

# Technology Primer: Cloud and Virtualization

Instructor Led Live Virtual Class | Duration: 0.5 Day | Course Number: TPR1010

This half-day Technology Primer introduces the audience to the concepts of Cloud Computing and Virtualization. Cloud Computing is generally characterized by its Service Model types. The course first introduces the audience to the idea of Virtualization, Virtual Machines, Hypervisors and Containers. These are the first building blocks of Cloud Computing. Then the course introduces the audience to second set of building blocks of Cloud Computing - the Cloud Computing Service Models - and presents a high level comparison of the three primary Service Models and where they may fit into a wireless networking environment. The final building block introduces the audience to OpenStack and wraps up the discussion with a simple example of Cloud Computing implemented using OpenStack.

### Intended Audience

This technology primer is designed for a wide range of audiences including operations, engineering, and performance personnel, as well as other personnel interested in understanding the basics of Cloud Computing and Virtualization in the context of a wireless service provider's network.

### Learning Objectives

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

- Describe Virtualization
- Describe Virtual Machines
- List the role and tasks of a Hypervisor
- Describe Containers
- Describe Cloud Computing
- Explain Cloud Computing in the context of a Wireless Network
- Describe OpenStack
- Illustrate an example implementation of the Cloud using OpenStack

### 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. Virtualization

- 1.1. What is Virtualization?
- 1.2. Types of Virtualization
- 1.3. Physical Network Functions
- 1.4. Virtual Network Functions

#### 2. Virtualization Technology

- 2.1. Virtual Machine
- 2.2. Hypervisor

#### 3. Cloud Computing

- 3.1. What is the Cloud?
- 3.2. Cloud Computing
- 3.3. Applicability to the wireless domain

#### 4. Cloud Computing Technology

- 4.1. What is OpenStack?
- 4.2. OpenStack architecture
- 4.3. OpenStack as a Cloud enabler