AZ-900 Domain Area Weight

Describe cloud concepts 25-30%

Describe Azure architecture and services 35-40%

Describe Azure management and governance 30-35%

Module 1

Cloud computing is the delivery of computing services over the internet. Computing services include common IT infrastructure such as virtual machines, storage, databases, and networking. Cloud services also expand the traditional IT offerings to include things like Internet of Things (IoT), machine learning (ML), and artificial intelligence (AI).

With the shared responsibility model, these responsibilities get shared between the cloud provider and the consumer. Physical security, power, cooling, and network connectivity are the responsibility of the cloud provider. The consumer isn’t collocated with the datacenter, so it wouldn’t make sense for the consumer to have any of those responsibilities.

At the same time, the consumer is responsible for the data and information stored in the cloud. (You wouldn’t want the cloud provider to be able to read your information.) The consumer is also responsible for access security, meaning you only give access to those who need it.

If you’re using a cloud SQL database, the cloud provider would be responsible for maintaining the actual database. However, you’re still responsible for the data that gets ingested into the database. If you deployed a virtual machine and installed an SQL database on it, you’d be responsible for database patches and updates, as well as maintaining the data and information stored in the database.

. IaaS places the most responsibility on the consumer, with the cloud provider being responsible for the basics of physical security, power, and connectivity. On the other end of the spectrum, SaaS places most of the responsibility with the cloud provider. PaaS, being a middle ground between IaaS and SaaS, rests somewhere in the middle and evenly distributes responsibility between the cloud provider and the consumer

You’ll always be responsible for:

* The information and data stored in the cloud
* Devices that are allowed to connect to your cloud (cell phones, computers, and so on)
* The accounts and identities of the people, services, and devices within your organization

The cloud provider is always responsible for:

* The physical datacenter
* The physical network
* The physical hosts

Your service model will determine responsibility for things like:

* Operating systems
* Network controls
* Applications
* Identity and infrastructure

Private Cloud –

 It’s a cloud (delivering IT services over the internet) that’s used by a single entity. Private cloud provides much greater control for the company and its IT department.

It may also be hosted in a dedicated datacenter offsite, potentially even by a third party that has dedicated that datacenter to your company.

Public Cloud

A public cloud is built, controlled, and maintained by a third-party cloud provider. With a public cloud, anyone that wants to purchase cloud services can access and use resources. The general public availability

Multi-Vloud --Regardless, in a multi-cloud environment you deal with two (or more) public cloud providers and manage resources and security in both environments.

| **Public cloud** | **Private cloud** | **Hybrid cloud** |
| --- | --- | --- |
| No capital expenditures to scale up | Organizations have complete control over resources and security | Provides the most flexibility |
| Applications can be quickly provisioned and deprovisioned | Data is not collocated with other organizations’ data | Organizations determine where to run their applications |
| Organizations pay only for what they use | Hardware must be purchased for startup and maintenance | Organizations control security, compliance, or legal requirements |
| Organizations don’t have complete control over resources and security | Organizations are responsible for hardware maintenance and updates |  |

**Azure Arc**

Azure Arc is a set of technologies that helps manage your cloud environment. Azure Arc can help manage your cloud environment, whether it's a public cloud solely on Azure, a private cloud in your datacenter, a hybrid configuration, or even a multi-cloud environment running on multiple cloud providers at once.

**Azure VMware Solution**

What if you’re already established with VMware in a private cloud environment but want to migrate to a public or hybrid cloud? Azure VMware Solution lets you run your VMware workloads in Azure with seamless integration and scalability.

Consumption Based Model

Capital expenditure (CapEx) and operational expenditure (OpEx

Cap Ex – Once time buildings,vehicle,datacenter

Cloud computing falls under OpEx because cloud computing operates on a consumption-based model.

cloud computing is a way to rent compute power and storage from someone else’s datacenter.

Benefits of Using Cloud – Module 2