

كلية المنصور الجامعة



Al-Mansour University College

قسم الإعلام الرقمي
المرحلة الرابعة

اساسيات الحوسبة السحابية

2023– 2022

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Cloud Computing



It is a technology that uses remote servers on the internet to store, manage, and access data online rather than local drives. The data can be anything such as files, images, documents, audio, video, and more

Characteristics of Cloud Computing

- **Agility**

The cloud **works in a distributed computing environment**. It shares resources among users and works very fast.

- **High availability and reliability**

The availability of servers is high and more reliable because the **chances of infrastructure failure are minimum**.

- **High Scalability**

Cloud offers "**on-demand**" provisioning of **resources on a large scale**, without having engineers for peak loads.

Characteristics of Cloud Computing

- **Multi-Sharing**

With the help of cloud computing, **multiple users and applications can work more efficiently** with cost reductions by sharing common infrastructure.

- **Device and Location Independence**

Cloud computing enables the users to access systems using a web browser regardless of their location or what device they use e.g. PC, mobile phone, etc. **As infrastructure is off-site** (typically provided by a third-party) **and accessed via the Internet, users can connect from anywhere**

Characteristics of Cloud Computing

- **Maintenance**

Maintenance of cloud computing applications is easier, since they **do not need to be installed on each user's computer and can be accessed from different places**

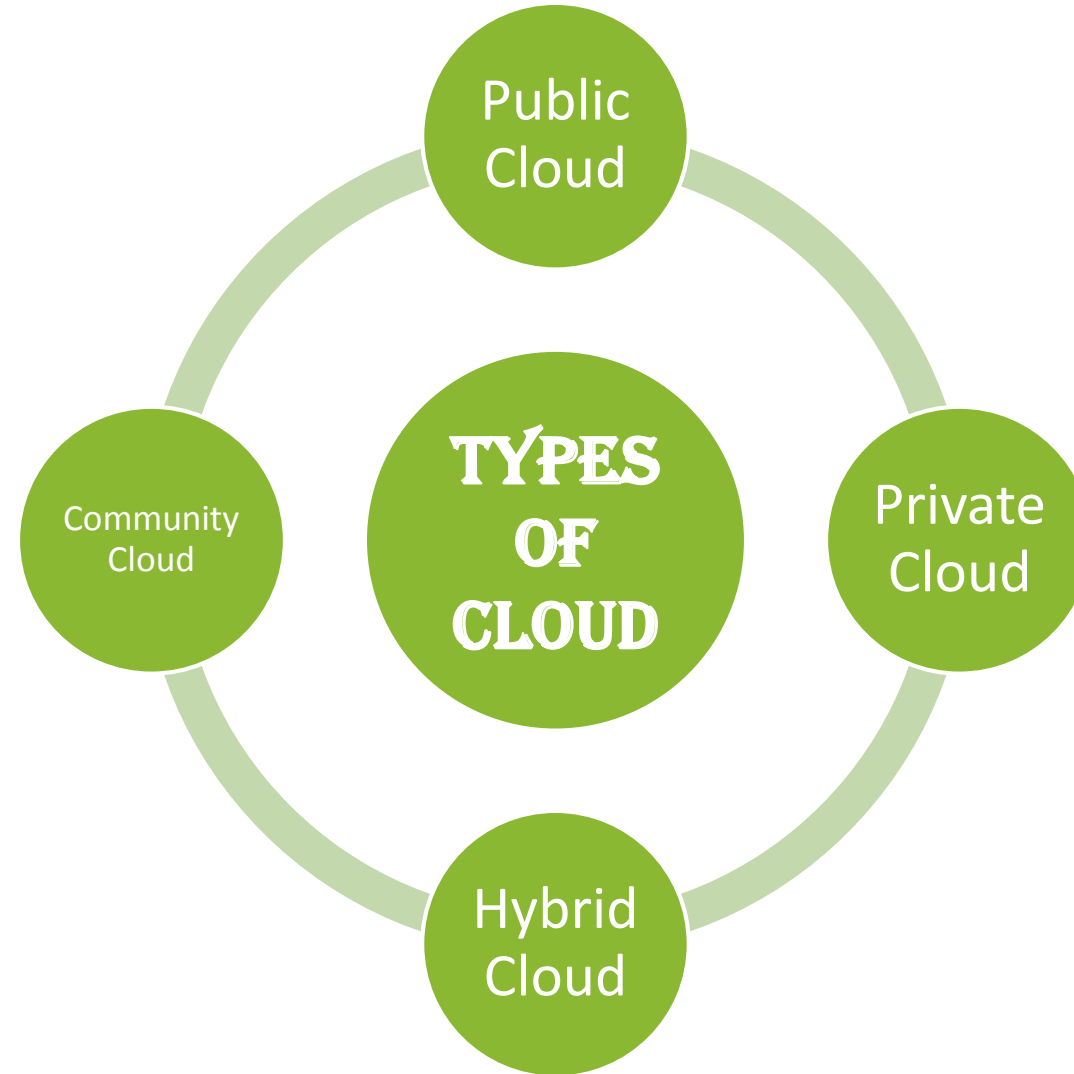
Advantage of Cloud Computing

- **Security** Cloud computing offers great security when any sensitive data has been lost. As the data is stored in the system, it can be easily accessed even if something happens to your computer.
- **Less Costs** The services are free from capital expenditure. There are no huge costs of hardware in cloud computing. You just have to pay as you operate it and enjoy the model based on your subscription plan.
- **Excellent accessibility** Cloud allows us to quickly and easily access store information anywhere, anytime in the whole world, using an internet connection.
- **Mobility** Cloud computing allows us to easily access all cloud data via mobile.

Disadvantage of Cloud Computing

- **Risk of data confidentiality** There is always a risk that user data can be accessed by other people. So data and cloud protection must be good because if it won't be dangerous for data confidentiality.
- **Compliance** Which refers to the risk of a level compliance deviation from the provider against the regulations applied by the user.
- **The level of security** Secrecy and security are among the most doubtful things in cloud computing. By using a cloud computing system means we are fully entrusted with the security and confidentiality of data to companies that provide cloud computing servers.
- **Low Connection** Does not work well if the connection is slow. The quality of cloud computing servers is one of the most important considerations before we decide to provide cloud computing server service providers.

TYPES OF CLOUD



PUBLIC CLOUD

Public cloud is **open to all** to store and access information via the Internet using the pay-per-usage method.

Example: Amazon elastic compute cloud (EC2), IBM Smart Cloud Enterprise, Microsoft, Google App Engine, Windows Azure Services Platform.

PRIVAT CLOUD

- Private cloud is also known as an **internal cloud** or **corporate cloud**. It is used by organizations to build and manage their own data centers internally or by the third party. It can be deployed using Opensource tools such as Open stack and Eucalyptus.

HYBRID CLOUD

- Hybrid Cloud is a combination of the public cloud and the private cloud. we can say:

Hybrid Cloud = Public Cloud + Private Cloud

Hybrid cloud is partially secure because the services which are running on the public cloud can be accessed by anyone, while the services which are running on a private cloud can be accessed only by the organization's users.

Example: Google Application Suite (Gmail, Google Apps, and Google Drive), Office 365 (MS Office on the Web and One Drive), Amazon Web Services.

COMMUNITY CLOUD

Community cloud allows systems and services to be accessible by a group of several organizations to share the information between the organization and a specific community. It is owned, managed, and operated by one or more organizations in the community, a third party, or a combination of them.

Example: Health Care community cloud

Common Uses of Cloud Computing

- **Storage:** One of the most common uses of cloud computing is file storage. While there are several options to store and access data, such as hard drives on PCs, external hard drives, USB drives, etc.,
- **Database:** Cloud database is another popular business use case. IBM defines cloud database as “a database service built and accessed through a cloud platform.”
- **Web applications:** Web applications are a must-have tool for businesses today. Powered by cloud technology, anyone can access web-based apps using a web browser, providing instant remote access to information.

Types of Cloud Computing Services

- **Infrastructure-as-a-Service (IaaS)** IaaS is a cloud computing service where cloud providers deliver and manage virtualized computing infrastructure over the internet. Instead of creating an in-house IT infrastructure, businesses can access essential resources, such as operating systems, networking, storage space, development tools, etc.,

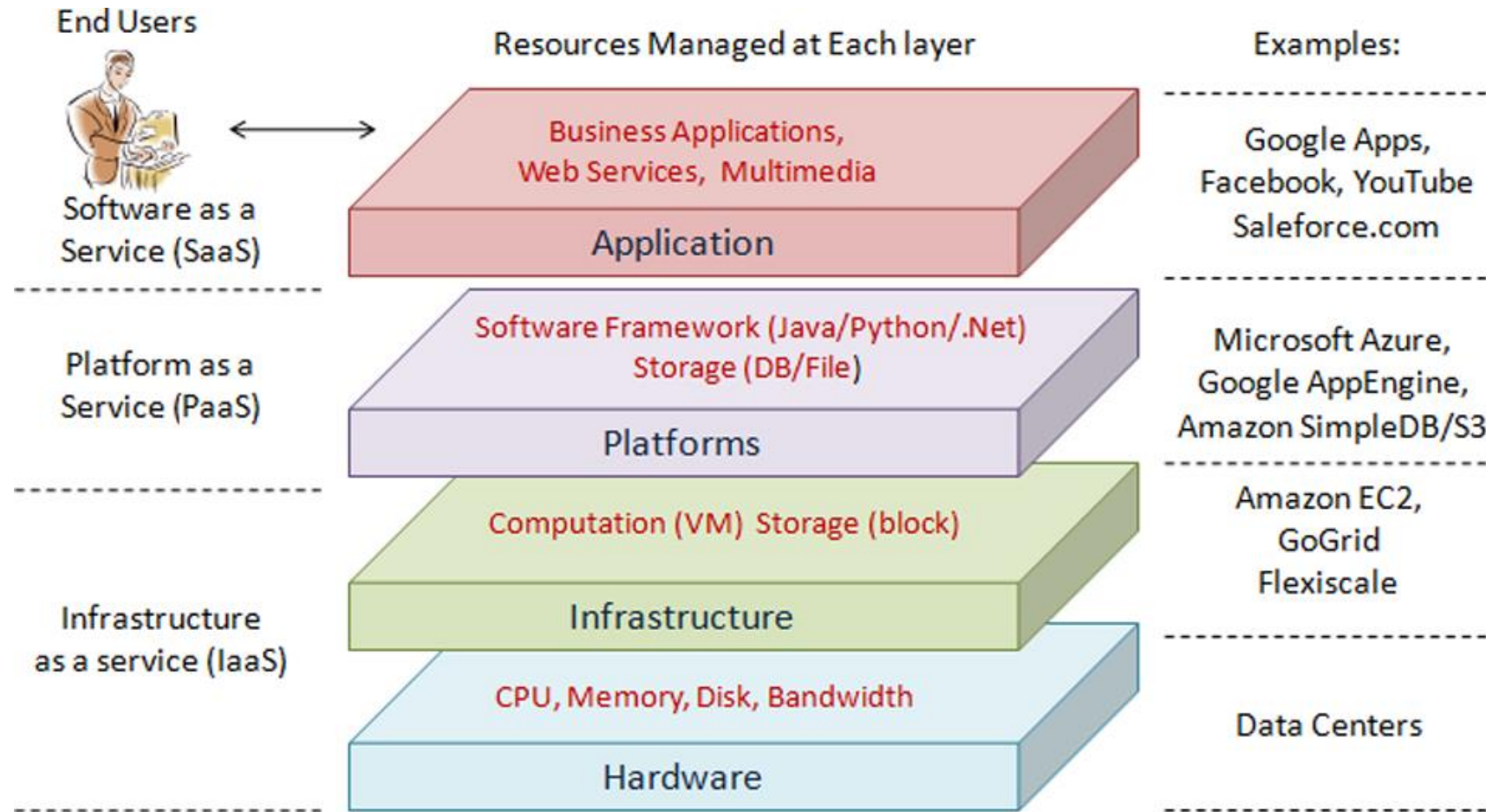
Types of Cloud Computing Services

- **Platform-as-a-Service (PaaS)** PaaS allows businesses to concentrate on the development, deployment and management of software applications and services without having to worry about the underlying infrastructure since cloud providers do the heavy lifting.

Types of Cloud Computing Services

- **Software-as-a-Service (SaaS)** SaaS provides businesses with ready-to-use software that is delivered to users over the internet. All of the underlying infrastructure, including hardware, software, data storage, patch management and hardware/software updates, are managed by SaaS providers.

Cloud Layer Architecture



From Traditional Environments to Cloud

Clients will make workload-driven trade offs among functions such as security, degree of customization, control and economics

