

# Virtualization and Cloud Overview

eLearning (H5v) | Average Duration: 1 Hour | Course Number: NWV\_107



Mobile Communication Service Providers (CSPs) are on the cusp of a multitude of network and business transformation choices. A good conceptual understanding of the new networking and CSP business paradigms is essential for professionals in the communication industry. This course provides a high level view of the impact and benefits of the cloud infrastructure, the benefits of virtualization, the vision and opportunities created by future CSP networks, as well as an overview of the impact of OpenStack cloud infrastructure on the service provider's network.

## Intended Audience

The course is intended for all that are interested in understanding what OpenStack is and how it will transform the CSP network over the next few years.

## Learning Objectives

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

- Identify the main elements of virtualization
- List the key components of cloud Infrastructure as a Service (IaaS)
- Describe the role of Orchestration

## Course Outline

- 1. Key Attributes of Cloud Computing**
- 2. Virtualization**
  - 2.1. Why Virtualization?
  - 2.2. A real world example - Virtualization
- 3. Virtual Machine and Hypervisor**
  - 3.1. Virtual machine
  - 3.2. The Hypervisor
  - 3.3. Hypervisor defined
- 4. Functions of the Hypervisor**
  - 4.1. Functions of the Hypervisor
  - 4.2. Networking in the virtual world
- 5. The Cloud**
  - 5.1. Why Cloud?
  - 5.2. Multi-tenancy (users) in action
- 6. The Role of the Orchestrator**
  - 6.1. Cloud orchestration
  - 6.2. Cloud Orchestration defined
- 7. OpenStack IaaS**
  - 7.1. OpenStack IaaS
  - 7.2. OpenStack release timeline
- 8. OpenStack Architecture**
  - 8.1. Conceptual architecture
  - 8.2. OpenStack IaaS at a Service Provider
- 9. End of Course Assessment**