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Sign up

Cisco NFVIS for UC Training

3 days (21 hours)

Overview

Cisco NFVIS for UC trains you to deploy and operate virtualized UC functions (CUBE, SRST, gateways) on uCPE platforms via NFVIS. You gain the agility to scale out remote sites, reduce time-to-service, and standardize operations.

The training covers the NFVIS architecture, the VNF lifecycle (onboarding, instantiation, updates, rollback), and best practices for network integration (management, data plane, services). The goal is to make your UC deployments repeatable, secure, and observable.

The approach is resolutely hands-on: guided workshops, deployment demos, diagnostics, and incident resolution (resources, connectivity, images, certificates). You'll leave with installation procedures, validation checklists, and configuration templates tailored to multi-site environments.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Identify NFVIS components and associated UC flows.
- Prepare a uCPE platform (network, storage, access) for UC.
- Onboard and deploy a UC VNF, then validate the service.
- Monitor, update, and restore instances in production.
- Troubleshoot common issues (resources, interfaces, images, logs).

Target Audience

- Network/Voice Engineers (UC, SIP, CUBE)
- Infrastructure/virtualization administrators
- Multi-site WAN/SD-WAN architects

Prerequisites

- Solid understanding of IP networking (VLAN, routing, ACL)
- SIP/VoIP fundamentals and UC concepts (trunks, dial plan)
- Knowledge of Linux environments and logs
- Understanding of virtualization (images, CPU/RAM, virtual interfaces)

Technical requirements

- Computer with 16 GB of RAM (8 GB minimum), 4-core CPU, 20 GB of free disk space
- Windows 11, macOS, or Linux with SSH access and a modern browser
- Tools: SSH client, text editor, SCP/SFTP utilities
- Access to an NFVIS/uCPE lab and the provided VNF UC images

Cisco NFVIS for UC Training Agenda

[Day 1 - Morning]

NFVIS fundamentals and UC architecture on a virtualized platform

- NFVIS positioning: hypervisor, services, UC use cases (CUBE, vCUCM, vIOS)
- Architecture: compute, storage, network, dataplane vs. management
- Hardware and software prerequisites (ISR/ENCS, versions, licenses, images)
- Access and tools: console, SSH, API, NFVIS CLI, YANG/NETCONF concepts
- Hands-on workshop: Verify platform compatibility and set up administrative access.

[Day 1 - Afternoon]

Installation, initialization, and commissioning of NFVIS

- Installation workflow: image, boot, initial configuration, minimal hardening
- Management network configuration: IP, routes, DNS/NTP, admin access
- Certificate management and security best practices (accounts, roles, SSH)
- Post-installation checks: services, logs, system health, resource inventory
- Hands-on workshop: Initialize NFVIS and validate the platform’s health.

[Day 2 - Morning]

Virtualized network and UC VNF connectivity

- NFVIS network model: bridges, vNICs, mappings to physical interfaces
- Segment design: management, voice, data, trunk, VLANs
- VNF interface configuration: IP, routes, MTU, link redundancy
- Connectivity checks: ARP, ping, traceroute, capture, and logs
- Hands-on workshop: Create a network design (VLANs/bridges) and connect a test VNF.

[Day 2 - Afternoon]

Deployment and lifecycle of UC VNFs (CUBE / vIOS)

- Image onboarding: formats, repository, integrity checks, catalog
- Creating a VNF: CPU/RAM/disk profiles, vNIC, cloud-init/Day0
- LCM operations: start/stop/reboot, resize, snapshots, backup/restore
- Monitoring: resource consumption, alarms, logs, boot troubleshooting
- Hands-on workshop: Deploy a VNF (CUBE or vIOS) and validate a basic SIP call/flow scenario.

[Day 3 - Morning]

Automation and operations: APIs, templates, and tool integration

- NFVIS automation principles: objects, models, idempotence
- Using APIs (REST/NETCONF depending on the platform) for VNF LCM
- Day0/DayN templates: variables, secrets, standardization of UC deployments
- Integration with operations tools: scripts, inventory, metrics collection
- Hands-on workshop: Automate the deployment of a VNF via API/CLI and replay a standardized deployment.

[Day 3 - Afternoon]

High availability, maintenance, and troubleshooting of UC on NFVIS

- Resilience strategies: redundancy, backups, restoration, rollback procedures
- Maintenance: NFVIS upgrades, VNF image compatibility, change windows
- Structured troubleshooting: network (VLANs/bridges), compute, storage, logs, and traces
- UC best practices: QoS, plane separation, end-to-end validation (SIP/RTP)
- Hands-on workshop: Diagnosing a failure (VNF down / RTP loss) and implementing a remediation plan.

Relevant companies

This training program is designed for both individuals and businesses—large and small—that wish to train their teams in new, advanced IT technologies or to acquire specific industry knowledge or modern methodologies.

Placement upon enrollment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Practical Course: 60% Practical, 40% Theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been properly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training program.