



SDN and NFV Essentials HOMA7S

Service providers are moving to Software-Defined Networking (SDN) architecture to bring new services to their customers faster while reducing the cost of managing their global network. This course is designed to provide conceptual yet practical examples of where various technologies are applied to a service provider's network and how the network transitions from today's physical network to tomorrow's virtualized and agile networks. The focus will be on technologies such as OpenStack IaaS, NFV (Network Functions Virtualization), SDN, APIs (Application Programming Interface), Network Analytics as well as Orchestration and how they all come together to create software-defined programmable agile networks.

Audience

This course is designed for professionals who are looking for fundamental understanding of software defined network virtualization paradigm.

Prerequisites

- Welcome to SDN (Software-Defined Networks) (HOLV8AAE)
- NFV Overview (HOLW2AAE)

Course objectives

- After completing this course, the participants will be able to:
- Communicate effectively using proper virtualization terminology.
 - List business drivers and impacts for SDN and NFV.
 - Sketch the conceptual architecture of Software-Defined Networking.

SDN and NFV Essentials

Price USD \$800

Links to local schedules, pricing and registration [US/Canada](#)
[Mexico/Latin America](#)
[Brazil](#)

HP course # HOMA7S

Category Cloud

Duration 1 day

- Discuss fundamental technical concepts and value proposition behind virtualization, OpenStack, NFV, SDN, APIs and Orchestration.
- Illustrate how NFV, SDN, SFN, OpenStack, MANO (Orchestration) and OSS/BSS work together to enable agile network service deployment.
- Illustrate how Physical Infrastructure (underlay) and Virtual Networks (Overlay) coexist and operate.
- List key challenges and possible migration paths.
- Compare current and future capacity, reliability and performance management paradigms.
- Illustrate key use cases for network virtualization.

Course outline

Module 1: The Network Virtualization

- Why SDN and NFV?
- Role of cloud, NFV, SDN, Orchestration, network analytics, and APIs
- Fundamental shifts

Module 2: Virtualization Concepts

- Why Virtualization?
- Role of OS and Hypervisor VMs and containers.
- Cloud paradigm
- Orchestration
- I/O Performance

Module 3: Network Function Virtualization (NFV)

- What and why?
- NFV architecture and components
 - ETSI architecture
 - HPE NFV System Architecture
- Network Function: Today and tomorrow
- Orchestration with descriptors
 - NFV Orchestration
 - HPE NFV Director
 - Analytics

Module 4: Cloud IaaS with OpenStack

- OpenStack and its role
- Architecture and components
- OpenStack & Helion OpenStack – Carrier Grade
- Control nodes vs. compute nodes
- Scenario: VM instantiation

Module 5: Software Defined Networking (SDN)

- SDN and NFV working together
- SDN architecture
- SDN in tomorrow's network Routers: Today and tomorrow
- Service chaining
 - HPE ConteXtream
- SDN and NFV challenges
- DCN Architecture
- DCN Use Cases

Module 6: Deployment at Service Provider

- NfV Deployment Options
- Key use cases at service providers vEPC, vIMS, vCPE, vCDN

Learn more

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