Welcome to SDN (Software-Defined Networks)

eLearning (H5) | Average Duration: 1 Hour | Course Number: NWV_101

Software Defined Networking (SDN) is a relatively new concept within the industry and has recently gained traction. Standards and implementations of SDN are still evolving as the industry grapples with this potentially significant technology transformation. SDN proposes to take the traditional implementation of the networking protocol stack and dis-assemble its layers. It is a collection of technologies that splits the data, control and management planes of the network. By doing this, the expectation is that it will improve network flexibility, manageability and allow the network administrator to customize the operations of the network on a large scale. Recent developments and the use of virtualization and cloud computing are some key enablers of this transformation.

Intended Audience

This course is intended for technical personnel with a grounding in IP networking who are seeking a technical overview of SDN (Software Defined Networks).

Learning Objectives

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

- List the motivations for SDN
- Define Software Defined Networks
- List the competing standards for SDN
- List the components of the SDN architecture
- List the functions of SDN components
- List two typical applications of SDN

Course Outline

1. Course Objectives
2. Introduction
   - 2.1. What is SDN?
   - 2.2. SDN concept
   - 2.3. SDN benefits
   - 2.4. SDN challenges
   - 2.5. SDN and virtualization
3. SDN History and Standards
   - 3.1. SDN history
   - 3.2. SDN competing standards
   - 3.3. Initiatives defining SDN
   - 3.4. SDN and OpenFlow
   - 3.5. SDN and Cloud Computing
4. SDN Architecture
   - 4.1. SDN layers
   - 4.2. SDN interfaces
   - 4.3. SDN application scenarios
   - 4.4. SDN washing
5. SDN Deployment
   - 5.1. SDN and NFV
   - 5.2. NFV motivations
   - 5.3. SDN and NFV deployment
   - 5.4. Network characteristics without SDN or NFV
   - 5.5. SDN deployment with other technology trends
6. End of Course Assessment