Technology Primer: NFV

Instructor Led Live Virtual Class | Duration: 0.5 Day | Course Number: TPR1011

Technology Primers

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

This technology primer is designed for a wide range of audiences including operations, engineering, and performance personnel, as well as other personnel requiring a technical introduction to the application of Network Functions Virtualization.

Learning Objectives

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

- Discuss the NFV reference architecture
- Summarize the NFV Infrastructure
- Discuss the role of OpenStack in the NFVI
- Identify Virtualized Network Functions (VNF)
- Describe Management and Orchestration (MANO)
- Explain Orchestration and Lifecycle Management
- Illustrate sample implementations of NFV

Suggested Prerequisites

- A working knowledge of wireless networks
- [NWV_116] Welcome to SDN and NFV Introductions (eLearning)
- [NWV_117] Welcome to SDN and NFV Foundations (eLearning)

Course Outline

1. **Network Functions Virtualization**
   - 1.1. Virtualization
   - 1.2. NFV Architecture
   - 1.3. NFV framework
2. **NFV Infrastructure**
   - 2.1. Components of NFVI
   - 2.2. Virtual resources
3. **Virtual Network Functions**
   - 3.1. Physical and Virtual Network Functions
   - 3.2. Concept of Lifecycle
4. **NFV Management and Orchestration**
   - 4.1. MANO Components
   - 4.2. Orchestration
   - 4.3. Lifecycle Management
   - 4.4. Role of EMS-OSS-BSS
   - 4.5. Role of OpenStack
5. **Putting It All Together**
   - 5.1. Example of NFV used for LTE
   - 5.2. Example of NFV used for IMS