

**Module 16  
Fundamental Cloud Virtualization**

**Virtualization Capacity**

- types
  - capacity planning
  - capacity monitoring
  - capacity management

**Key Performance Indicators (KPIs)**

- host CPU monitoring
- virtual system CPU monitoring
- host memory monitoring
- virtual memory monitoring
- physical NIC monitoring
- virtual NIC monitoring
- response time

**Virtualization Mechanisms**

- types
  - type 1
    - monolithic
    - micro-kernel
  - type 2
- hypervisor
- virtual disk
- virtual switch
- physical uplink
- virtual network
- virtual infrastructure manager (VIM)
- virtualization agent
- virtual server snapshot
- virtual server state manager
- virtual server template
- virtual appliance
- virtual desktop
- cloud storage device
- virtualization monitor
- virtual CPU
- virtual RAM
- live VM migration
- virtual firewall

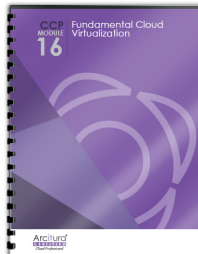
**Virtualization Types**

- operation modes
  - client-hosted
  - centralized
  - remotely synchronized
  - hosted virtual desktop
- desktop virtualization
- application virtualization
- data center virtualization
- network virtualization
- server virtualization
- data virtualization
- CPU virtualization
- storage virtualization
- I/O virtualization
- memory virtualization

- methods
  - P2V conversion
  - V2V conversion
- methods
  - thin provisioning
  - thick provisioning

**Virtualization**

- layers
  - hardware layer
  - operating system layer
  - virtualization provider layer
  - virtualization machine layer
  - application and services



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