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Intro to Cloud Computing

MODULE 1 – PRIVATE AND HYBRID CLOUD PLATFORMS

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Intro to Cloud computing

This course objective is to give you and overview of Cloud Computing and how utilizing the cloud can be used in Customer Communication Management.

There will be check points along the way to test you on the knowledge you have gained during the course.

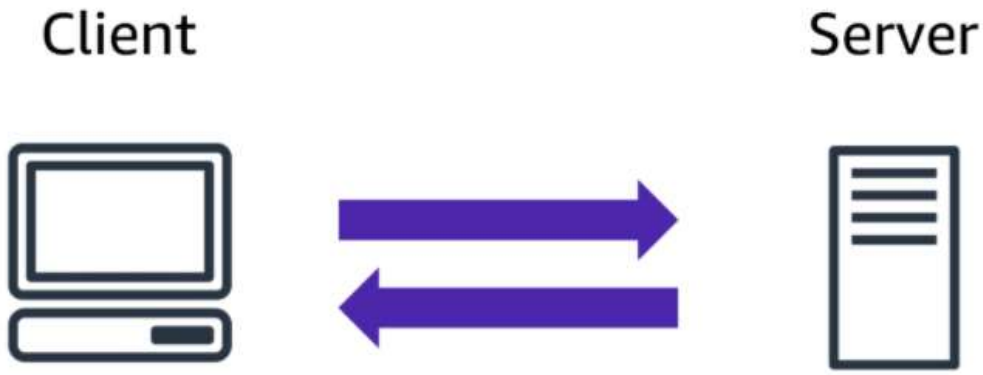
Hands-on exercises will be used during the entire training program to give you the actual Hands-on experience employer are looking for.

Cloud Concepts

Client-server model

In computing, a **client** can be a web browser or desktop application that a person interacts with to make requests to computer servers. A **server** can be services such as a Linux Apache server or Windows IIS server.

Earlier data centers relied on organizations building massive server rooms which required large capital expenses and human resources to maintain.



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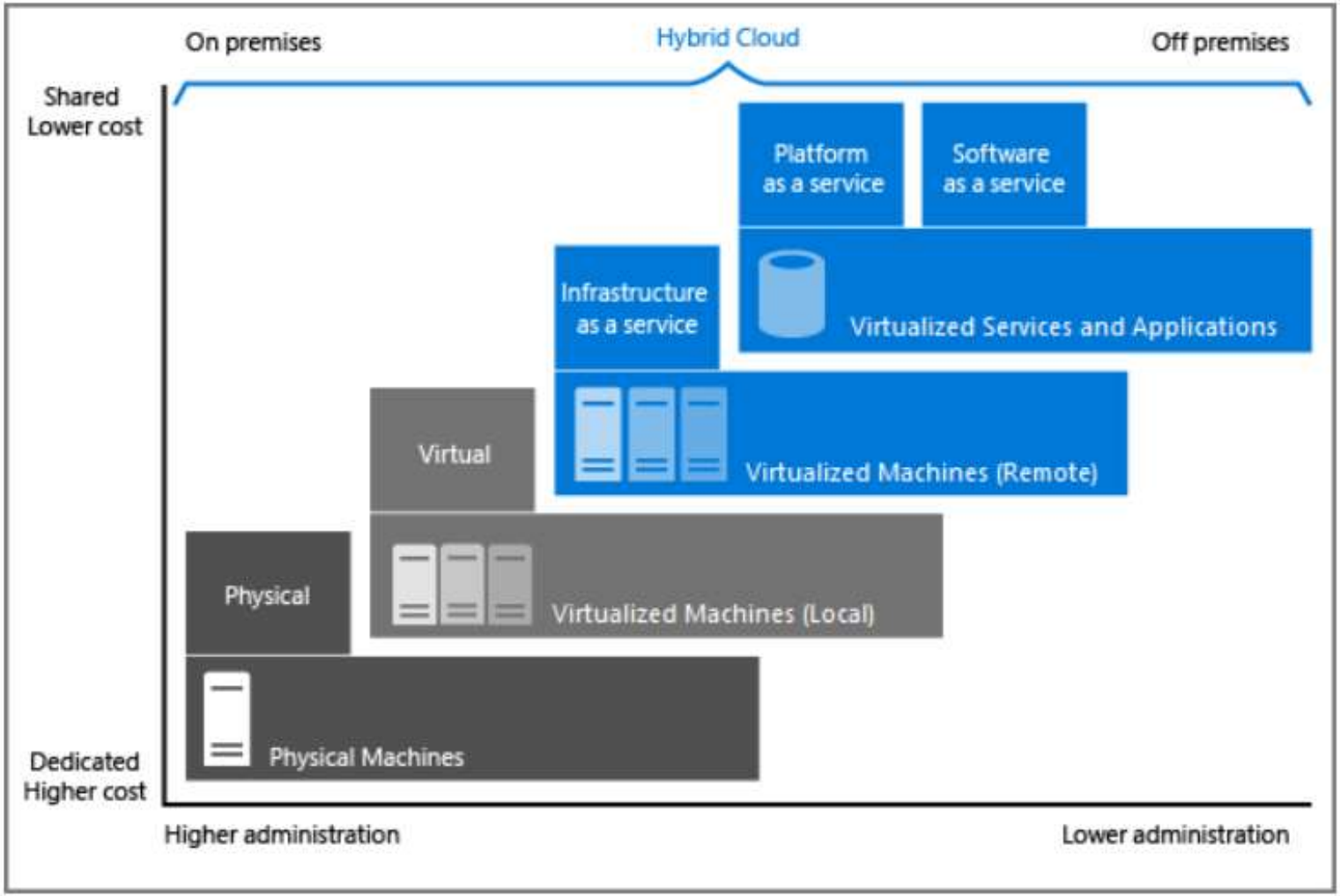
Cloud Platforms

There are three deployment models for cloud computing: *public cloud*, *private cloud*, and *hybrid cloud*. Each deployment model has different aspects that you should consider as you migrate to the cloud.

Deployment model	Description
Public cloud	Services are offered over the public internet and available to anyone who wants to purchase them. Cloud resources like servers and storage are owned and operated by a third-party cloud service provider and delivered over the internet.
Private cloud	Computing resources are used exclusively by users from one business or organization. A private cloud can be physically located at your organization's on-site datacenter. It also can be hosted by a third-party service provider.
Hybrid cloud	This computing environment combines a public cloud and a private cloud by allowing data and applications to be shared between them.

Private Cloud Platforms

Private clouds sit behind firewalls that they organization can leverage. These would be considered On Prem resources accessed through a URL that is protected by a firewall.



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Hybrid Cloud Platforms

Hybrid cloud is IT infrastructure that connects at least one public cloud and at least one private cloud, and provides orchestration, management and application portability between them to create a single, flexible, optimal cloud environment for running a company's computing workloads.

Hybrid multicloud is a hybrid cloud infrastructure that includes more than one public cloud from more than one cloud service provider.

By enabling a company to:

- combine best-of-breed cloud services and functionality from multiple cloud computing vendors
- choose the optimal cloud computing environment for each workload, and
- move workloads freely between public and private cloud as circumstances change
- Usage is measured and priced on the basis of consumed units

Hybrid Cloud Platforms

Use cases for Hybrid Clouds:

- **Security and regulatory compliance:** Reserve behind-the firewall private cloud resources for sensitive data and highly regulated workloads and use more economical public cloud resources for less-sensitive workloads and data.

- **Scalability and resilience:** Use public cloud compute and cloud storage resources to scale up quickly, automatically and inexpensively in response to unplanned spikes in traffic without impacting private cloud workloads (this is called cloudbursting).

- **Rapid adoption of new technology**: Adopt or switch to the latest software-as-a-service (SaaS) solution, and even integrate those solutions into existing applications, without provisioning new on-premises infrastructure.

- **Enhancing legacy applications**: Use public cloud services to improve the user experience of existing apps or to extend them to new devices.

Hybrid Cloud Platforms

Use cases for Hybrid Clouds:

- **VMware migration:** 'Lift and shift' existing on-premises workloads to virtualized public cloud infrastructure, to reduce the on-premises data center footprint and scales as needed without additional capital equipment investment.

- **Resource optimization and cost savings**: Run workloads with predictable capacity on private cloud and migrate more variable workloads to public cloud; use public cloud infrastructure to quickly 'spin up' development and test resources as needed.

Hybrid Cloud Platforms

Benefits of a Hybrid Cloud:

- **Improved developer productivity**: A hybrid cloud platform can help expand adoption of Agile and DevOps methodologies, and enable development teams to develop once and deploy to all clouds.

- **Greater infrastructure efficiency**: With more granular control over resources, development and IT operations teams can optimize spend across public cloud services, private clouds, and cloud vendors. Hybrid cloud also helps companies avoid more of the technical debt of on-prem infrastructure by migrating legacy applications faster.

Hybrid Cloud Platforms

Benefits of a Hybrid Cloud:

- **Improved regulatory compliance and security**: A unified platform lets an organization draw on best-of-breed cloud security and regulatory compliance technologies and implement security and compliance across all environments in a consistent way.

- **Overall business acceleration**: This includes shorter product development cycles; accelerated innovation and time-to-market; faster response to customer feedback; faster delivery of applications closer to the client (e.g., edge ecommerce); and faster integration and combination with partners or third parties to deliver new products and services.

Infrastructure as a Service (IaaS)

Infrastructure as a Service (IaaS) has many key advantages for its customers, some of which are:

- The ability to scale infrastructure services up and down on the basis of actual usage.
- Usage is priced and measured on the basis of consumed units or instances.
- Ownership cost is reduced as asset for everyday use are not needed and there is no loss of asset value over the passage of time.
- Reduced cooling and energy costs.

Platform as a Service (PaaS)

Platform-as-a-Service, is a cloud computing model that provides customers a complete platform

- Hardware
- Software
- Infrastructure

The Goal it allow for developing, running, and managing applications without the cost, complexity, and inflexibility of building and maintaining that platform on-premises.

The PaaS provider hosts everything

- Servers
- Networks
- Storage
- Operating system software
- Databases

In the data center; the customer uses it all for a for a monthly fee based on usage and can purchase more resources on-demand as needed. In this way, PaaS lets your development teams to build, test, deploy, maintain, update, and scale applications (and to innovate in response to market opportunities and threats) much more quickly and less expensively than they could if you had to build out and manage your own on-premises platform.

Software as a Service (SaaS)

SaaS is software you use via the cloud, as if it were installed on your computer

Parts of the software may still be installed on the local computer.

SaaS applications reside on the cloud network, and users can store and analyze data and collaborate on projects thorough the application.