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**Seminar
On
Cloud Computing**



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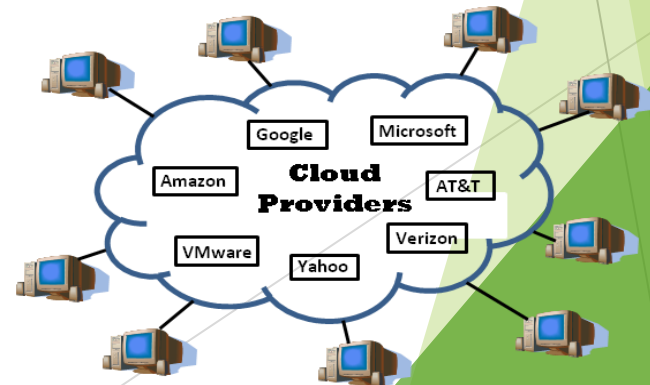
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Introduction

- ▶ Cloud computing is Internet-based computing, whereby shared resources, software, and information are provided to computers and other devices on demand, like the electricity grid.
- ▶ Cloud computing is a paradigm shift following the shift from mainframe to client-server in the early 1980s. Details are abstracted from the users, who no longer have need for expertise in, or control over, the technology infrastructure "in the cloud" that supports them.



What Is Cloud Computing?

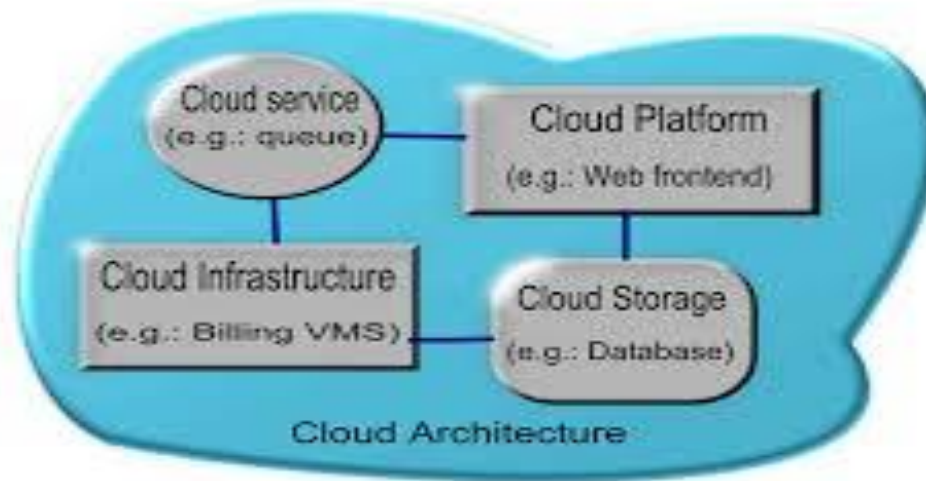
- ▶ Cloud computing is Internet based computing where virtual shared servers provide software, infrastructure, platform, devices and other resources and hosting to customers on a pay-as-you-use basis.
- ▶ All information that a digitized system has to offer is provided as a service in the cloud computing model. Users can access these services available on the "Internet cloud" without having any previous know-how on managing the resources involved.

History

- ▶ Concept originated from telecommunication companies changing to VPN
- ▶ 1999:Salesforce. com - Delivery of applications via web
- ▶ 2002: Amazon launches Amazon Web Services (AWS)
- ▶ 2006: Google Docs, Amazon Elastic Compute Cloud (EC2)
- ▶ 2008: Eucalyptus
- ▶ 2009: Microsoft Azure

Architecture

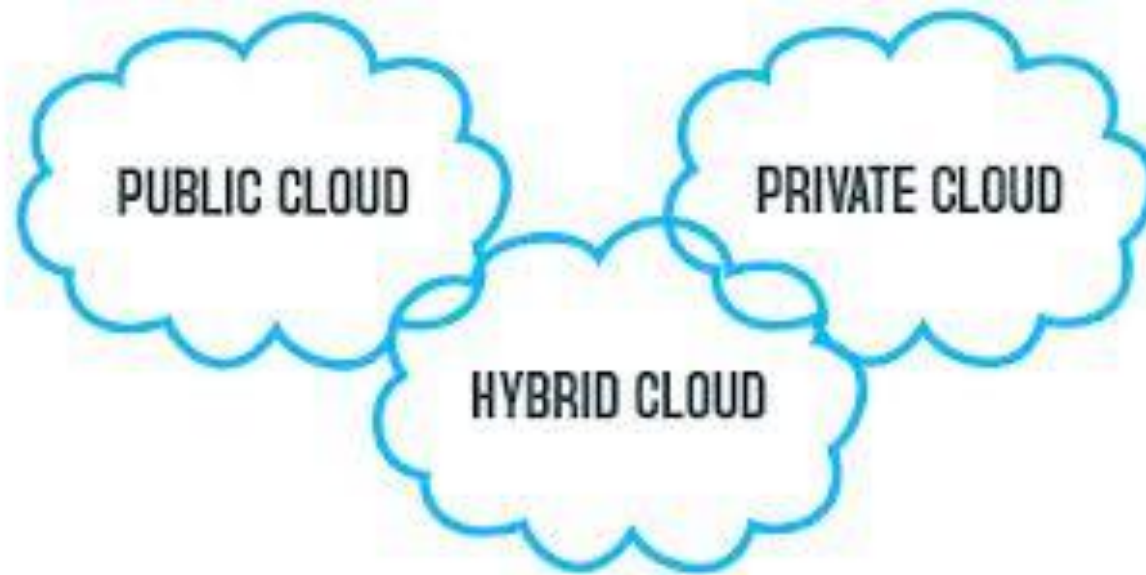
- ▶ Cloud architecture, the systems architecture of the software systems involved in the delivery of cloud computing, typically involves multiple cloud components communicating with each other over application programming interfaces, usually web services.



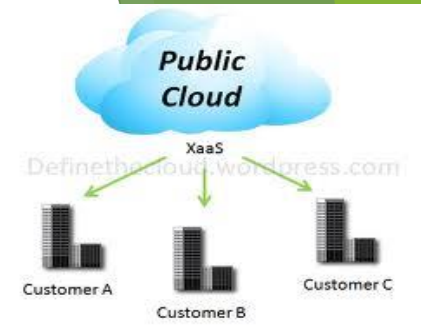
Cloud computing sample architecture

- ▶ This resembles the UNIX philosophy of having multiple programs each doing one thing well and working together over universal interfaces. Complexity is controlled and the resulting systems are more manageable than their monolithic counterparts.
- ▶ The two most significant components of cloud computing architecture are known as the front end and the back end.
- ▶ The front end is the part seen by the client, i.e. the computer user. This includes the client's network (or computer) and the applications used to access the cloud via a user interface such as a web browser.
- ▶ The back end of the cloud computing architecture is the 'cloud' itself, comprising various computers, servers and data storage devices.

Types of Cloud Computing



Public cloud



- ▶ Public clouds are made available to the general public by a service provider who hosts the cloud infrastructure. Generally, public cloud providers like Amazon AWS, Microsoft and Google own and operate the infrastructure and offer access over the Internet.
- ▶ With this model, customers have no visibility or control over where the infrastructure is located. It is important to note that all customers on public clouds share the same infrastructure pool with limited configuration, security protections and availability variances.

Private cloud

- ▶ Private cloud is cloud infrastructure dedicated to a particular organization. Private clouds allow businesses to host applications in the cloud, while addressing concerns regarding data security and control, which is often lacking in a public cloud environment.
- ▶ It is not shared with other organizations, whether managed internally or by a third-party, and it can be hosted internally or externally.



Hybrid cloud

- Hybrid Clouds are a composition of two or more clouds (private, community or public) that remain unique entities but are bound together offering the advantages of multiple deployment models.
- In a hybrid cloud, you can leverage third party cloud providers in either a full or partial manner; increasing the flexibility of computing. Augmenting a traditional private cloud with the resources of a public cloud can be used to manage any unexpected surges in workload.

Components

- ▶ **SaaS (software as a service)**: SaaS refers to software that's made available as a web-based service.
- ▶ **Utility computing**: The predecessor of cloud computing, utility computing provides the ability to access storage and virtual servers on demand.
- ▶ **Cloud-based web services**: Similar to SaaS, web services in the cloud allow you to offer services online, such as credit card processing services, employee payroll processing or viewing an interactive map.
- ▶ **MSP (managed service providers)**: The grandfather of cloud computing, an MSP delivers applications to IT instead of end-users.
- ▶ **IaaS (infrastructure as a service)**: IaaS refers to computer infrastructure (e.g., virtualization) that's delivered as a service.

Recent Development's

- ▶ In 2007, Google, IBM, and a number of universities embarked on a large scale cloud computing research project. In early 2008, Eucalyptus became the first open source AWS API compatible platform for deploying private clouds.



Advantages of Cloud Computing

- ▶ **Flexibility:** There is a high rate of flexibility.
- ▶ **Low Cost:** Companies can save big by employing cloud computing as it eliminates cost for hardware and software.
- ▶ **Speed & Scales :**Traditional methods to buy and configure hardware and software are time consuming.
- ▶ **Easier Management of Data and Information:** Since all data are located on a centralized location, data are more organized making it easy to manage.
- ▶ **Device Diversity :**We can access our applications and data anywhere in the world, on any system.

Advantages of Cloud Computing...

- ▶ **Increased Storage Capacity** :Increased Storage Capacity is another benefit of the cloud computing, as it can store more data as compared to a personal computer.
- ▶ **Easy to Learn and Understand**: Since people are quiet used to cloud applications like Gmail, Google Docs, so anything related to the same is most likely to be understood by the users.
- ▶ **Automatic Updating**: It saves companies time and effort to update multiples server.
- ▶ **Customize Setting**: Cloud computing also allows you to customize your business applications.

Disadvantages of Cloud Computing

- ▶ **Dependency:** One major disadvantages of cloud computing is user's dependency on the provider.
- ▶ **Risk:** Cloud computing services means taking services from remote servers.
- ▶ **Requires a Constant internet connection:** The most obvious disadvantage is that Cloud computing completely relies on network connections.
- ▶ **Security:** Security and privacy are the biggest concerns about cloud computing.
- ▶ **Migration Issue:** Migration problem is also a big concern about cloud computing.

Conclusion

- ▶ So, while cloud computing is really really great and you're probably already using it, either for business or for personal means, here's what we've learned from taking a look at the pros and cons:
- ▶ Cloud computing is a really cheap way for companies to have all the resources they need in one place.
- ▶ It's a much better way to spread your resources, and it becomes easier to access things from longer distances.

Reference

- ▶ www.google.com
- ▶ www.wikipedia.com
- ▶ www.studybindas.com

Thanks

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the frame, creating a modern, layered effect. The rest of the background is plain white.