



# IT Management in a Downturn

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## Scope of Review

### ■ Overview

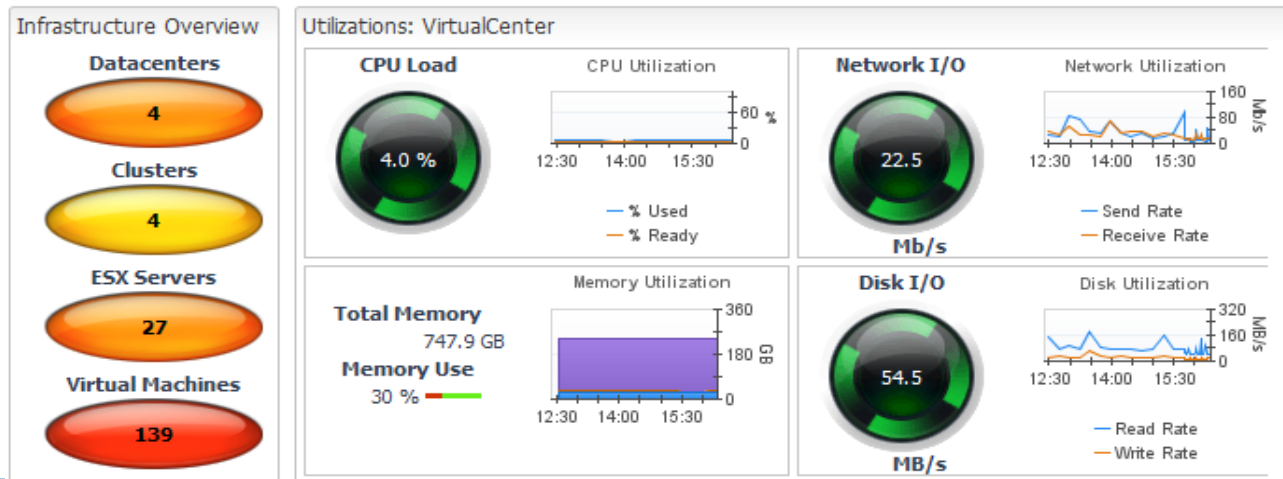
- ◆ Reconfirm business objectives of Service Catalogue
- ◆ Establish measure KPI's
- ◆ Rank order Services for Financial materiality & establish scope of targeted objectives
- ◆ Benchmark Service catalogue against peers

## Data Center Operations

- Two Data Centers in the US with over 230 physical servers along with multiple storage pools housed in 29 racks.
- Very high operational cost due to cooling, power, and floor space consumption. Traditional backups and staffing also contribute to cost structure
- Prior Disaster recovery plan had insufficient systems and technical automation to support the plan's recovery objectives.
- Consolidated the systems within the two Data Centers down to four c7000 Blade Enclosures and 40 BL460 blades connected to two NetApp SANs all housed in 6 racks.
- Lowered operational cost by over 60% with less cooling, power, and floor space consumption. Leveraged SAN technology to lower the cost of backups. Utilizing centralized system management allowed us to improve services with less hands.
- Leveraging the benefits of virtualization and SAN technology we now have the ability to support and meet our DR objectives.

## Virtualization at a Glance

- Each Blade has a dual Intel® Quad core 3.0 GHz w/ 32 GB of Ram.
- Virtualized 179 physical servers onto 20 blades across 2 blade enclosures.
- Average CPU utilization is under 10%
- Average Memory utilization is at 30%
- This leaves considerable resources available for high availability, fail over and additional system growth.



# Data Center Management

- Centralized Management.
- Reduced Scheduled Downtime.
- Dynamically reevaluate and reallocate computing resources
- Improved system fault tolerance with High Availability
- Reduces amount of time needed to run maintenance

Eastern regional datacenter

Summary Virtual Machines Hosts Tasks & Events Alarms Permissions Maps

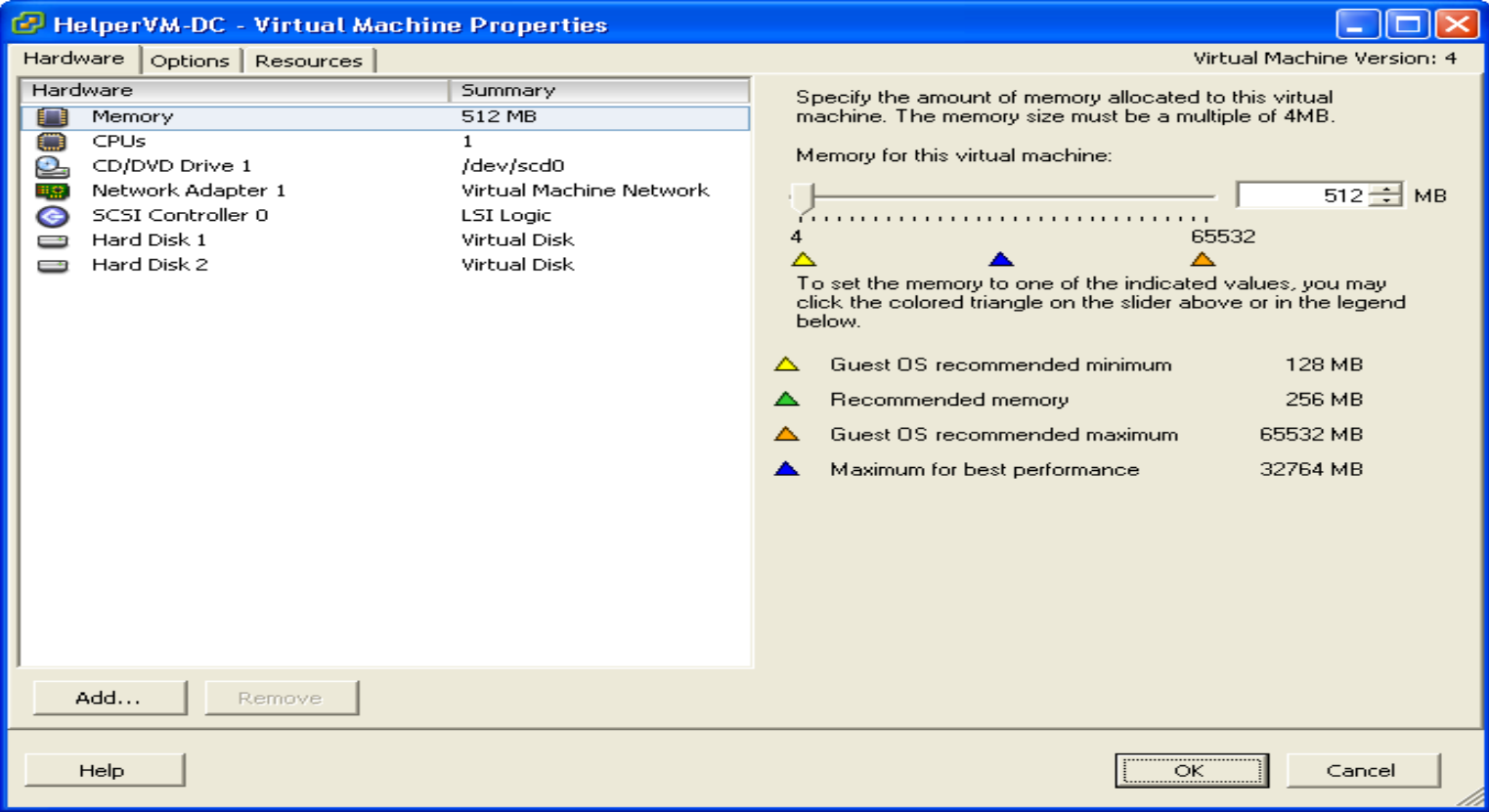
Name, State, Host or Guest OS contains:  Clear

Name	State	Status	Host	Host CPU - MHz	Host Mem - MB
EXCHCAHT01E	Powered ...	○○●	encvmb10e...	353	2919
CTXAPPS14E	Powered ...	○○●	encvmb13e...	823	2177
DEVSPDB01	Powered ...	○○●	vmware01.a...	131	3196
EXCHCAHT02E	Powered ...	○○●	encvmb101e...	157	3594
EVSTMP01E	Powered ...	○○●	encvmb104e...	39	828
DEVSP01	Powered ...	○○●	vmware01.a...	306	1821
erdcvc01e.akingump.com	Powered ...	○○●	encvmb101e...	765	1918
OMTAPP01E	Powered ...	○○●	encvmb11e...	48	670
OMTAPP03E	Powered ...	○○●	encvmb12e...	29	514
AIDMS03E	Powered ...	○○●	encvmb104e...	42	528
ERDCFS01E	Powered ...	○○●	encvmb104e...	62	3616
CTXAPPS13E	Powered ...	○○●	encvmb12e...	427	2382
DEVAIDMS01E	Powered ...	○○●	encvmb11e...	43	385
AIWSCM01E	Powered ...	○○●	encvmb104e...	35	792
OMTDB01E	Powered ...	○○●	encvmb101e...	196	1007
DEVAIAPP01E	Powered ...	○○●	encvmb105e...	38	1531
BES01E	Powered ...	○○●	encvmb104e...	101	556
DEVAIRM01E	Powered ...	○○●	encvmb109e...	111	3089
FFDISTRO01E	Powered ...	○○●	encvmb105e...	92	1056
AVDB02E	Powered ...	○○●	encvmb104e...	121	919
HelperVM-DC	Powered ...	○○●	encvmb12e...	103	272



# Resource Management

- The ability to allocate resources within seconds.



# Environment Reporting

- Single interface for reporting against set metrics
- Key Performance Indicators

▼ Bookmarks  
There are no bookmarks

▼ Homes

- Administration
- Agents
- Alarms
- Chargeback
- Hosts
- Reports**
- Services
- vmExplorer
- Welcome to vFoglight

▼ Dashboards

- Administration
- Alarms
- Applications
- Chargeback
- Foglight
- Hosts
- Integration
- Operating Systems
- Reports
  - Report Manager
  - Reports**
- Services
- vBundle-1
- Virtual
- Configuration

**Reports**

**Run Report**  
Generate a report from the report template list. The resulting report appears in the Generated Reports table.

**Create Report**  
Create a custom report using the report page to extract data for display. Drag views and data elements from the Action Panel, on the right, onto the custom report.

**Schedule Report**  
Schedule a report from the report template list to run at a specific date and time.

**Manage Reports**  
Use the Report Manager dashboard to organize reports hierarchically by module or role. The Report Manager dashboard allows you to create, edit, copy, and schedule reports, test report templates, and delete scheduled and generated reports.

**Generated Reports**

Select All Select None Delete

		Date	Name	View	Size	Template
<input type="checkbox"/>		7/27/09 6:00 AM	ESX server capacity by Virtual Center EAST	PDF	76 KB	ESX Server Capacity by VirtualCenter
<input type="checkbox"/>		7/27/09 6:00 AM	ESX server capacity by Virtual Center WEST	PDF	76 KB	ESX Server Capacity by VirtualCenter
<input type="checkbox"/>		7/27/09 6:00 AM	Server Summary by Virtual Center EAST	PDF	332 KB	Server Summary by VirtualCenter
<input type="checkbox"/>		7/27/09 6:00 AM	Server Summary by Virtual Center WEST	PDF	234 KB	Server Summary by VirtualCenter
<input type="checkbox"/>		7/27/09 6:00 AM	vAll ESX Host DataStores	PDF	91 KB	vAll ESX Host DataStores
<input type="checkbox"/>		7/27/09 6:00 AM	vInventory All ESX Host	PDF	15 KB	vInventory All ESX Host
<input type="checkbox"/>		7/27/09 6:00 AM	vInventory All VMs	PDF	46 KB	vInventory All VMs
<input type="checkbox"/>		7/27/09 6:00 AM	Virtual Asset Tracking by Virtual Center EAST	PDF	7 KB	Virtual Asset Tracking by Virtual Center
<input type="checkbox"/>		7/27/09 6:00 AM	Virtual Asset Tracking by Virtual Center WEST	PDF	7 KB	Virtual Asset Tracking by Virtual Center
<input type="checkbox"/>		7/27/09 6:00 AM	Virtual Infrastructure Event Summary EAST	PDF	623 KB	Virtual Infrastructure Event Summary
<input type="checkbox"/>		7/27/09 6:00 AM	Virtual Infrastructure Event Summary WEST	PDF	347 KB	Virtual Infrastructure Event Summary

## Disaster Preparedness

- Automate Disaster Recovery
- Proven reliable recovery by enabling non-disruptive testing
- Simplify recovery by eliminating complex manual recovery steps and centralizing management of recovery plans



# Disaster Preparedness

- Provide for a Recovery Plan for Physical servers such as Exchange & SQL

The screenshot shows the vConverter software interface. On the left is a Network Browser showing a tree of network locations. The main area is titled 'Conversion Tasks' and shows a task configuration for 'AIX01E (C:, D:)'. The source server is 'AIX01E' (10.254.42.148) and the target server is 'ESX : encdrbl04e.akingump.com' (10.254.44.190). Below this is a table of source drives with columns for Volume, File Sys, Size, Free, and Resizable space. Further down are settings for VM type, name, transfer mode, and synchronization options.

Volume	File Sys	Size, GB	Free, GB	Resize, GB	Folder
<input checked="" type="checkbox"/> C: [Os] - Windows@ 2003 SP2 (x64)	NTFS	30.01	21.08		<Target ...
<input checked="" type="checkbox"/> D: [Apps]	NTFS	106.69	77.69	50.00	<Target ...
<input type="checkbox"/> E:	NTFS	119.88	119.22		<Target ...
<input type="checkbox"/> F:	NTFS	199.90	199.23		<Target ...
<input type="checkbox"/> G:	NTFS	199.90	199.83		<Target ...



## Hard & Soft Benefits

- Reduction in Capital Expenditures
- Reduction in Overhead Expenditures
- Faster service delivery



## eRecords

- Value Propositions are:
  - ◆ Reduce physical footprint & third party storage cost due to paper
  - ◆ Improve search and improve risk management
  - ◆ Introduce life-cycle document & email management best practices

## Print

- Cannot eliminate paper, but can move aggressively on print costs
- Establish peer benchmarks by device and consumables
- Target aggressive device reduction and KPI improvements with vendors



## ITIL Implementation

- Implementing ITIL v.3 practices
- Active use of Service Catalogue ticket information as a source of continuous business improvement
- Set and manage to Tier 1/2/3 service delivery targets – speed of resolution and QoS
- Embrace ticket information as critical management information for service improvement
  - ◆ Part of Training and Knowledge Base bi-monthly reviews
  - ◆ Setting KPI's for each Tier
  - ◆ Driving overall ticket count down, as appropriate

# Security

- Best Practices have been created outside of Legal vertical – no need to recreate the wheel
- Emerging Security practices drawn from NIST and SoX