Technology Overview

Cloud Concepts &Technologies

- Variety of technologies that make Cloud computing possible

- Virtualization

    - Key technology enabling Cloud Computing

    - Abstraction of an execution environment

    - Partitions physical resources into virtual resources

- Load Balancing

    - Help distribute workload across multiple machines to meet

- SDN

    - Separates control plane from the data plane

    - Creates agile network that are easier and cheaper to maintain.

Cloud Concepts &Technologies

- Scalability

  - Difficult to scale traditional IT infrastructure

    ‣ Scale Up — Upgrade existing hardware (CPU, Memory, etc.)

    ‣ Scale Out — Add more hardware

    ‣ Not elastic

  - Cloud provide elasticity to accommodate for variability in workload.

    ‣ Add or shrink resources based upon demand.

Cloud Concepts &Technologies

- Replication

    - Replication of data is important for business continuity

    - Cloud provides cheaper option to replicate data and application

        ‣ Minimize capital expenditure

- Array-based replication

    - Automatically replicate data at the disk subsystem level

    - Independent of host and type of data being accessed.

    - Requires similar arrays at local and remote locations.

Cloud Concepts &Technologies

- Host-based replication

  - Runs on commodity servers

  - Agents installed on hosts communicate with each other

  - Replication can be block or file based.

  - Entire Virtual machine can be replicated in real-time.

- Network-based replication

  - An appliance sits on the network to transfer data (local to remote hosts)

  - Supports heterogeneous environment

  - Requires capital expenditure (hardware and software)