Enterprise Computing Solutions - Education Services

# TRAINING OFFERING

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# VMware Cloud Foundation: Solution Architecture and Design [v9.1]

| CODE: | LÄNGE: | PREIS: |
|---|---|---|
| VMW_VCFSAD91 | 40 Hours (5 Tage) | Request Price |

## Description

This course teaches the architectural constructs, design patterns and decision-making discipline needed to design a VMware Cloud Foundation solution at enterprise scale. You will be taken through a logical design sequence: the shape of the fleet, the management plane, the domain and cluster layout for each instance, and how a tenant consumes VCF services and resources. Physical design considerations are examined, along with network, storage, and the recovery design. You will apply design principles to a case study throughout, to reinforce key design decisions and how they can be applied in practice.

## Lernziel

By the end of the course, you should be able to meet the following objectives:

- Understand and select the right design blueprints and models based on stated requirements.
- Design instance, management domain, workload domains, cluster layouts, and host specifications.
- Design the three management domain recovery tiers, from component restore to fleet disaster recovery.
- Design for both traditional shared storage (NFS and Fiber Channel) and vSAN storage as part of a VCF solution.
- Design the appropriate network architecture given physical network constraints and stated requirements.
- Design a VCF Automation tenancy model, including Supervisor and VKS-related services.
- Understand the design considerations relating to a Private AI Foundation / Services solution.
- Appreciate physical datacenter design considerations that affect a VCF solution design.
- Apply AMPRS design qualities to all aspects of the VMware Cloud Foundation solution design.

## Zielgruppe

Architects, Solution Engineers, Senior Administrators.

## Voraussetzungen

- Working knowledge of vSphere, vCenter, ESX, vSAN and NSX networking.
- Experience with enterprise datacenter operations and solution design.
- Attendance of VMware Cloud Foundation: Build, Manage, Secure and VMware Cloud Foundation: Automate and Operate courses or equivalent experience.

## Inhalt

### 1. Introduction

- Explain the value of VCF as an operational cost argument, not a feature list.
- Describe what VCF 9.1 consolidates, and what is still yours to design.
- Differentiate the personas a private cloud serves and the decisions each one drives.
- Describe the five AMPRS qualities and the trade-offs they create.
- Sequence a design decision as requirement, decision, justification and implication.

### 2. Fleet Designs and Blueprints

- Describe how the Fleet, Instance, Domain, Cluster and Host constructs nest.
- Choose a fleet deployment model and a fleet sizing model from stated requirements.
- Design a fleet from a published blueprint, substituting Design Library models.

● Choose an edge design pattern for a given site count, WAN budget and autonomy requirements.
● Differentiate the three recovery tiers and identify which one answers a failure.

**3. Fleet Components**

● Size a VCF Operations analytics cluster from an object count and an availability model.
● Choose a License Server model and defend the choice against a named requirement.
● Describe what runs on the VCF Management Services runtime and what stays a separate appliance.
● Differentiate the Simple and High Availability VCFMS models by their failure behavior.
● Design Log Management retention, partitioning and archiving to a stated requirement.
● Place the Identity Broker as a per-Instance service and pick its deployment model.

**4. Instance, Domain and Cluster Designs**

● Describe the Instance, Domain and Cluster constructs and the related design decisions.
● Design a Management Domain: sizing, storage, networking and the reserves it must hold.
● Place every management component correctly in a first and an additional Instance.
● Choose how many Workload Domains an estate needs and defend each one by what it isolates.
● Choose a cluster model and a vSAN cluster type, then size the host count that follows.
● Explain how a storage policy sets usable capacity and the minimum host count.

**5. Consumption**

● Identify every path a consumer can take to reach the platform.
● Design a VCF Automation tenancy model from Organizations down to quota.
● Choose between the All Apps and VM Apps Organization models.
● Explain Supervisor activation and associated design decisions.
● Design the substrate a VKS cluster and its related services need.
● Place VCF Operations Orchestrator, Harbor, DSM and Private AI within a solution design.

**6. Physical Datacenter Architecture**

● Explain the five physical layers comprising a VCF-ready datacenter.
● Size rack power and cooling for mixed VM, container and accelerated AI hosts.
● Design a leaf-spine fabric that meets VCF bandwidth, latency and MTU needs.
● Choose a single-site, multi-site or multi-region fabric based on stated requirements.
● Identify the CPU, memory, NVMe drives and uplinks a ReadyNode must carry.
● Explain how NUMA and the 9.1 Topology Aware Scheduler affect placement.

**7. Networking**

● Design the VLAN and MTU plan a VCF solution requires, end to end.
● Choose a distributed switch model from the physical adapters you can justify.
● Differentiate centralized and distributed connectivity and size what each need.
● Place a workload on the network and choose where its traffic is inspected.
● Choose between the NSX load balancer, Avi Load Balancer and an incumbent ADC.

**8. Storage Design**

● Choose a principal and a supplemental storage model based on stated requirements.
● Explain the vSAN ESA architecture and the data services it delivers by default.
● Design storage policies and size raw capacity from the resulting space factor.
● Design the vSAN network, encryption and operational model.
● Integrate Kubernetes persistent storage with vSAN through storage policies.
● Design NFS and Fiber Channel storage where an array estate already exists.

**9. Management Domain Backup and Restore**

● Design a backup solution that covers every VCF management component.
● Size an SFTP target from backup size, retention and instance count.
● Sequence a full instance restore in the documented dependency order.
● Outline the instance recovery toolkit, its prerequisites and its cmdlets.
● Design fleet disaster recovery across two instances in two regions.
● Explain the recovery point and recovery time each tier can support

## Kurstermine

Auf Anfrage. Bitte kontaktieren Sie uns

## Zusätzliche Information

Diese Schulung ist auch als Vor-Ort-Schulung verfügbar. Bitte kontaktieren Sie uns, um mehr zu erfahren.