



Cloud Technology

Clouds

Clouds



❖ What do Clouds do?

- Provide online data storage
- Enable configuration and accessing of online applications
- Provide a variety of software
- Provide a computing platform and computing infrastructure

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❖ Cloud Application Example

- Using Gmail on my smartphone to check e-mails
- Receive an e-mail with a MS Power Point attachment file
- However, MS Windows OS & Power Point is not installed on my smartphone
- Google Drive service's Google Docs, Sheets, and Slides can be used to open the file



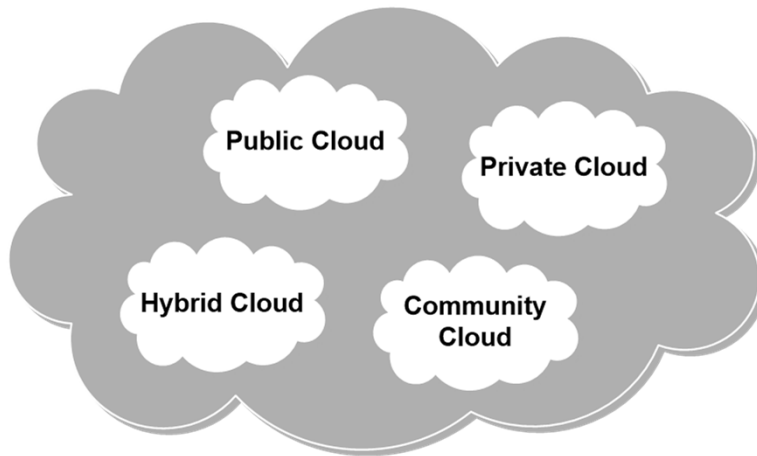
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❖ What can a Cloud do for us?

- Cloud can provide services through a public or private Network or the Internet, where the service hosting system is at a remote location
- Clouds can support various applications
 - E-mail, Web Conferencing
 - CRM (Customer Relationship Management)
 - Games, Database Management, etc.

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❖ Cloud Models



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❖ Cloud Models

- **Public Cloud**
 - Enables public systems and service access
 - Open architecture (e.g., e-mail)
 - Could be less secure due to openness

- **Private Cloud**
 - Enables service access within an organization
 - Due to its private nature, it is more secure

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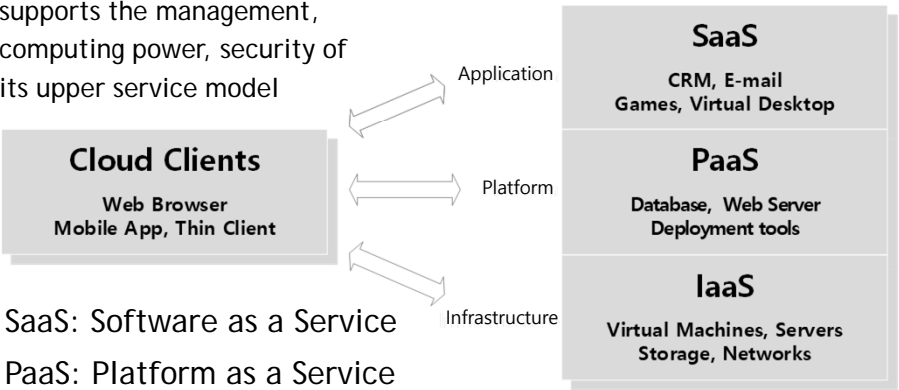
❖ Cloud Models

- Community Cloud
 - Cloud accessible by a group of organizations
- Hybrid Cloud
 - Hybrid Cloud = Public Cloud + Private Cloud
 - Private cloud supports critical activities
 - Public cloud supports non-critical activities

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❖ Cloud Service Models

The lower service model supports the management, computing power, security of its upper service model



- SaaS: Software as a Service
- PaaS: Platform as a Service
- IaaS: Infrastructure as a Service

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❖ SaaS (Software as a Service)

- Provides a variety of software applications as a service to end users

❖ PaaS (Platform as a Service)

- Provides a program executable platform for applications, development tools, etc.

❖ IaaS (Infrastructure as a Service)

- Provides the fundamental computing and security resources for the entire cloud
- Backup storage, computing power, VM (Virtual Machines), etc.

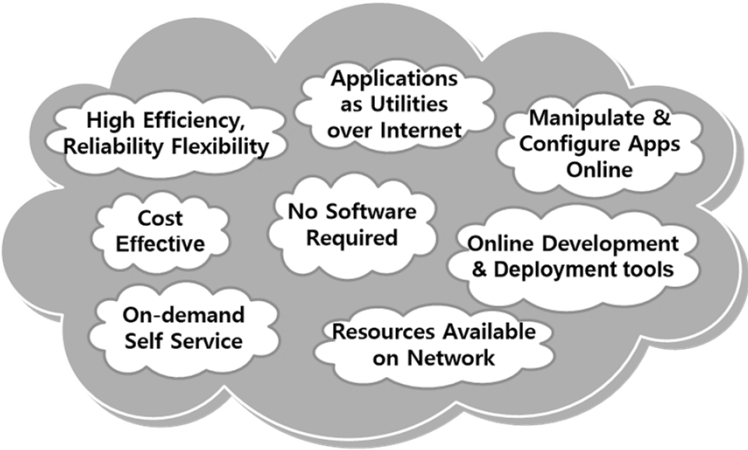
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❖ Cloud Service Models

- There are many other service models
- XaaS = Anything as a Service
 - NaaS → N for Network as a Service
 - DaaS → D for Database as a Service
 - BaaS → B for Business as a Service
 - etc.

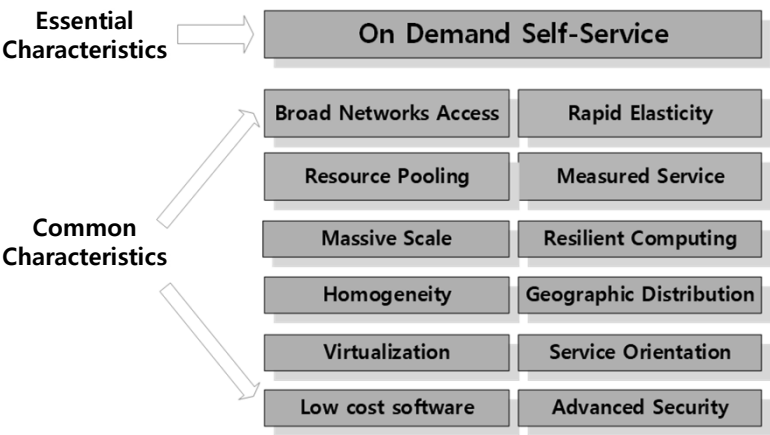
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❖ Cloud Benefits



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❖ Characteristics



Cloud Technology References

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References

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