vSphere management or connectivity issue
- Utilize Direct Console User Interface (DCUI) and ESXi Shell to troubleshoot, configure, and monitor an environment

Tools

- [vSphere Command-Line Interface Concepts and Examples](#)
- [vSphere Installation and Setup Guide](#)
- [vSphere Troubleshooting Guide](#)
- Product Documentation
- vSphere Client
- vSphere CLI
- ESXi Shell
- esxcli
- DCUI

Section 7 – Secure a vSphere Environment

Objective 7.1 – Secure ESXi Hosts

Knowledge

- Identify configuration files related to network security
- Identify virtual switch security characteristics

Skills and Abilities

- Add/Edit Remove users/groups on an ESXi host
- Customize SSH settings for increased security
- Enable/Disable certificate checking
- Generate ESXi host certificates
- Enable ESXi lockdown mode
- Replace default certificate with CA-signed certificate
- Configure SSL timeouts
- Configure vSphere Authentication Proxy
- Enable strong passwords and configure password policies
- Identify methods for hardening virtual machines
- Analyze logs for security-related messages
- Manage Active Directory integration

Tools

- [vSphere Command-Line Interface Concepts and Examples](#)

- [vSphere Installation and Setup Guide](#)
- [vSphere Troubleshooting Guide](#)
- Product Documentation
- vSphere Client
- vSphere CLI
 - esxcli
 - vifs

Objective 7.2 – Configure and Maintain the ESXi Firewall

Knowledge

- Identify `esxcli` firewall configuration commands
- Explain the three firewall security levels

Skills and Abilities

- Enable/Disable pre-configured services
- Configure service behavior automation
- Open/Close ports in the firewall
- Create a custom service
- Set firewall security level

Tools

- [vSphere Command-Line Interface Concepts and Examples](#)
- [vSphere Installation and Setup Guide](#)
- [vSphere Troubleshooting Guide](#)
- Product Documentation
- vSphere Client
- vSphere CLI
 - esxcli

Section 8 – Perform Scripting and Automation

Objective 8.1 – Execute VMware Cmdlets and Customize Scripts Using PowerCLI

Knowledge

- Identify vSphere PowerCLI requirements
- Identify Cmdlet concepts
- Identify environment variables usage

Skills and Abilities

- Install and configure vSphere PowerCLI
- Install and configure Update Manager PowerShell Library
- Use basic and advanced Cmdlets to manage VMs and ESXi Hosts
- Use Web Service Access Cmdlets
- Use Datastore and Inventory Providers
- Given a sample script, modify the script to perform a given action

Tools

- [vSphere PowerCLI User's Guide](#)
- [VMware vSphere Update Manager PowerCLI Installation and Administration Guide](#)
- Product Documentation
- vSphere PowerCLI commands
- vSphere PowerCLI Cmdlets

Objective 8.2 – Administer vSphere Using the vSphere Management Assistant

Knowledge

- Identify vMA prerequisites
- Identify vMA specific commands
- Determine when vMA is needed

Skills and Abilities

- Install and configure vMA
- Add/Remove target servers
- Perform updates to the vMA
- Use `vmkfstools` to manage VMFS datastores
- Use `vmware-cmd` to manage VMs
- Use `esxcli` to manage ESXi Host configurations
- Troubleshoot common vMA errors and conditions

Tools

- [vSphere Management Assistant Guide](#)
- [vSphere Command-Line Interface Concepts and Examples](#)
- Product Documentation
- vSphere Management Appliance
- vifp
- vSphere CLI

- vmkfstools
- esxcli
- vmware-cmd

Section 9 – Perform Advanced vSphere Installations and Configurations

Objective 9.1 – Install ESXi hosts with custom settings

Knowledge

- Identify custom installation options
- Identify ESXi Image Builder requirements

Skills and Abilities

- Create/Edit Image Profiles
- Install/uninstall custom drivers
- Configure advanced boot loader options
- Configure kernel options
- Given a scenario, determine when to customize a configuration

Tools

- [vSphere Command-Line Interface Concepts and Examples](#)
- [vSphere Installation and Setup Guide](#)
- Product Documentation
- vSphere CLI
 - esxcli

Objective 9.2 – Install ESXi Hosts Using Auto Deploy

Knowledge

- Identify Auto Deploy requirements

Skills and Abilities

- Install the Auto Deploy Server
- Utilize Auto Deploy cmdlets to deploy ESXi hosts
- Configure Bulk Licensing
- Provision/Re-provision ESXi hosts using Auto Deploy
- Configure an Auto Deploy reference host

Tools

- [vSphere Command-Line Interface Concepts and Examples](#)
- [vSphere Installation and Setup Guide](#)
- Product Documentation

4. VCAP5-DCA Paths and Suggested Courses

4.1 VCAP5-DCA Path Options

IF YOU ARE...	NEXT STEP	EXAM	CERTIFICATION
Currently VCP5-DCV, VCP-Cloud, or VCP5-DT certified	<i>RECOMMENDED TRAINING</i> VMware vSphere: Optimize and Scale [V5.x]	Pass the VCAP5-DCA Exam	VCAP5-DCA
Currently VCAP4-DCA certified	<i>RECOMMENDED TRAINING</i> VMware vSphere: What's New [V5.1]	Pass the VCAP5-DCA Exam	VCAP5-DCA

If you do not already hold the VCP5-DCV certification, upon passing the VCAP5-DCA Exam, you will be granted the VCP5-DCV certification as well. VCP5 has been renamed VCP5-DCV (VMware Certified Professional 5 – Data Center Virtualization). Certification requirements are subject to change and may not be retroactive to previous versions. Please regularly check vmware.com/certification for updates.

4.2 Recommended Courses

vSphere: Optimize and Scale

This course, for experienced VMware vSphere® personnel, teaches advanced skills for configuring and maintaining a highly available and scalable virtual infrastructure. The course includes focus on advanced storage and networking configuration, advanced cluster configuration, performance troubleshooting and optimization and the use of advanced management tools. The course is based on VMware ESXi™ 5.0 and VMware vCenter Server™ 5.0.

- Configure and manage ESXi networking and storage for a large and sophisticated enterprise.
- Manage changes to the vSphere environment.
- Optimize the performance of all vSphere components.
- Troubleshoot operational faults and identify their root causes.
- Use VMware vSphere® ESXi™ Shell and VMware vSphere® Management Assistant (vMA) to manage vSphere.
- Use VMware vSphere® Auto Deploy™ to provision ESXi hosts.

This course provides training on the majority of objectives covered in the VCAP5-DCA Exam and is recommended for candidates that wish to gain additional insight into one or more of the objective areas covered in the exam.

5. Additional Resources

5.1 Mock Exam

VMware provides an interactive simulation for the VCAP5-DCA Exam. The simulation allows candidates to become familiar with the capabilities and operation of the exam environment by interactively completing the tasks associated with a sample exam item.

The simulation is located at: http://mylearn.vmware.com/courseware/149325/VCAPDCA_demo.swf

5.2 VCAP Community

VMware provides an online community for VCAP5-DCA candidates. This community contains valuable information from other candidates and senior VCAPs, and is moderated by VMware certification staff.

The community is located at: <http://communities.vmware.com/community/vmtn/certedu/certification/vcap>

5.3 Building a vSphere Test Environment

All VMware products, including vSphere 5, can be downloaded and evaluated for 60 days. If you have the equipment to install a copy of ESXi5.x, you can install ESXi in a VM. This would allow you to install multiple copies of ESXi and a copy of vCenter Server. For shared storage, obtain a virtual appliance that contains an iSCSI target. Several of these are available on the [appliance marketplace](#).

Version	Date	Change Notes
2.7	2013-11-27	Updated section 1.7: Scheduling and Taking the Exam; Note added to section 4.1: <i>If you do not already have VCP5-DCV certification, upon passing the VCAP5-DCA Exam you will be granted the VCP5-DCV certification as well.</i>
2.8	2013-12-15	Remove “vNetwork” for “vSphere”