General Discussion on Cloud for CISSP.

Terms and Concepts.

Domain 3: Security Architecture and Engineering

By DK

60- 90 min

Discussion

- Concepts of Cloud Basics
  20-30 minutes
- 5 Questions for CISSP Exam
  20-30 minutes
- Open Mic - Discussion
  10-15 minutes

Hello!

A little bit about me

- **Accidentally IT Guy**
  - Academic Background - Industrial Control Systems and Computer Engineering
  - 10+ years in Instrumentation and Control Systems
    - DCS, SCADA, PLCs and SIS
  - 5+ years in Operational Technology (OT)
    - Networks Security - Firewall, Network Segmentation
    - Backup and Recovery - Disaster Recovery - BC
    - I also hold a CIDJ credential.

My first Certification

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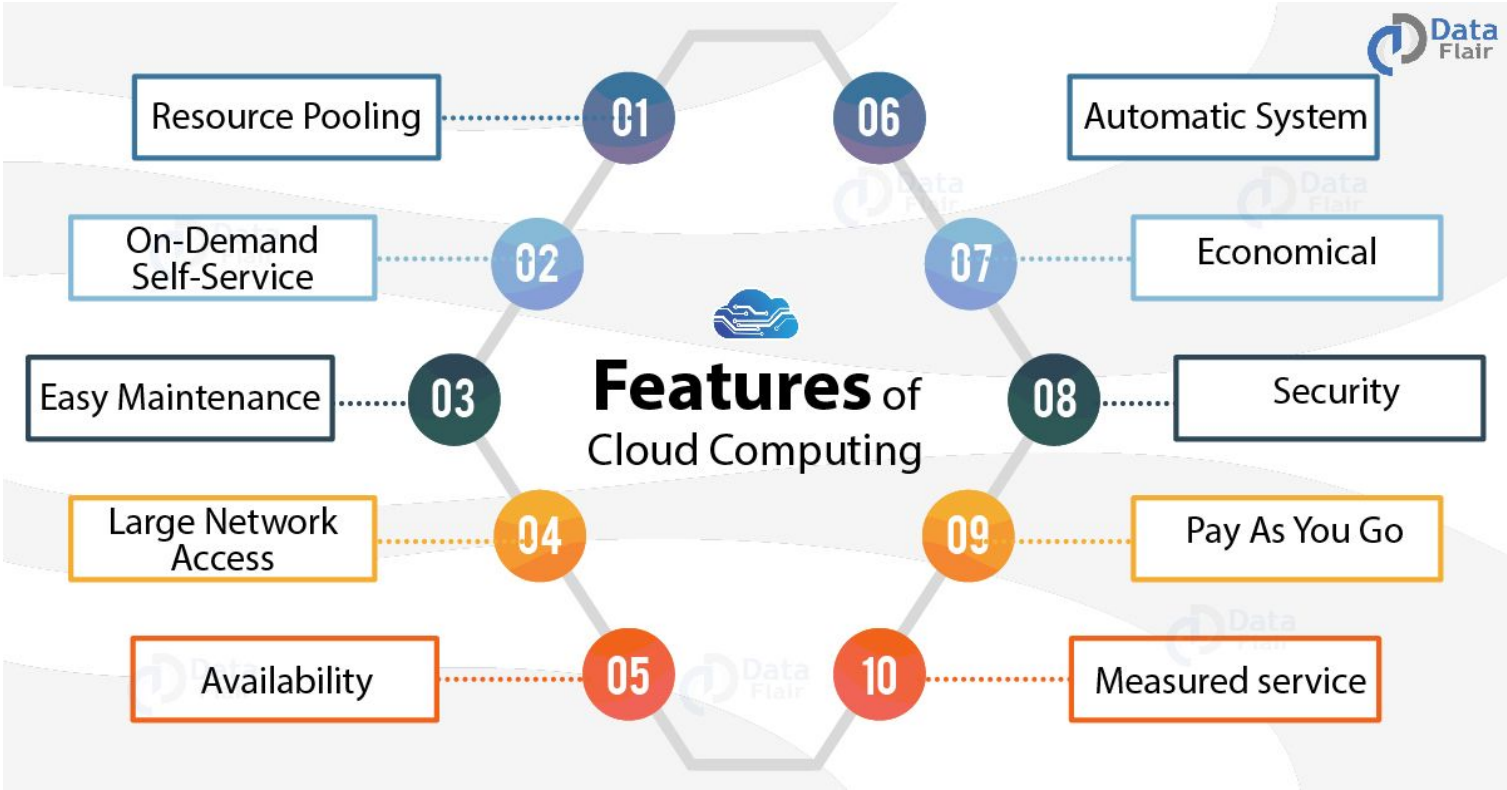
Congratulations everyone!

- You are already CISSP, Now Think Like One.

Cloud


Data Flair
Resource Pooling
01
On-Demand Self-Service
02
Easy Maintenance
03
Large Network Access
04
Availability
05
Features of Cloud Computing
06
Automatic System
07
Economical
08
Security
09
Pay As You Go
10
Measured service

Definition

Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

- NIST **Special Publication 800-145**

Omnipresent , appears to be everywhere. Like a Air.
Convenient, easy to use, trouble free, user friendly. Like a Wallet.
On-Demand, You get it when you need it. Like a Friend.
Shared Pool, Multiple / Different type Resources. Like a Forest

Characteristics of a Cloud Computing

NIST Identifies 5 Characteristics

On Demand - Self Service - Petrol Gas Stations in the US.
Customer will get extra server time and storage when needed.

Broad Network Access - Google Search Engine
Can be accessed independent of the network, and use standard mechanisms

Resource Pooling - Think of a forest (Jungle). Dynamically Assigned Resources such as storage, processing, memory, and network bandwidth.

Rapid Elasticity - Think of Restaurants during normal and special days. Scaling Inward / Outward

Measured Service - Think Optimization and Billing. They automatically control services and optimize resources.

Modes of Cloud Services

- **Software as a Service (SaaS)**
  SALESFORCE
- **Platform as a Service (PaaS)**
  AZURE
- **Infrastructure as a Service (IaaS)**
  AWS

Recovery as a Service (RaaS), Disaster Recovery as a Service (DRaas), Function as a Service (FaaS) - **NOT REQUIRED TO KNOW FOR EXAM.**

On Premise

Application / Data

Software OS

Processor Storage & Memory

Networking Etc

Physical Building

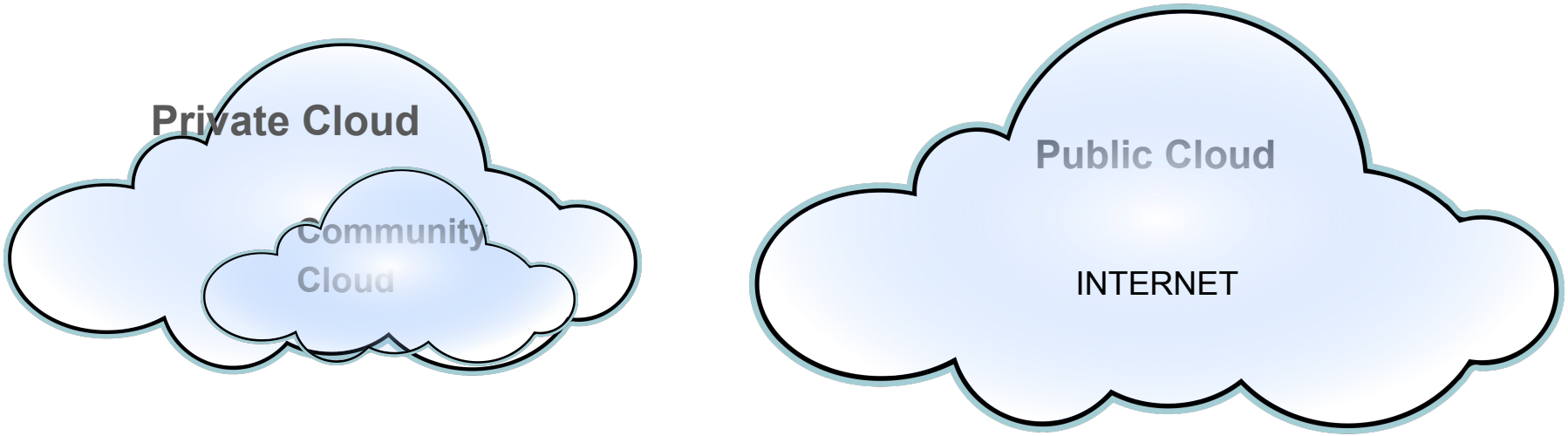
Compare

Vendor Manages

Customer Manages

IaaS	PasS	SaaS
Application	Application	Application / Data
Software OS	Software OS	Software OS
Processor Storage & Memory	Processor Storage & Memory	Processor Storage & Memory
Networking And FW	Networking and FW	Networking and FW
Physical Building	Physical Building	Physical Building

Cloud Models



Hybrid Cloud

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Key Points to Remember About Responsibility

Customer is always ultimately Responsible

SaaS - puts most of the responsibility on the cloud provider.

- Data
- Identity Access Management.

PasS - Customer is typically responsible for Security of its

- Applications,
- Data
- Identity Access Management.

IaaS - Customer is typically responsible for security of

- Applications,
- Data
- Identity Access Management
- Runtime, Middleware and OS

Summary

Cloud service delivery models: The three basic types are SaaS, IaaS, and PaaS

Cloud deployment models: The four basic types are Public, Private, Community, and Hybrid

Essential Characteristics of Cloud:

- Resource pooling. Multiple customers
- On-demand self-service. Unilateral provisioning
- Broad network access. Network and client
- Rapid elasticity. Speedy provisioning and deprovisioning
- Measured Service. Pay per use

Question 1

33. In what model of cloud computing do two or more organizations collaborate to build a shared cloud computing environment that is for their own use?

A. Public cloud

B. Private cloud

C. Community cloud

D. Shared cloud

Question 2

32. Don's company is considering the use of an object-based storage system where data is placed in a vendor-managed storage environment through the use of API calls. What type of cloud computing service is in use?

A. IaaS

B. PaaS

C. CaaS

D. SaaS

Question 3:

23. Jim is implementing an IDaaS solution for his organization. What type of technology is he putting in place?

A. Identity as a service

B. Employee ID as a service

C. Intrusion detection as a service

D. OAuth

Question 4:

6. Which of the following describes a community cloud?

A. A cloud environment maintained, used, and paid for by a group of users or organizations for their shared benefit, such as collaboration and data exchange

B. A cloud service within a corporate network and isolated from the internet

C. A cloud service that is accessible to the general public typically over an internet connection

D. A cloud service that is partially hosted within an organization for private use and that uses external services to offer resources to outsiders

Question 5

5. Fran's company is considering purchasing a web-based email service from a vendor and eliminating its own email server environment as a cost-saving measure. What type of cloud computing environment is Fran's company considering?

A. SaaS

B. IaaS

C. CaaS

D. PaaS

Thank you.

For notes and powerpoint go to

icsbits.com/go/notes