

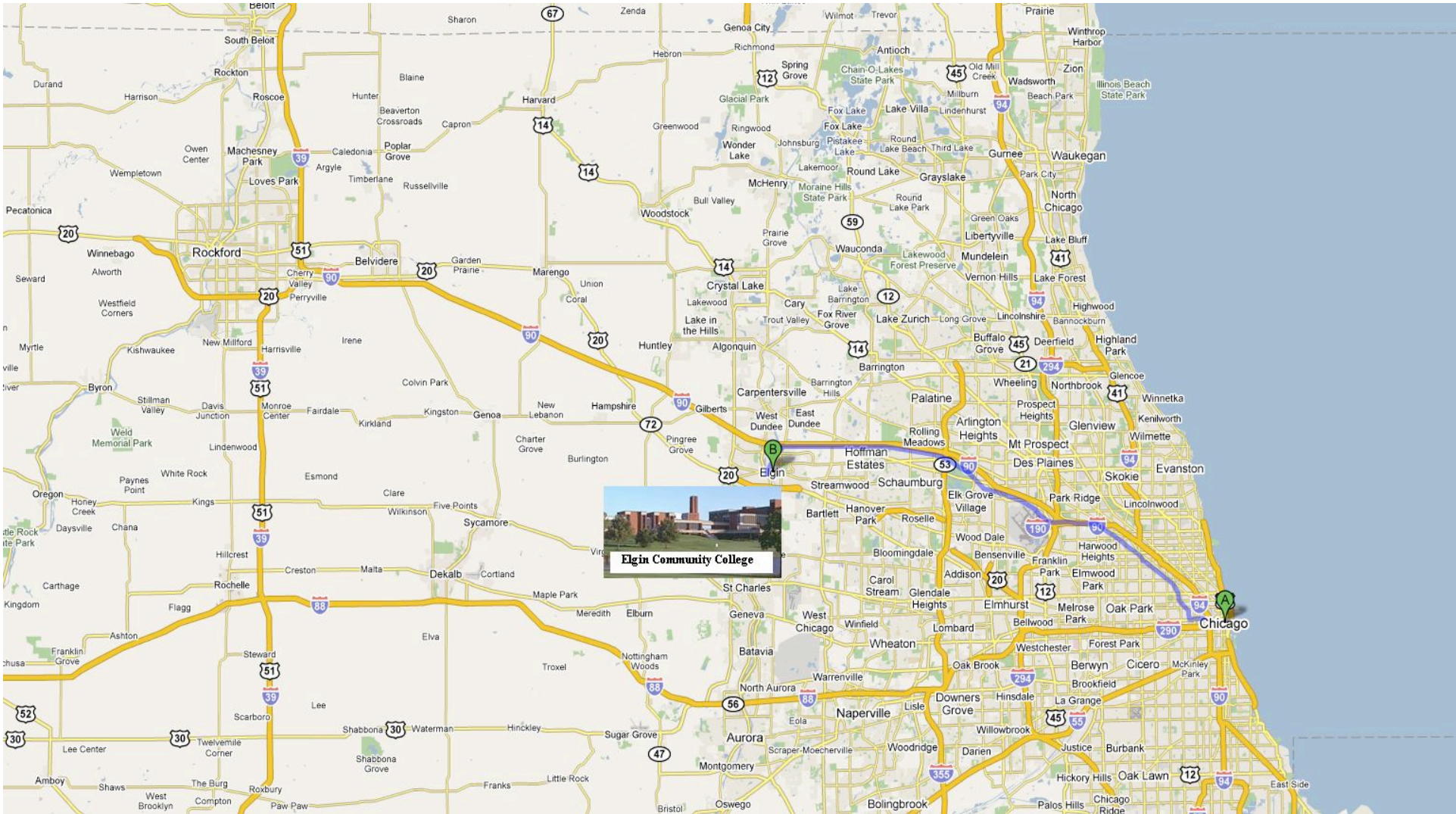


# "Virtualizing Disaster Recovery at Elgin Community College"

By

Michael Chahino & Phil Howard





Elgin Community College



Michael Chahino & Phil Howard @ Elgin Community College

# Elgin Community College

- Located mid-way between Chicago and Rockford in the Fox River Valley (40 miles west of Chicago)
- Three Locations: Main Campus, Fountain Square Campus, and Streamwood Center.
- Approximately 20,000 students in the credit and non-credit programs



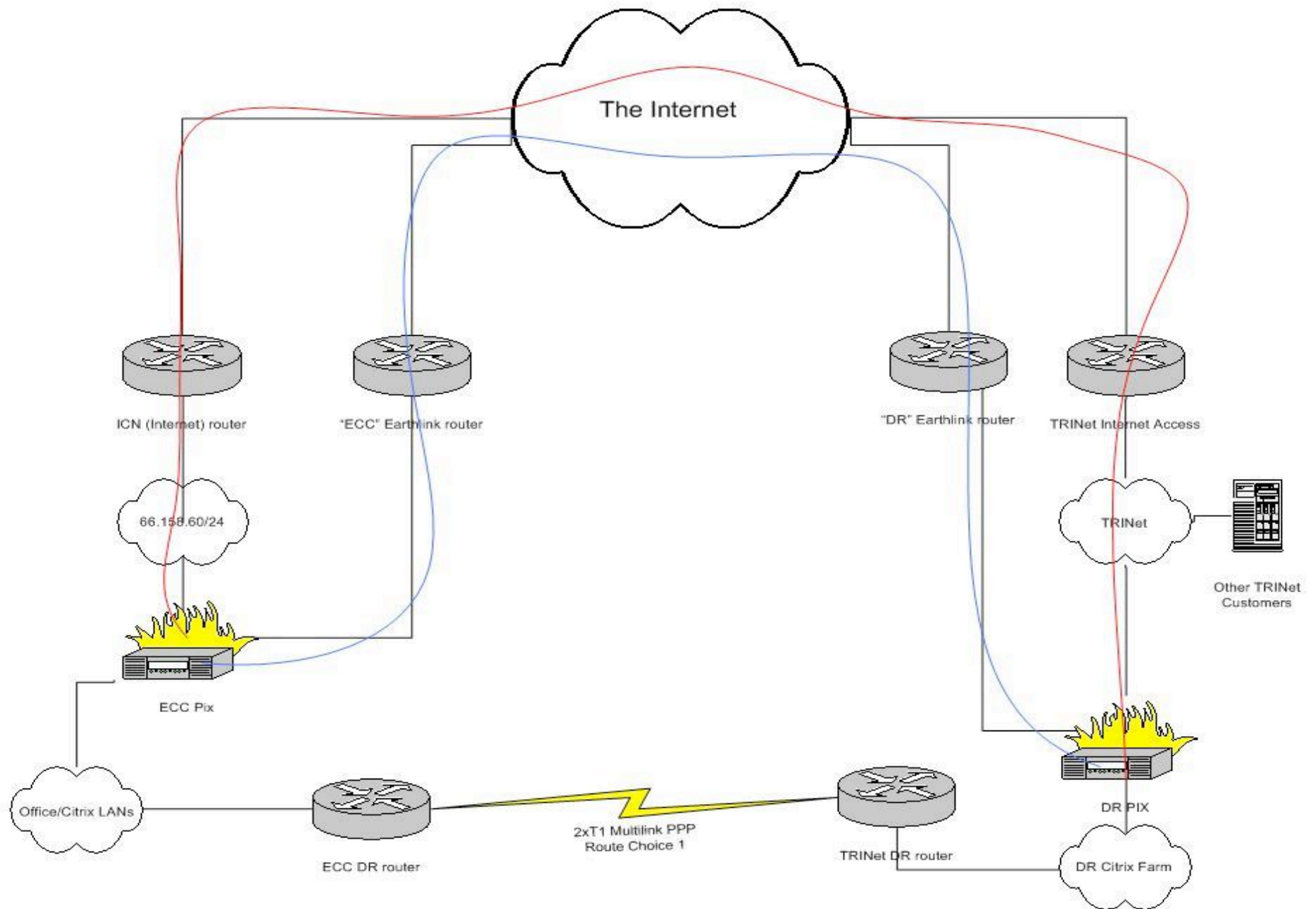
# Current Network Infrastructure

- Gigabit fiber backbone
- Gigabit to the desktop
- Power Over Ethernet (POE) Cisco switches
- Campus wide Wireless Network
- Voice Over IP phone system
- Dual internet connections (25 MB and 8 MB)

# Old Data Network

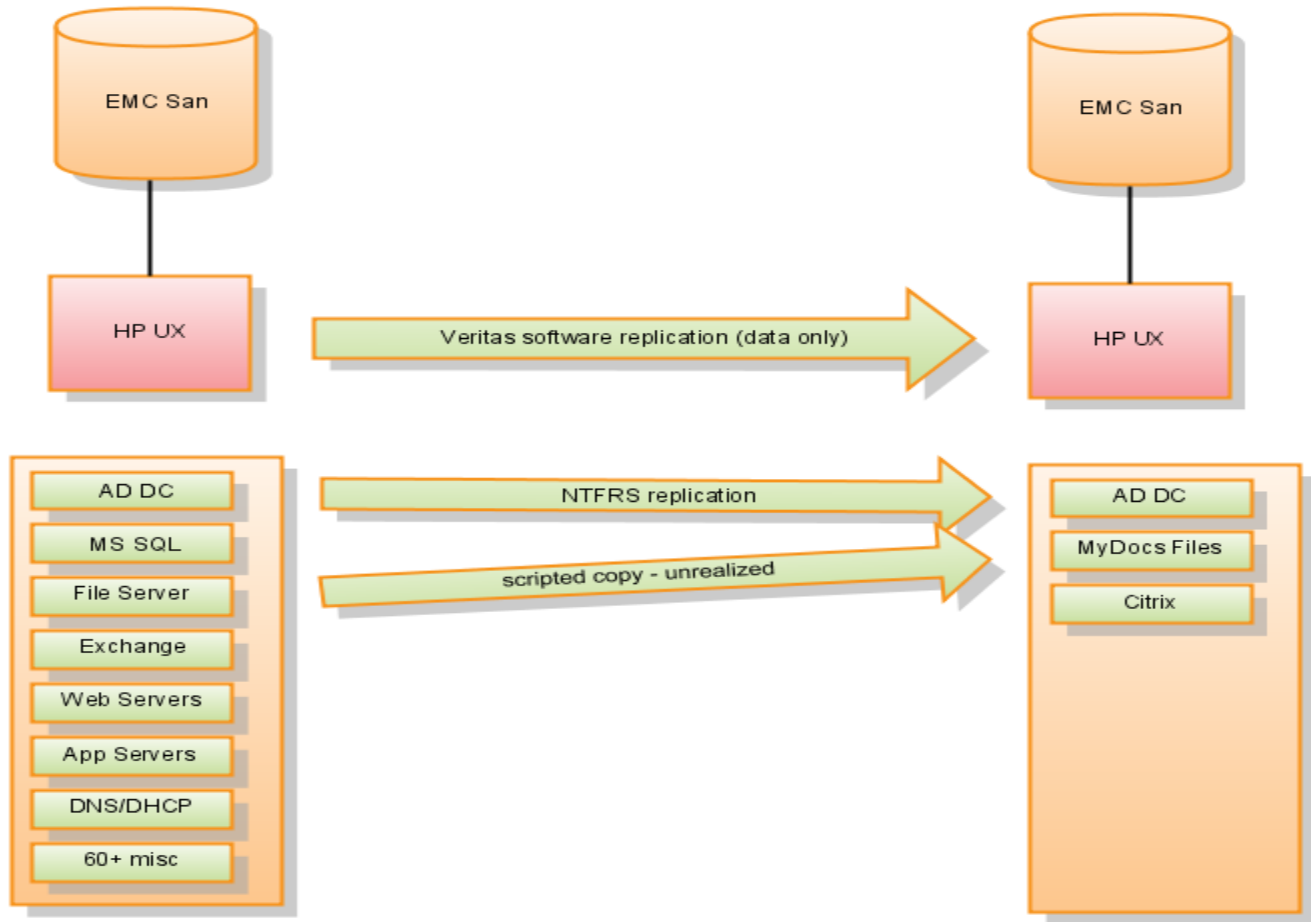
- A mixed platform Network (HP-UX; Linux; Microsoft, Citrix, and OSX)
- Two EMC SANs With Fiber Channel
- Multiple Databases Applications
- More than 80 physical servers
- Two Citrix Farms
- Multiple Backup tape Libraries and applications (Commvault, Veritas)

**Elgin Community College Old Disaster  
Recovery Schematic Diagram**



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# Old DR site



# Backups and Disaster recover are essentially intertwined

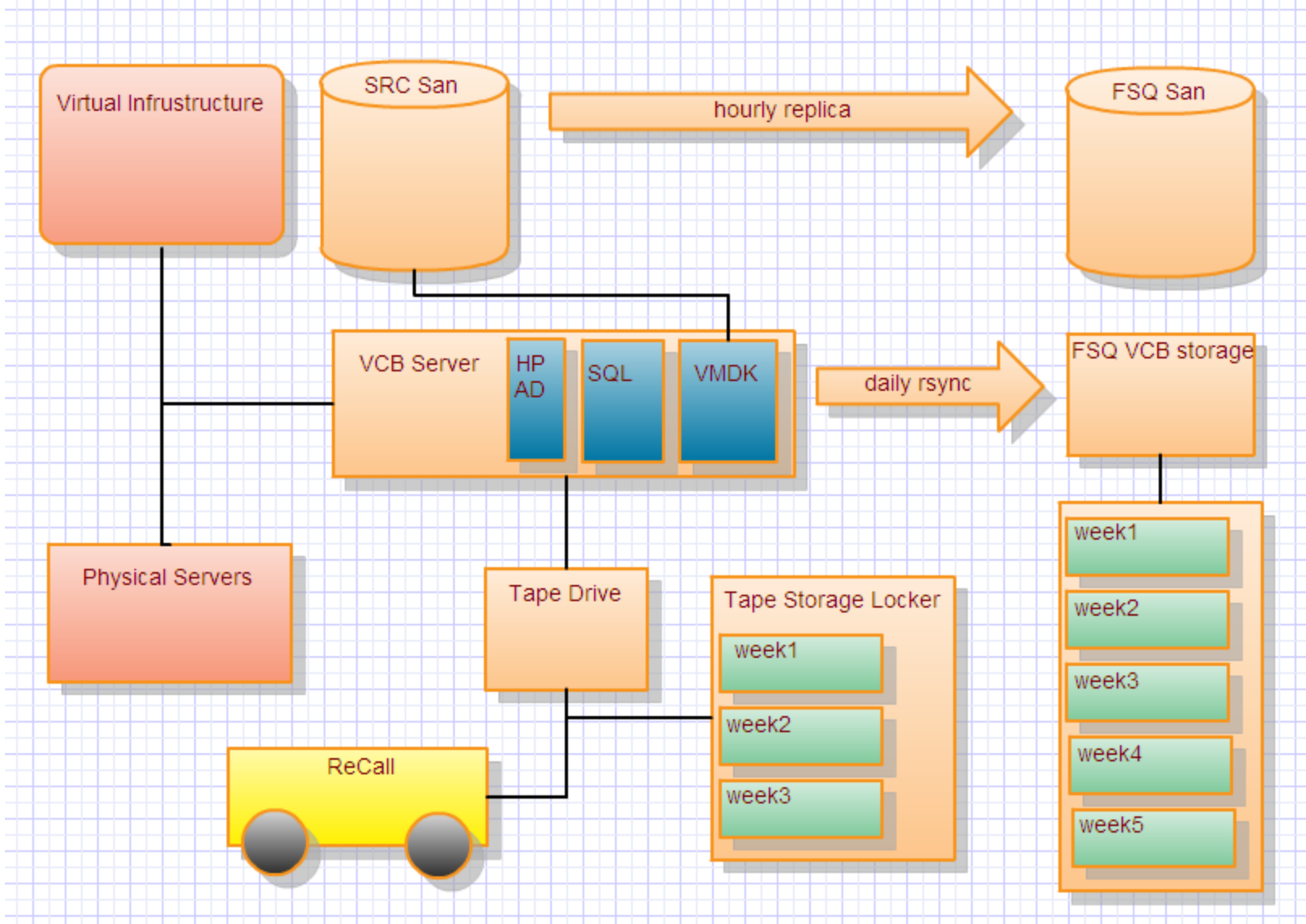
- A deleted spreadsheet is a disaster for accounting.
- A failed datacenter is just a really big restore job.
- A good disaster recovery strategy should encompass all levels of disaster, both large and small.
- Before starting a DR project do an analysis of your assets and liabilities.
- “One size fits all” is an incomplete sentence.

# Our Assets and Liabilities

- Assets
  - A small number of servers (60 or so)
  - A mandate to virtualize everything
  - 1Gb fiber link between main campus and FSQ campus
  - Data loss of up to one hour was acceptable
- Liabilities
  - Tight budget
  - Small staff
  - Lots of data in a wide variety of systems

# The Plan: extending our backups into a DR Solution

- Protect against all disasters
  - Failure of a single or small set of files
    - Microsoft VSS on file server
    - Mail archive
  - Failure of server software
    - Full machine VMDK backup
    - VMWare snapshot
  - Failure of server hardware
    - Virtualized guests 6-hosts
    - Automatic migration between hosts
  - Failure of site
    - Virtualized storage with replication to secondary location
    - Off-site tape storage

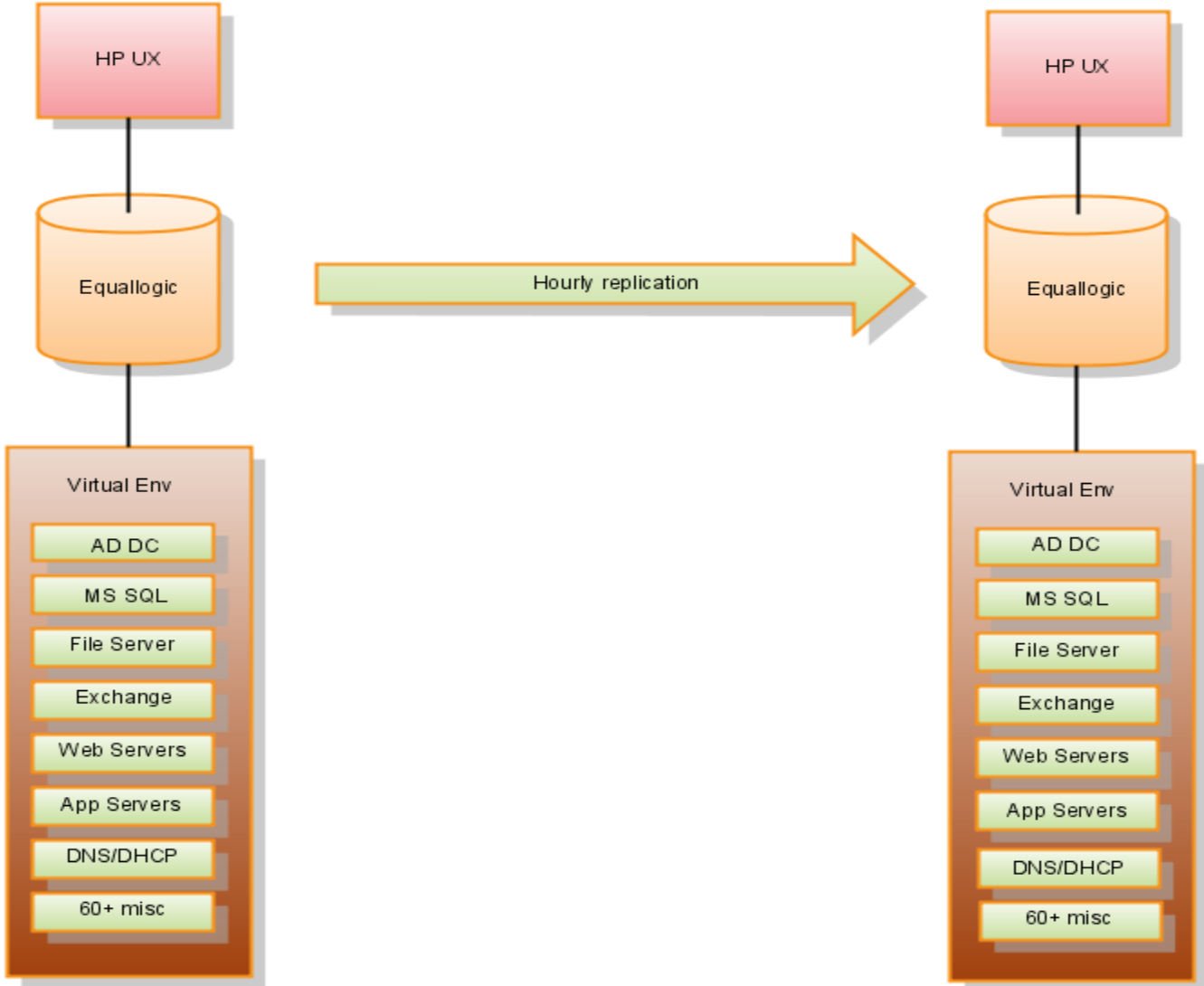


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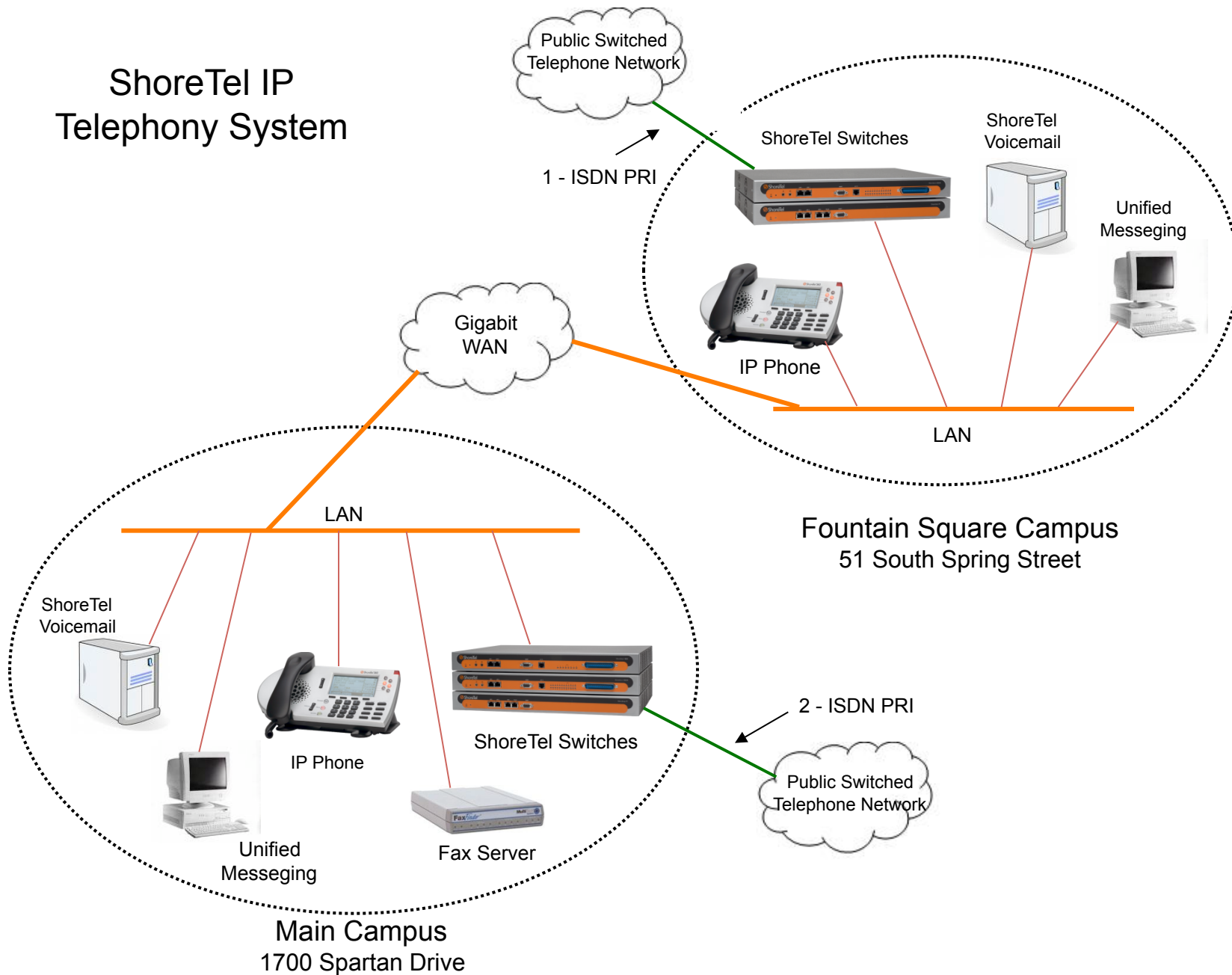
# How virtualization allowed us to extend our backups into a DR solution

- Host based virtualization
  - From 60+ physical servers to 6 VMWare hosts
  - Full machine backups with VCB
  - Automatic migration on host failure
- Storage Virtualization
  - iSCSI SANs from Equallogic, cheap and very effective
  - Full replication of all datastores with an hourly snapshot

# New DR site



# ShoreTel IP Telephony System



# Question and Answer

Thank you for attending!

