TechLift

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TRACK NAME

Cloud Solution Architecture

P@SHA

Pakistan Software Houses Association for IT & ITES

PAKISTAN PSEB SOFTWARE EXPORT BOARD

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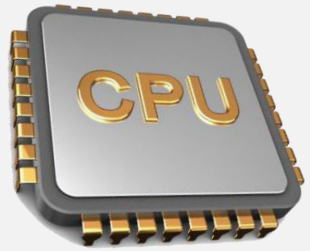
Compute

Compute

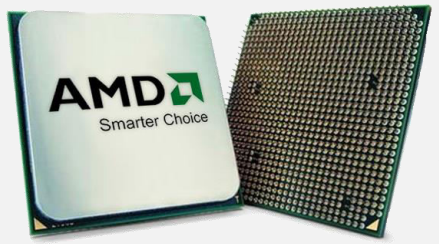
Compute is frequently encountered in modern computing concepts like cloud computing and big data, used to refer to resources being used or served up in the server and data center spaces.

In utility computing as in cloud computing and big data, resources that are used to process data are called compute resources that are provided by CPUs working together in clusters.

Compute resources are essentially time slice given to those clients that need it so that they can have access to the allocated CPUs in the system.



CPU



APU

GPU

Compute In Cloud Computing

In cloud computing, the term “compute” describes concepts and objects related to software computation.

It is a generic term used to reference:

- processing
- memory
- networking
- storage
- other resources required for the computational success of any program.

Azure

AWS

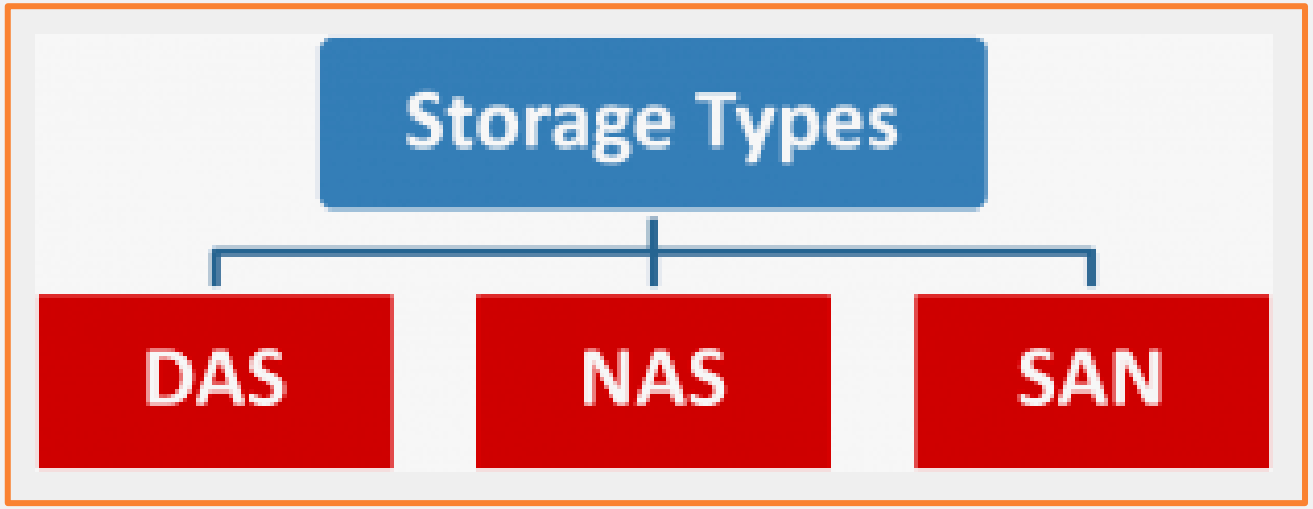
GCP

Storage

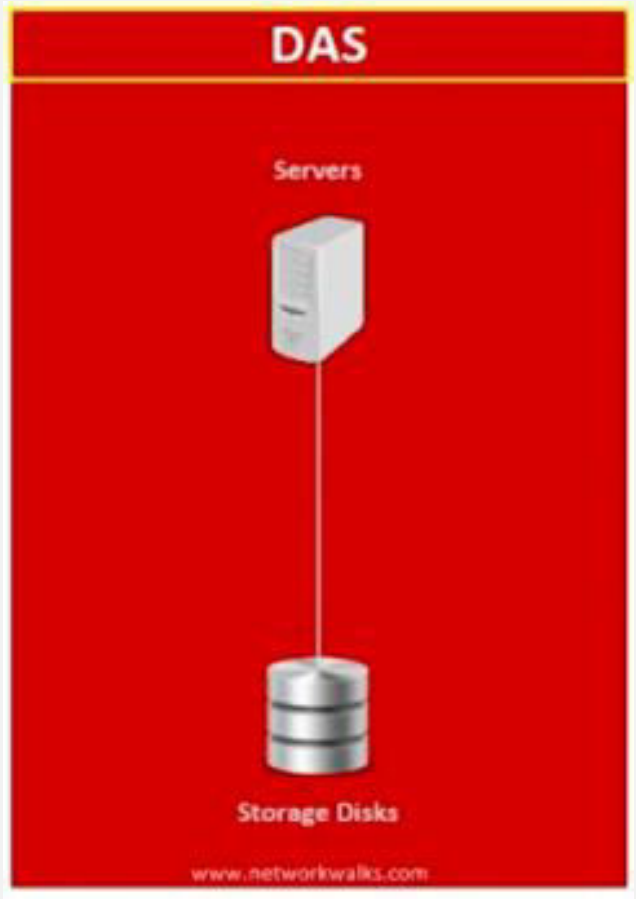
Storage Solutions

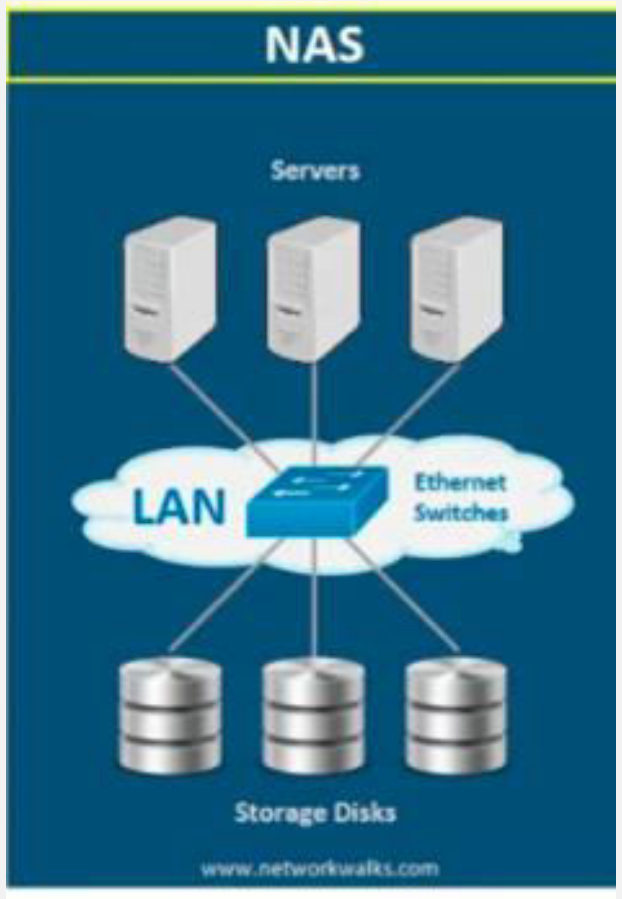
The 3 most prevalent storage solutions that you may consider for your organization.
It includes:

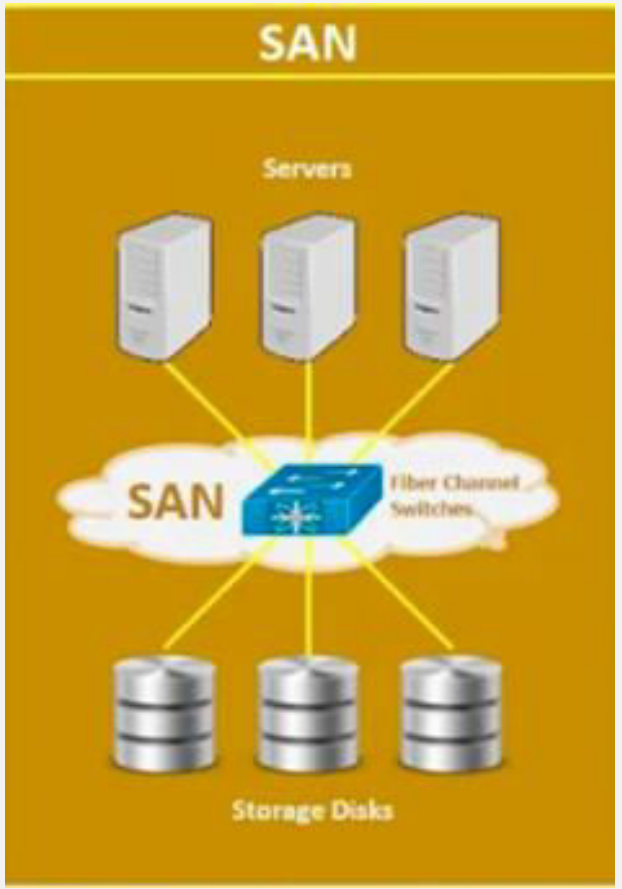
- DAS (Directly Attached Storage)
- NAS (Network Attached Storage)
- SAN (Storage Area Networks)



Storage Solutions







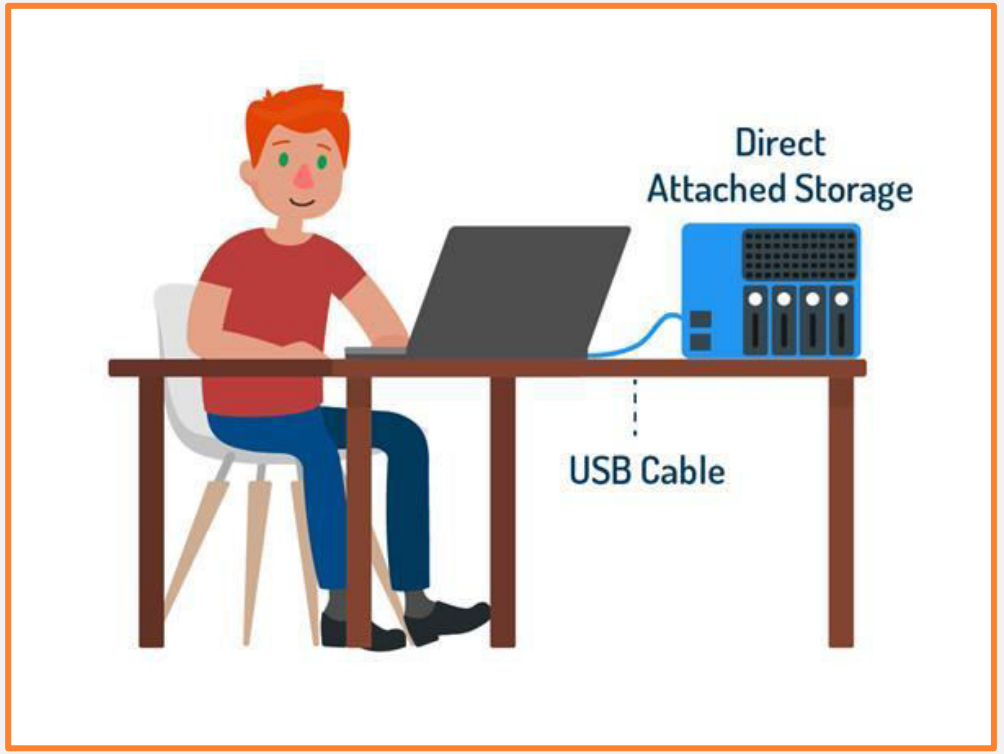
Storage Solutions

DAS - Direct Attached Storage:

Direct Attached Storage (DAS) means that a physical storage device is directly attached to a server or personal computer. The hard drive of a laptop is a type of DAS because it fits the definition of a storage device directly attached to a personal computer.

The following are types of storage that can be used as DAS:

- Hard Disk Drive (HDD)
- Solid State Drive (SSD)
- Optical Disk Drive (ODD)



Storage Solutions

DAS - Direct Attached Storage:

- Hard Disk Drive (HDD):
  - It uses magnetic rotating disks to hold data, which is then read by a rotating arm that reads and writes the data onto the disk.
  - Many personal computers have HDDs, or as they are usually referred to, “hard drives”.

Storage Solutions

DAS - Direct Attached Storage:

- Solid State Drive (SSD):
  - Made out of a collection of electronic circuits (chips) that store and transmit data.
  - This means that SSDs are faster and more durable.
  - Another benefit of SSDs is their efficiency, due to the fact that they don't have any moving parts, so they require less energy to operate.

Storage Solutions

DAS - Direct Attached Storage:

- Optical Disk Drive (ODD):
  - It uses lasers to read and write data onto optical disks.
  - A good example of a type of media that uses an optical disk drive is a DVD player.
  - Although most optical disks can only hold 50GB or less as opposed to the commonly available 256GB to 1TB (terabyte) HDDs and SSDs
  - ODDs are convenient because they are inexpensive and highly portable.

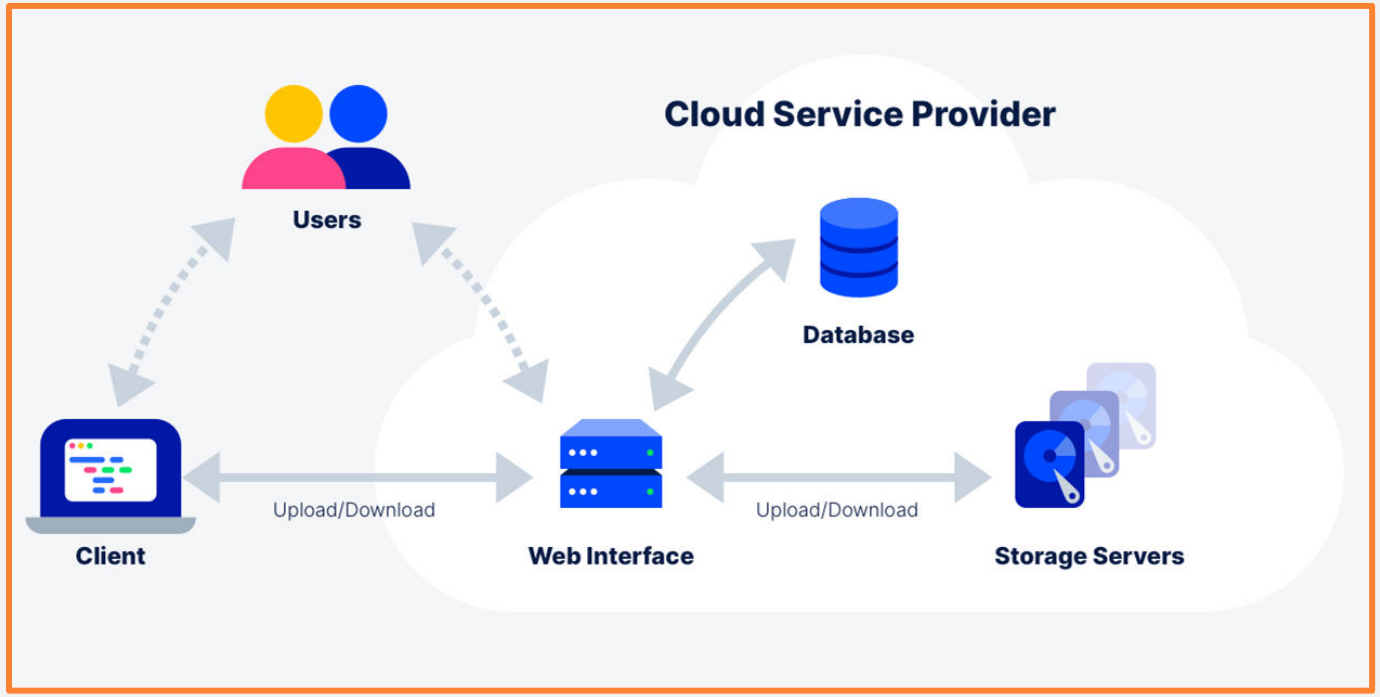
Storage Solutions in Cloud Computing

- Cloud storage is a data deposit model in which digital information such as: **documents, photos, videos and other forms of media** are stored on virtual or cloud servers hosted by third parties.
- It allows you to transfer data on an offsite storage system and access them whenever needed.

Storage Solutions in Cloud Computing

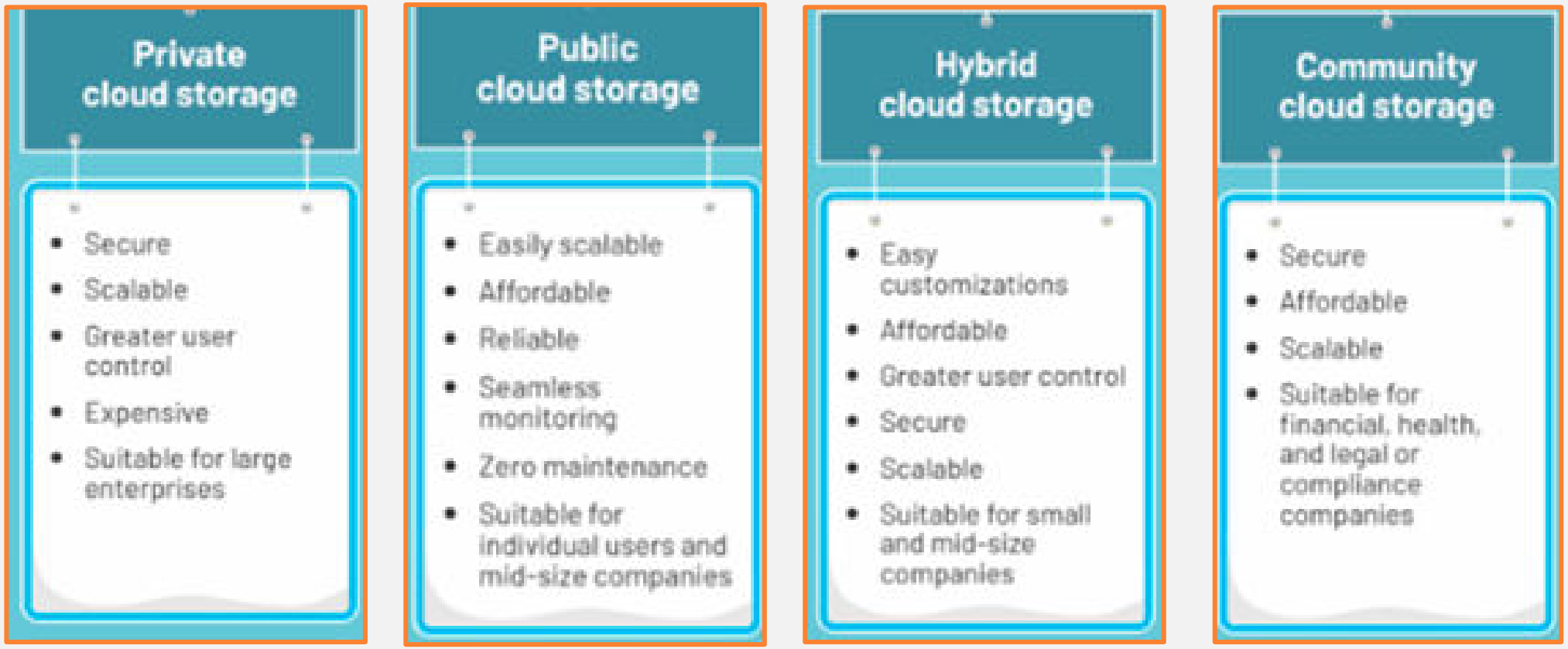
How Cloud Storage Works

- Cloud storage works as a virtual data center.
- It offers end users and applications virtual storage infrastructure that can be scaled to the application's requirements.
- Cloud storage includes at least one data server to which a user can connect via the internet.



Storage Solutions in Cloud Computing

Types Of Cloud Storage



Storage Solutions in Cloud Computing

Benefits Of Cloud Storage

Storage Solutions in Cloud Computing

Best Cloud Storage Solutions

Q&A Session for Compute and storage

1. Which is true about DAS?
    a. It's a simpler approach to storage that's connected directly to the host computer.
    b. An external hard drive is the most basic DAS system.
    c. Larger DAS systems include multiple solid-state drives or HDDs.
    d. It's a practical choice for small businesses that share data locally and use local storage devices.
    e. All of the above.

1. Select all advantages of Cloud Storage:
    a. Accessible with an internet connection
    b. Uses less physical storage space
    c. You can forget your login details
    d. All of the above

3. An advantage of cloud storage is...
    a. It is easy to increase the amount of storage available
    b. It is always free to increase the amount of storage available
    c. An internet connection is not needed to access your data
    d. An internet connection is needed to access your data

- Review of the topics
- Discussion