Storage

Background

- Data storage is an ever-expanding resource.
- Making data store very pervasive
- Everything from refrigerators to automobiles now contains some amount of data storage.
- Appliances like GPS, DVR — part of daily routine
- PCs, smart phones, music players, and tablets have experienced storage growth as each new generation of the devices
- Also true in traditional DCs — data far greater now (types of data)

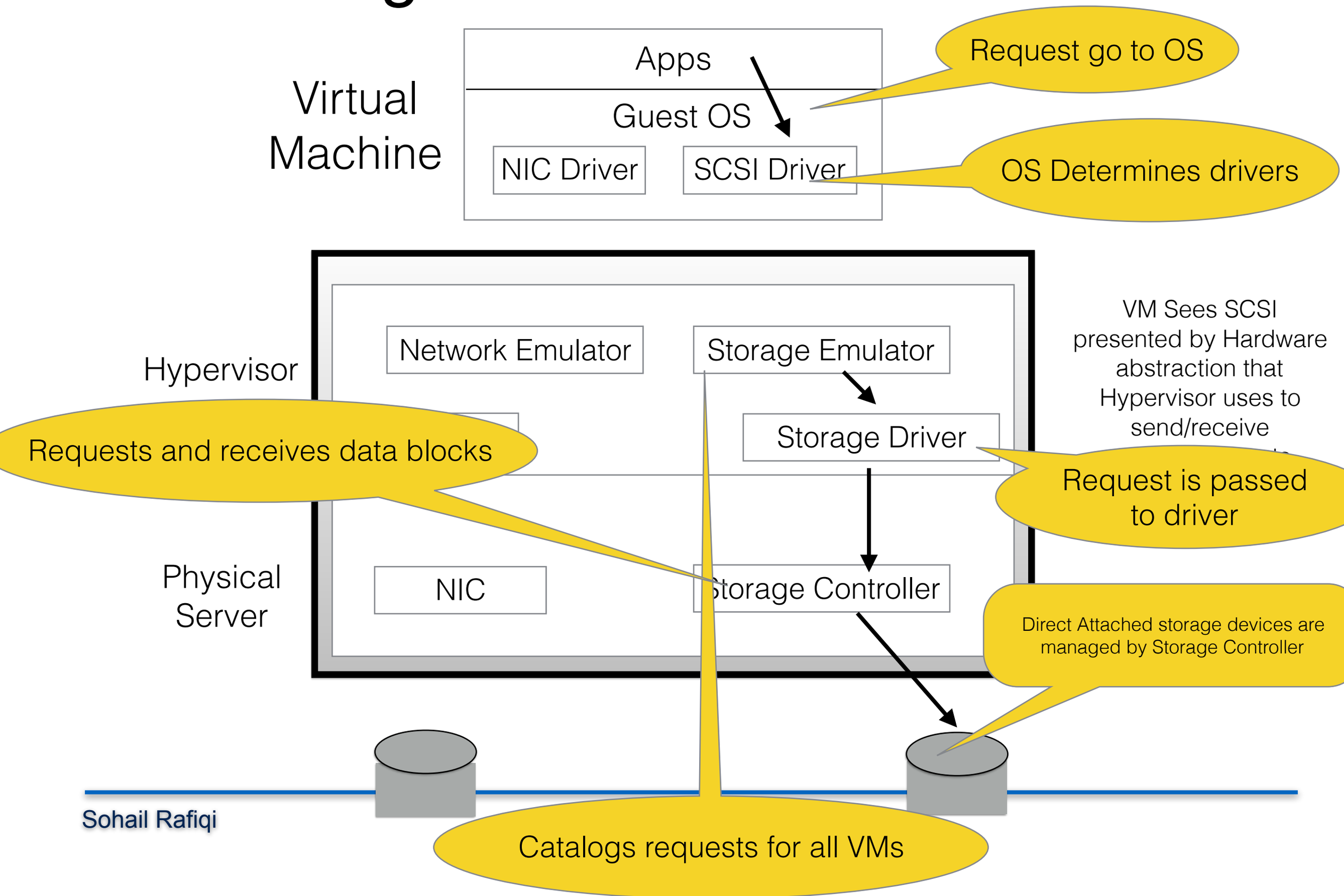
Background

- 2008 — 8 Exabyte (8 quintillion bytes) data generated
- UC Berkeley concluded — Data would double every 6 months
- 2010 — Passed 1 zettabytes
- 2011 — According to IDC generated 2 zettabytes
- 2020 — Forecast to have 40 zettabytes annually

Traditional environment?

- Most computing devices request information in a similar fashion
- OS controls the access to various I/O devices
- Application program request OS for information to process
- OS passes request to the storage subsystem
- Subsystem passes information (data blocks)
- OS transfers data blocks to the applications

Storage in Virtual Environment



SAN/NAS

- Key portion of virtualization storage architecture is clustering and shared storage
- SAN or NAS allows server to access disk storage that is not part of its hardware configuration
- Can be used both by virtual or physical servers
  - Making migration to virtual environment smoother

Summary

- Storage virtualization is a technical means to what are essentially business ends.
- Reducing the cost of data storage administration,
- Maximizing utilization of storage assets,
- Dynamically aligning data storage capacity to changing application requirements,
- Ensuring high availability access to data, and
- Safeguarding an organization’s information