

UC3M Specialist in NFV/SDN

Virtualization Technologies for NFV

Unit 1: Introduction. Introduction to virtualization, Benefits, Need of virtualization, Limitations. Traditional vs. Modern virtualisation. Hypervisors. Virtualisation for the cloud.

Unit 2: Virtualisation approaches. Types of virtualization: Hardware support for virtualisation (Intel VT-x), Full virtualization, Paravirtualisation, Desktop virtualization, Server virtualization, Data virtualization, OS-level virtualisation, Application-level virtualisation. Comparing virtualisation approaches. Virtualisation for mobile terminals. Virtualisation in embedded/real-time systems. Managing virtualisation. Use cases.

Unit 3: Virtual machines. Defining virtual machines. Taxonomy of virtual machines. Life cycle. Binary translation techniques. Managing storage for virtual machines. Virtualising storage. Moving virtual machines. Scale-up and scale-out virtual machines.

Unit 4: Reference solutions. Building and managing virtual machines. Xen hypervisor and its architecture. VMWare VSphere. Kernel Virtual Machine (KVM). Microsoft Hyper-V. VirtualBox.