

Cloud Overview

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The cloud is a metaphor for a global network of remote servers that operates as a single ecosystem, commonly associated with the Internet

Source: Microsoft Azure



Cloud

Overview



- Not a physical entity, but instead is a vast network of remote **servers** around the globe which are hooked together and meant to operate as a single ecosystem
- These **servers** are designed to either **store and manage data**, run applications or deliver content or a service such as streaming videos, web mail, office productivity software or social media
- Instead of accessing files and data from a local or personal computer, you are accessing them online from any Internet-capable device—the information will be available anywhere you go and anytime you need it





Shared Infrastructure:

- Uses a virtualized software model, enabling the sharing of physical services, storage, and networking capabilities

Dynamic Provisioning:

- Allows for the provision of services based on current demand requirements

Network Access:

- Needs to be accessed across the internet from a broad range of devices such as PCs, laptops, and mobile devices, using standards-based APIs (for example, ones based on HTTP)

Managed Metering:

- Uses metering for managing and optimizing the service and to provide reporting and billing information. In this way, consumers are billed for services according to how much they have actually used during the billing period.





SaaS: Software as a Service

- Ability to access and use an application or service that is hosted in the cloud

PaaS: Platform as a Service

- Ability purchase access to the platforms, enabling them to deploy their own software and applications in the cloud.

IaaS: Infrastructure as a Service

- Ability to control and manage the systems in terms of the operating systems, applications, storage, and network connectivity, but do not themselves control the cloud infrastructure



Cloud

Deployment Models



Private Cloud

- The cloud infrastructure has been deployed, and is maintained and operated for a specific organization

Community Cloud

- The cloud infrastructure is shared among a number of organizations with similar interests and requirements

Public Cloud

- The cloud infrastructure is available to the public on a commercial basis by a cloud service provider

Hybrid Cloud

- The cloud infrastructure consists of a number of clouds of any type, but the clouds have the ability through their interfaces to allow data and/or applications to be moved from one cloud to another





Cost Savings

- Reduces capital expenditures and use operational expenditures for increasing computing capabilities

Scalability / Flexibility

- Can start with a small deployment and grow to a large deployment fairly rapidly, and then scale back if necessary. Also, the flexibility of cloud computing allows us to use extra resources at peak times, to satisfy consumer demands

Reliability:

- Services using multiple redundant sites can support business continuity and disaster recovery





Maintenance

- Cloud service providers do the system maintenance, and access is through APIs that do not require application installations onto PCs, thus further reducing maintenance requirements

Mobile Accessible

- Mobile workers have increased productivity due to systems accessible in an infrastructure available from anywhere





Security and Privacy

- Perhaps two of the more “hot button” issues surrounding cloud computing relate to storing and securing data, and monitoring the use of the cloud by the service providers. These issues are generally attributed to slowing the deployment of cloud services

Lack of Standards

- Clouds have documented interfaces; however, no standards are associated with these, and thus it is unlikely that most clouds will be interoperable

Continuously Evolving

- User requirements are continuously evolving, as are the requirements for interfaces, networking, and storage

Compliance Concerns

- There are no clear mentioned compliance on type of data and application for which the cloud is used



References

- <https://azure.microsoft.com/en-in/overview/what-is-the-cloud/>
- Dialogic, Introduction to Cloud Computing, White Paper



Thank You