

# VMware Certified Advanced Professional 7 – Cloud Management and Automation Design Exam

## Exam Details (Last Updated: 12/13/2019)

The VMware Certified Advanced Professional 7 – Cloud Management and Automation Design Exam (**3V0-732**), which leads to the VMware Certified Advanced Professional – Cloud Management and Automation Design 2020 certification, is a 70-item exam with a passing score of 300 using a scaled method. Candidates are given an appointment time of 135 minutes, which includes adequate time to complete the exam for non- native English speakers.

## Exam Delivery

This is a proctored exam delivered through Pearson VUE. For more information, visit the [Pearson VUE website](#).

## Certification Information

For details and a complete list of requirements and recommendations for attainment, please reference the [VMware Education Services – Certification website](#).

## Minimally Qualified Candidate

The Minimally Qualified Candidate (MQC) is a conceptualization of the certification candidate that possesses the minimum knowledge, skills, experience, and competence to just meet our expectations of a credentialed individual.

The MQC achieving the VMware Certified Advanced Professional – Cloud Management and Automation Design 2020 certification is capable of developing a conceptual design given a set of customer requirements, determining the functional requirements needed to create a logical design, and architecting a physical design using these elements. They are typically designers or architects, capable of translating business requirements into a **vRealize Automation 7.2** design. The successful candidate is capable of designing a solution that integrates with vRealize Orchestrator, vRealize Operations, vRealize Business for Cloud, vRealize Log Insight and NSX. The successful candidate possesses an understanding of public and private cloud design models, including multi-tenancy, governance and compliance. The successful candidate usually has five or more years of general IT experience and at least two years' experience designing an enterprise cloud by using a distributed architecture deployment of VMware vRealize Automation in accordance with VMware recommended practices. The candidate will likely hold one or more industry-recognized general IT certifications. The candidate holds a VMware Certified Professional certification and demonstrates the knowledge contained in the VCAP7-CMA Design exam blueprint.

## Exam Sections

VMware exam blueprint sections are now standardized to the seven sections below, some of which may NOT be included in the final exam blueprint depending on the exam objectives.

- Section 1 - Create a vRealize Automation Conceptual Design
- Section 2 - Create a vRealize Automation Logical Design
- Section 3 - Design a vRealize Automation Management Infrastructure
- Section 4 - Design vRealize Automation Tenants
- Section 5 - Create a vRealize Automation Resource Design
- Section 6 - Create a vRealize Automation Blueprint Design
- Section 7 - Complete an Extensibility Design
- Section 8 - Complete a Catalog Design

If a section is missing from the list below, please note it is because the exam has no testable objectives for that section. The objective numbering may be referenced in your score report at the end of your testing event for further preparation should a retake of the exam be necessary.

## Sections Included in this Exam

- Section 1- Create a vRealize Automation Conceptual Design
  - Objective 1.1 – Gather and analyze business requirements
  - Objective 1.2 – Gather and analyze use cases
  - Objective 1.3 – Differentiate requirements, risks, constraints and assumptions
- Section 2 – Create a vRealize Automation Logical Design
  - Objective 2.1 – Map Business Requirements to the Logical Design
  - Objective 2.2 – Map Service Dependencies
  - Objective 2.3 – Build Availability Requirements into the Logical Design
  - Objective 2.4 – Build Manageability Requirements into the Logical Design
  - Objective 2.5 – Build Performance Requirements into the Logical Design
  - Objective 2.6 – Build Recoverability Requirements into the Logical Design
  - Objective 2.7 – Build Security Requirements into the Logical Design
- Section 3 – Design a vRealize Automation Management Infrastructure
  - Objective 3.1 – Consider vRealize Automation Deployment Characteristics
  - Objective 3.2 – Design a vRealize Automation Backup
  - Objective 3.3 – Incorporate the use of additional products and tools into a vRealize Automation Design
- Section 4 – Design vRealize Automation Tenants
  - Objective 4.1 – Determine Use Cases for Multi-Tenancy

Objective 4.2 – Determine identity source requirements for a tenancy design

Objective 4.3 – Choose an authentication mechanism based on requirements

Objective 4.4 – Assign system wide and tenant specific roles based on administrative functions.

Objective 4.5 – Represent an Organization Structure with Business Groups

Objective 4.6 – Identify a Notification Design based on Requirements

Section 5 – Create a vRealize Automation Resource Design

Objective 5.1 – Provide an Endpoint Design

Objective 5.2 – Compute Resource Design

Objective 5.3 – Provide a Fabric Group Design

Objective 5.4 – Provide a Network Profile Design

Objective 5.5 – Provide a Reservation Design

Section 6 – Create a vRealize Automation Blueprint Design

Objective 6.1 – Provide a Custom Property Design

Objective 6.2 – Provide an IaaS Blueprint Design

Objective 6.3 – Evaluate XaaS capabilities for use with a given design.

Section 7 – Complete an Extensibility Design

Objective 7.1 – Address functional requirements that cannot be delivered through out of the box functionality.

Objective 7.2 – Design Event Broker Integration

Section 8 – Complete a Catalog Design

Objective 8.1 – Purposely omitted

Objective 8.2 – Determine entitlements needed for a given design

Objective 8.3 – Determine approval policy requirements for a given design

## Sample Questions

### Sample Question 1

A company wants an automated provisioning solution. It has a large vSphere farm for its main production applications and a Hyper-V Farm for its SQL Server databases. One of the business requirements they have is to manage costs for all the services deployed.

What should the architect recommend in order to meet this requirement?

- A. Deploy vRealize Automation for provisioning with two endpoints-- one for each hypervisor-- and deploy vRealize Business for cost management of the entire infrastructure.
- B. Deploy vRealize Automation for provisioning with two endpoints-- one for each hypervisor-- deploy vRealize Business for cost management of the vSphere infrastructure and use a third-party solution to manage the costs of the Hyper-V infrastructure.
- C. Deploy vRealize Automation with only one endpoint, deploy vRealize Business and manage provisioning and costs from the same centralized endpoint.
- D. Deploy vRealize Automation with only one endpoint for provisioning, deploy vRealize Business for cost management and use the vRealize Orchestrator cost management plug-in to manage the costs of the Hyper-V infrastructure.

### Sample Question 2

An architect is tasked with providing an automated solution for deploying and managing vSphere virtual machines (VMs). The users who deploy the vSphere machines must be able to review the VM's overall health.

Considering the need for least privileges, what is the best solution to satisfy this request?

- A. Deploy vRealize Automation and configure it to display vRealize Operations health badges directly in the vRealize Automation UI.
- B. Deploy vRealize Automation and provide the users Read-only access to vRealize Operations for monitoring the machine's health.
- C. Deploy vRealize Automation with a Resource Action that allows for pulling health information using the Operations Orchestrator Plug-in.
- D. Deploy vRealize Orchestrator for deployment and management of the vSphere VMs and provide the users Read-only access to vRealize Operations for monitoring the machine's health.

### Sample Question 3

A company is currently reviewing all of its security roles and permissions due to an upcoming compliance audit. They must identify tenant-specific and system-wide roles.

Which option includes ONLY tenant-specific roles?

- A. Tenant administrator, Services architect, IaaS administrator, Approval administrator

- B. Tenant administrator, IaaS administrator, Fabric administrator, Support user
- C. Services architect, Business user, Approver, IaaS administrator
- D. XaaS architect, Tenant administrator, Services architect, Approval administrator

#### Sample Question 4

A PaaS Provider wants to start offering private cloud solutions to its customers. It has tasked its internal team of cloud architects with recommending an architectural design that supports the new initiative and continues to leverage the existing centralized VMware Cloud Management Platform.

Which deployment model will let the company achieve its desired goal?

- A. Single-tenant
- B. Default tenant-managed multitenancy
- C. Individual tenant-managed multitenancy
- D. Multiple individual vRealize Automation deployments

#### Sample Question 5

An architect has been tasked with designing an infrastructure configured to support multiple development, test and production tiers for multiple tenants.

Which two vRealize Automation components could satisfy this request? (Choose two.)

- A. Fabric group
- B. Compute resource
- C. Endpoint
- D. Business group

#### Sample Question 6

An architect has been tasked with designing a vRealize Automation blueprint for the development team that satisfies the following requirements:

- Must include Web, Application and Web Servers
- Must be deployed to a public cloud
- Software must be installed during provisioning
- Web Servers CPU be scalable to a maximum of four
- Web Servers in excess of two must require manager approval

Which blueprint and approval components would satisfy these requirements?

- A. • Three Azure machine components
  - Software to be installed using the 'VirtualMachine.SoftwareN.ScriptPath' custom property

- Web machine CPU allowance set between 1 and 4
  - An approval policy for CPU's greater than 2 using the approval policy type 'Service Catalog - Catalog Item Request - Virtual Machine'
- B. • Three Amazon machine components
- Software to be installed using the 'VirtualMachine.SoftwareN.ScriptPath' custom property
  - Web machine CPU allowance set between 1 and 4
  - An approval policy for CPU's greater than 2 using the approval policy type 'Service Catalog - Catalog Item Request - Virtual Machine'
- C. • Three Azure machine components
- Software components for each machine
  - Web machine CPU allowance set between 1 and 4
  - An approval policy for CPU's greater than 2 using the approval policy type 'Service Catalog - Catalog Item Request - Cloud Machine'
- D. • Three Amazon machine components
- Software components for each machine
  - Web machine CPU allowance set between 1 and 4
  - An approval policy for CPU's greater than 2 using the approval policy type 'Service Catalog - Catalog Item Request - Cloud Machine'

### Sample Question 7

An architect has been tasked with designing a solution for development team deployments that are connected to the corporate network. The network security team would like to ensure that the deployments NOT have access to or from corporate network resources without explicit review and authorization. All deployments should be able to communicate with one another.

Which two vRealize Automation blueprint designs satisfy these requirements? (Choose two.)

- A. • On-demand NAT network.
- App Isolation selected from within the blueprint properties
  - Existing security group assigned to each machine that is tied to appropriate security policies in NSX
- B. • On-demand NAT network
- Existing security group assigned to each machine that is tied to appropriate security policies in NSX
- C. • On-demand routed network
- Existing security tags assigned to each machine that are auto-assigned to appropriate security groups in NSX
- D. • On-demand routed network

- Software components configuring firewall rules on each machine
- Property definition drop-downs allowing machine firewall configuration at request time

### Sample Question 8

A Cloud Architect is tasked with publishing a vRealize Automation catalog item that enables Human Resources (HR) personnel to provision Active Directory user accounts. HR will continue to use vRealize Automation to make changes to the user accounts after initial creation.

Which two components must be included in this design? (Choose two.)

- A. Custom Resource
- B. Custom Property
- C. Resource Mapping
- D. Resource Action

### Sample Question 9

A cloud architect is tasked with designing a vRealize Automation blueprint solution for a three-tier Web application deployment for a vSphere-based private cloud. The application performance team would like to use vSphere DRS anti-affinity rules to ensure virtual machine instances in the blueprint are NOT run in same host for any deployment instance. There are enough hosts available for separate virtual machines.

What should the architect recommend to meet the requirements of the scenario?

- A. Define vRealize Automation pre-defined custom properties and add them with correct values to the blueprint.
- B. Pre-create anti-affinity rules per VMware Validated Design.
- C. At the appropriate Event Broker state, execute a vRealize Orchestrator workflow to create DRS anti-affinity rules in vSphere.
- D. Display pre-defined deployment custom properties for anti-affinity rules so that users can enter correct values at request time.

### Sample Question 10

A development team would like to ensure that provisioned machines automatically update a customer asset database (CMDB) resource that is managed by the domain administration team. All updates to the CMDB must be communicated to members of the domain administration team. An XaaS workflow has been written to interact with the asset database.

Which scenario satisfies the remaining requirements?

- A. Design an Event Broker event that triggers when the workflow is run and automatically runs a notification scenario informing the domain administration team and allows them to authorize.

- B. Include an email notification workflow in the XaaS workflow that sends an update email to the domain administration team.
- C. Configure an approval policy with a post-approval level that notifies the domain administration team when the workflow has run.
- D. Include an email notification and user input workflow in the XaaS workflow that applies to domain administrator members for authorizing the update.

Answer Key: 1-B; 2-A; 3-D; 4-C; 5-A and B; 6-D; 7-B and C; 8-A and D; 9-C; 10-B

## Recommended Courses

[VMware Cloud Automation: Design and Deploy \[V7.1\]](#)

## References\*

In addition to the recommended course, item writers use the following references for information when writing exam questions. It is recommended that you study the reference content as you prepare to take the exam, in addition to any recommended training.

- [VMware NXS Network Virtualization and Security Platform VMware Technology Network](#)
- [VMware vRealize Automation Information](#)
- [VMware Validated Design and Architecture Integrated Load Balancer](#)
- [VMware vRealize Automation vRealize CloudClient 4.3 Managing vRealize Suite](#)
- [Essential Concepts of vRealize Infrastructure Navigator](#)
- [VMware Application Dependencies and Entity Relationship Diagrams MK2 About VMware Site Recovery Manager Administration](#)
- [VMware vSphere Data Protection VMware Cloud Management](#)
- [Storage Over-Provisioning in vRealize Automation](#)
- [Build Performance Requirements into the Logical Design VCAC, VCNS and Datastore Clusters Gotcha](#)
- [VMware Release vRealize Code Stream Management Pack for IT DevOps \(Houdini\) Create an Amazon AWS Endpoint](#)
- [Add Memory to Directories Management](#)
- [vRealize Business for Cloud Installation and Administration VMware Validated Designs Documentation](#)
- [VMware Validated Design for SDDC 4.0 Architecture Reference](#)



## Exam Content Contributors

Andrew Ellwood  
James Polizzi  
Srinivas Satyavaru  
Danny Farber  
Patrick Kremer  
Will Hochradel  
Marc Grabowski  
Sam McGeown  
Ryan Johnson  
Simon Hamilton-Wilkes  
Fabrizio De Luca  
Andrea Siviero  
Rene van den Bedem  
David Evans  
Pontus Rydin  
Andrea Siviero

Jeremy Forguson  
Gregg Robertson  
James Bowling  
Ross Wynne  
Scott Norris  
Jeff Green  
Abhilash Basavarajaiah  
Kalen Arndt  
Eric Beach  
Selvakumar Jananathan  
Cody Carlson  
Matthias Eisner  
Mandy Botsko-Wilson  
Kumudu Herath  
Pascal Laroche  
Carlos Andres Neva Vargas



**VMware, Inc.** 3401 Hillview Avenue Palo Alto CA 94304 USA Tel 877-486-9273 Fax 650-427-5001 [www.vmware.com](http://www.vmware.com)  
© 2019 VMware, Inc. All rights reserved. The product or workshop materials is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at <http://www.vmware.com/download/patents.html>. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

VMware warrants that it will perform these workshop services in a reasonable manner using generally accepted industry standards and practices. THE EXPRESS WARRANTY SET FORTH IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE SERVICES AND DELIVERABLES PROVIDED BY VMWARE, OR AS TO THE RESULTS WHICH MAY BE OBTAINED THEREFROM. VMWARE WILL NOT BE LIABLE FOR ANY THIRD-PARTY SERVICES OR PRODUCTS IDENTIFIED OR REFERRED TO CUSTOMER. All materials provided in this workshop are copyrighted by VMware ("Workshop Materials"). VMware grants the customer of this workshop a license to use and make reasonable copies of any Workshop Materials strictly for the purpose of facilitating such company's internal understanding, utilization and operation of its licensed VMware product(s). Except as set forth expressly in the sentence above, there is no transfer of any intellectual property rights or any other license granted under the terms of this workshop. If you are located in the United States, the VMware contracting entity for the service will be VMware, Inc., and if outside of the United States, the VMware contracting entity will be VMware International Limited.