Technology Primer: NFV

This half day Technology Primer introduces the audience to the concept of Network Functions Virtualization (NFV). NFV proposes to leverage standard IT virtualization technology to consolidate network equipment types onto industry standard high-volume servers, switches and storage. The course starts off with an introduction to the NFV Architecture. After that it deconstructs the NFV architecture and describes the architecture and function of each of the four key components – the Infrastructure, the Network Functions, the Management and Orchestration and finally the Operational/Business Support Systems. We wrap up the course with a simple example of how NFV may be used to build Network Services in a typical LTE network.

Intended Audience

A high-level technical overview to personnel involved in product management, marketing, planning, design, engineering, and operations.

Objectives

After completing this course, the student will be able to:

- Define NFV and describe its role in the software defined networks
- Sketch the NFV reference architecture
- Identify the components of the NFV Infrastructure (NFVI)
- Define a Network Service (NS) and VNF
- Describe Management and Orchestration (MANO)
- Explain Orchestration and Lifecycle Management
- Illustrate sample implementations of a VNF

Prerequisites

- Welcome to SDN and NFV Foundations (eLearning)
- Technology Primer: Cloud and Virtualization (Instructor Led)

Required Equipment

- None

Course Outline

1. **NFV Introduction**
   1.1 Define NFV
   1.2 Enabling technologies
   1.3 Benefits of NFV

2. **NFV Framework**
   2.1 NFV reference architecture
   2.2 Other systems: OSS, PNFs

3. **NFV Infrastructure (NFVI)**
   3.1 Hardware components of NFVI
   3.2 Software components of NFVI
   3.3 Leaf-Spine for network connectivity

4. **Virtualized Network Functions (VNF)**
   4.1 Physical and Virtualized Network Functions (PNF to VNF)
   4.2 Definitions of Network Service and VNF
   4.3 Examples of VNFs

5. **NFV Management and Orchestration (MANO)**
   5.1 MANO components
   5.2 NFV Orchestrator
   5.3 VNF manager
   5.4 VIM – Virtualized Infrastructure Manager
   5.5 Orchestration process

6. **Putting It All Together**

Award Solutions