

SDN NFV and Virtualization

The course discusses different approaches for virtualization, how they can be used to model and deploy network and service functions in cloud computing environments as well as Network Function Virtualization and the environment and tools (such as OpenStack) for monitoring and managing such functions.

This course also describes the concepts of Docker and Kubernetes and provides comparison with openstack.

In addition the course discussed the concepts of Software Defined Networks and the market drivers for these emerging technologies

Content of the Training:

1) What is Cloud ?

- What is Cloud ?
- Essential cloud characteristics
- Service models
- Deployment models

2) Virtualization and hypervisors

- Virtualization concept

- Why Virtualization ?
- Single/Multi-tenancy
- Benefits of Virtualization
- Virtualization Vs Cloud
- Hypervisor solutions : Type 1 and Type 2

3) Containers, Docker and Kubernetes

- History of virtualization towards containers
- What is a container
- Virtualization Vs container
- Docker and Kubernetes

4) Cloud Native

- Key trends about cloud native
- Purpose of cloud native
- Customer's journey to the Cloud
- Microservices vs. Monolithic applications
- Definition of cloud native concepts (Devops, API, Multicloud ...)

5) OpenStack Architecture

- Introduction and background
- Components/Projects
- Main Openstack Architecture
- Open stack components

6) Launching instance in Open Stack

- Open Stack in Practice
- Server Vs Open stack server
- Launching instance
- Network access and Security group
- Nova Architecture

7) Kubernetes Architecture

8) OpenStack Vs Kubernetes

- NFV and ETSI MANO
- ETSI NFV Standards
- Official NFV Use cases
- VMware and Openstack in NFV

9) Software Defined Networking

- What is SDN ?
- Why SDN?
- Wha are the types of SDN
- SDN in operator