Lecture 01 - Introduction to Cloud Computing
What is cloud computing?

Cloud Computing is a general term used to describe a new class of network based computing that takes place over the Internet,
- basically a step on from Utility Computing
- a collection/group of integrated and networked hardware, software and Internet infrastructure (called a platform).
- Using the Internet for communication and transport provides hardware, software and networking services to clients

These platforms hide the complexity and details of the underlying infrastructure from users and applications by providing very simple graphical interface or API (Applications Programming Interface).
What are some of the characteristics?

- On demand service
- Network access
- Shared resources
- Scalability
Delivery models of cloud computing?

- SAAS
- PAAS
- IAAS
What is SAAS?

- Software as a service.
- Platform independent
- Cheap (one instance, many users)
- Managed by vendor
Who uses SAAS?

- Google Drive
- Microsoft Office 365
Advantages of SAAS?

- Accessibility from any where (Ubiquitous)
- Collaborative working
Disadvantages of SAAS?

- Portability and browser issues
- Internet speed dictate performance
- Compliance restrictions
What is PAAS?

- Platform as a service.
- Platform is available to do development with an operating system, a web server, and a database.
- Develop code and push to your cloud platform.
- Data and application managed by developer.
- All other resources managed by vendor.

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Who uses PAAS?

- Google App Engine
- Windows Azure
- AWS Elastic Beanstalk
Advantages of PAAS?

- Scalable development
- Easy deployment of web applications
Disadvantages of PAAS?

- Limitation of using providers languages and tools
- Application upgrades not possible
What is IAAS?

- Infrastructure as a service.
- Offers computing architecture and infrastructure
- Data storage, virtualization, servers and networking
- Developer responsible for managing applications, data, runtime, and middleware
Who uses IAAS?

- Amazon EC2
- Rackspace
- GO GRID
Advantages of IAAS?

- Enhance scalability by supporting dynamic workloads
- Easy to provision and deprovision nodes
- Complete control to the nodes
Disadvantages of IAAS?

- Security issues
- Network and service delays
Where is the Cloud?

Data Center world map

USA 1,000+
EU Zone 500+
Asia 200+

(Data Center Map, 2013)
Let us see the cloud in action
Questions