The Other Guys

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Current Infrastructure

- Various outdated Compaq 1850R servers
  - ESX 2.5.5 hosts
  - NFS storage server
- Network infrastructure servers
- 24 port 10/100MB switch
- Current infrastructure is outdated
  - Not capable of handling future growth
Current storage & energy consumption

- **Storage capacity:** 5 terabytes
- **Free space:** 15%
- **Used space:** 85%

**Current energy consumption**

- The graph shows energy consumption from Monday to Sunday with peaks on Saturday and Sunday.
- The energy consumption ranges from 0 to 10,000 kilowatts.
Problem Statement

- **Infrastructure can't handle expanding business**
  - Power consumption
  - Heating
  - Equipment takes up too much physical space
  - Equipment has reached end of life
  - Not scalable for future growth
  - No reliable backup solution
  - Legacy software & hardware
  - Infrastructure unable to handle demand
Business Application

- Current infrastructure model we will support
  - Online business
    - Web Hosting
    - Video Streaming
    - Image Sharing
    - Webmail
    - DNS solution
    - Online Storage
Proposed Solution

- Consolidate all equipment onto one server rack
- Upgrade ESXi 4.1 and vSphere
- Make the infrastructure redundant
- Upgrade Network infrastructure to support Gigabit speeds
Hardware

- 5 servers
  - 3 Dell PowerEdge R710 Blade Servers
  - 2 CentOS NFS Servers
- 2 Dell PowerEdge T110 Desktop Servers
- 2 Cisco Catalyst 3750X Switches
- Tape Backup System
Software

- ESXi 4.1 - Hypervisor/middleware
  - VMware Enterprise Plus
- Windows Server 2008 R2 - vCenter Server
- CentOS 5 - NFS Storage Servers
Implementation Plan

- Network Infrastructure Upgrade
- Hardware Upgrade
- Software Upgrade
- Storage vMotion
Expected Results

- Significant increase in load capacity and performance
- Decrease amount of servers from 15 to 5
- Power consumption reduced almost 50%
- Servers, infrastructure and storage capacity leave room for future growth
New storage & energy consumption

- Storage capacity: 50 terabytes
  - 10% Used space
  - 90% Free space

- Energy savings
  - Old
  - New
Recap

• **Problem**
  o The current infrastructure is running at capacity
  o Unable to scale to handle demand
  o Outdated Hardware
  o Expensive electrical bills

• **Solution**
  o Reduce the total number of servers
  o Increase network and storage capacity
  o Update and provide redundancy to the network infrastructure

• **Results**
  o Reduce electrical needs by 50%
  o All equipment consolidated to 1 rack
Questions?