Virtualization and Cloud Computing

CompTIA A+ certification, Core 1 (220-1201) and Core 2 (220-1202)

11% of the exam · 2 exam objectives · 220-1201

Domain 4 covers why and how computers are virtualized and how cloud services are delivered. Virtual machines run guest operating systems on Type 1 (bare metal) or Type 2 (hosted) hypervisors for sandboxing, testing, legacy and cross-platform needs, while containers share the host kernel and VDI moves desktops to central servers. Each VM needs planning for security, network and storage. In the cloud, deployment models (private, public, hybrid, community) say who uses the infrastructure, service models (IaaS, PaaS, SaaS) say how much the provider manages, and characteristics such as shared or dedicated resources, metered utilization, elasticity, availability, file synchronization and multitenancy describe how the service behaves and is billed.

You should be able to: A company runs its developers' own application on a provider's managed runtime, keeps its HR records in its own data centre linked to that cloud, and wants capacity to grow during busy periods. Name the service model, the deployment model and the characteristic.

Every exam objective: the key point and the trap

4.1 Explain virtualization concepts.

A virtual machine (VM) is a software computer with virtual hardware that runs its own guest operating system on a physical host.

Trap: Treating containers as small VMs: a container shares the host kernel and cannot run a different operating system's full installation, so legacy and cross-platform needs call for a VM.

4.2 Summarize cloud computing concepts.

Deployment models say who uses the cloud: a private cloud serves one organization, a public cloud is open to any customer, a community cloud is shared by organizations with common needs, and a hybrid cloud combines private and public clouds.

Trap: Mixing up the two lists: private, public, hybrid and community answer who uses the cloud, while IaaS, PaaS and SaaS answer how much the provider manages.

Key terms

VM: Virtual Machine

VDI: Virtual Desktop Infrastructure

IaaS: Infrastructure as a Service

PaaS: Platform as a Service

SaaS: Software as a Service

OS: Operating System

SLA: Service-level Agreement

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