Characteristics of Cloud

Y.V. Lokeswari

AP/ CSE

SSN College of Engineering

Cloud Characteristics

- Resource on-demand (illusion of infinite resources)
- Pay-per-use
- Multi-tenancy
- Accessible over Internet
- Rapid Elasticity through Virtualization
- Flexible and Interoperable services
- Massive Scaling
- Very less capital investment
- Maintenance-free

Cloud Characteristics

- **Resource on-demand**
  - Huge pool of resources (Hardware – Processor, Memory, I/O Devices, Networking components and Device drivers), platform (OS, DB, Programming e environment), and software applications are provided to cloud customers on demand basis.

- **Pay – per – Use**
  - Cloud consumers are charged based on the amount of resources used and how long resources are used.
  - Eg: You pay for your service as you rent a car for your travel

Cloud Characteristics

- **Multi-tenancy**
  - A single instance (copy) of an application can used by multiple users at the same time.
  - Eg: Google Docs
- **Accessible over Internet**
  - All cloud services can be accessed from any where through internet.
  - Eg: A file that is getting stored in cloud is accessible from your home or from your office or during your travelling time.

Cloud Characteristics

- **Rapid Elasticity through Virtualization**
  - Physical resources are virtualized as logical resources through virtualization which helps Cloud Service Provider (CSP) to provide resources on demand.
  - The existing architecture can be extended for more number of users.

- **Flexibility and Interoperable services**
  - Services provider by CSP can be handled in any type of hardware environment and provides flexibility in developing any type of application on any platform.

Cloud Characteristics

- **Massive Scaling**
  - The cloud infrastructure can support any number of users by scaling its architecture.
  - **Horizontal Scaling**: Adding many CPUs, or storage elements to the cloud infrastructure.
  - **Vertical scaling**: Adding of cores and disks to existing CPUs and storage respectively.

Cloud Characteristics

- **Very less capital investment**
  - Cloud allows users to rent all hardware, platform and software applications from CSP. This allows users to start up a business with very less capital investment.
- **Maintenance Free**
  - Cloud users need not bother about maintenance of the hardware or software components.
  - They need not worry about licensing the software that they use from cloud.
  - All the maintenance task is taken care by a CSP.

Cloud Computing Importance

- **User perspective**

  - No upfront huge investment for startups

  - Ability to handle fluctuating demands without over-provisioning

  - Maintenance-free

- **Provider perspective**

  - Expertise in managing large data-centers

  - Utilization of idle resources

  - Operational costs are much lower

Thank You