A Perfect Fit: Converged Solution for the Software-Defined Data Center

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A Perfect Fit: Converged Solution for the Software-Defined Data Center

You’ll hear how Hitachi Unified Compute Platform can simplify managing and operating your entire physical and virtual infrastructure from within one familiar tool, VMware vCenter. We will talk about simple and quick provisioning of the physical infrastructure, automation of day-to-day processes, and unified health and performance monitoring and troubleshooting.

Come learn what’s new in version 3.0 of Hitachi Unified Compute Platform Pro for VMware vSphere and get a sneak preview of what’s coming version 3.5!

Attend this session and learn about:

• Automated non-disruptive firmware updates.
• Service templates (to manage physical and virtual storage as one)—used to deploy bare-metal (Windows and Linux) as well as ESXi hosts or clusters.
• Health and performance monitoring:
  • Topology views.
  • Integrating Hitachi Tuning Manager metrics right into vCenter.
  • VMware vCenter Operations Manager (vCOPS) integration.
• Director operations center:
  • Federated monitoring and management of multiple UCP Pro for VMware vSphere instances.
  • Disaster recovery plugin – protect both virtual and physical environments from within the same interface (protect physical and virtual environments as one).
IT problem

NEXT GENERATION DATA CENTER FOR CLOUD APPLICATION?

10s of hosts 100s of VMs TB of storage Small clusters
100s of hosts 1000s of VMs TB of storage Medium clusters
1000s of hosts 10,000s of VMs PB of storage Large clusters
10,000s of hosts Millions of VMs PB+ of storage Very large clusters

How do you scale With Workload Mobility?
How Do You Insure Operational Simplicity?
How Do You Extend Limit Of System And Datacenter?
DATA CENTER EVOLUTION

Business Drivers
- IT responsiveness to business needs
- Service model
- Lower cost

Benefits
- Dynamic scaling
- Higher utilization
- Secure

Benefits of DATA CENTER EVOLUTION:

- More cost effective
- More efficient
- More responsive
- More flexible

Business Drivers:
- IT responsiveness to business needs
- Service model
- Lower cost
Infrastructure Convergence is Here

40% of larger enterprises are planning to deploy some manner of converged system in the short to medium term

“Converged Systems” revenue will grow at 54.7% CAGR … “General Purpose IT” revenue growth will be effectively flat for the same period (2011-2016).

Enterprises Are Gaining Competitive Advantage With Data Center Modernization
Unified Compute Platform Pro Overview
SIMPLIFY TRANSITION TO PRIVATE CLOUD

- Scale server, network and storage
- Automate end-to-end operations
- Deploy in < 5 days
- Run virtualized or non virtualized
- One source for your support
- Data protection

Hitachi UCP Pro
One Platform For All Workloads

- Microsoft® Exchange Server
- Citrix XenDesktop
- SAP
- Custom Apps
- Microsoft SharePoint®
- VMware Horizon View
- Oracle Database
- Microsoft SQL Server

UCP

Hypervisor | Operating System
--- | ---
Compute Blades
IP and SAN Networks
Storage plus DR and Backup
UCP Director
Infrastructure Orchestration Software

Turnkey Solution

Infrastructure Elements

HCSM (Virtual Machine Cloud Management)
HDvM (Virtual Infrastructure Management)
Network Manager

VMware

vSphere 5  vCenter

UCP Director

Server  Storage  Network
More Productivity

Deep access to converged infrastructure from VMware tools

- vCenter Server
- vCenter Operations Manager

- Provision each converged element
- Monitor elements and components
- Intelligent remediation

UCP Director

- Server
- Network
- Storage
Full Parity across GUI, API and CLI

- REST API and CLI for integration with existing data center tools and processes
- Flexibility and user interaction consistency

vSphere VI-Client  vSphere Web Client  vCenter Operations Manager  CLI and REST API

REST API and CLI

Compute-on-Demand  Storage-on-Demand  Network-on-Demand
UCP Director Overview

- Deep integration into vSphere
- Unified virtual and physical inventory, provisioning, operations, and monitoring

Inventory  Provision  Operate  Monitor
Provision both virtual and bare metal

Bare-Metal Provisioning

vSphere Cluster Provisioning

Inventory
Provision
Operate
Monitor
Image Management

Additional Storage Configuration

Template Name: Window Server 2012 R2 Hyper-v

Volumes

<table>
<thead>
<tr>
<th>Action</th>
<th>LDEV</th>
<th>Volume Name</th>
<th>Pool ID</th>
<th>Capacity</th>
<th>ID</th>
<th>Port Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create on Deploy</td>
<td>1</td>
<td></td>
<td>1</td>
<td>5.00 GB</td>
<td>Automatic</td>
<td></td>
</tr>
</tbody>
</table>
Provisioning Storage
### Provisioning Network

#### VMware vSphere Web Client

**Configure Cluster Network: Cluster01**

<table>
<thead>
<tr>
<th>Host Port Configuration</th>
<th>Ethernet Switch Port Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current</strong></td>
<td><strong>Current</strong></td>
</tr>
<tr>
<td>Uplink Port</td>
<td>VLAN IDs</td>
</tr>
<tr>
<td>vSphere Compute 1</td>
<td>98-100-102</td>
</tr>
<tr>
<td>vSphere Compute 2</td>
<td>98-100-102</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Final</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Uplink Port</td>
</tr>
<tr>
<td>vSphere Compute 1</td>
</tr>
<tr>
<td>vSphere Compute 2</td>
</tr>
</tbody>
</table>

**Assigned Tag**

This list is empty.

### Hitachi UCP Director

#### Cluster01

**Actions**

- Add Host...
- Move Hosts into Cluster...
- New Virtual Machine...
- New vApp...
- New Resource Pool...
- New Datastore...

**Deploy OVF Templates**

**Attach Host Profiles**

**Move To...**

**Rename...**

**Assign Tag...**

**Alarms**

**All vCenter Actions**

**Update Manager**

### Inventory

- Resource Pools: 0
- VApps: 0
- Virtual Machines: 0

### Provision

### Operate

### Monitor
Tasks logged in vCenter

Created/reused the following Fibre channel zone(s): Port0_r1_hi_cb500_1_b04_pod1_local_CTL1C_HUS150_10_21_97_252, Port0_r1_hi_cb500_1_b04_pod1_local_CTL0E_HUS150_10_21_97_252 for the following fabric: Fabric A.

Created/reused the following Fibre channel zone(s): Port1_r1_hi_cb500_1_b04_pod1_local_CTL1E_HUS150_10_21_97_252, Port1_r1_hi_cb500_1_b04_pod1_local_CTL0F_HUS150_10_21_97_252 for the following fabric: Fabric B.

Volume: LU.D850MH.93042290.12 was successfully created in pool 1.

Task: Create a new volume and attach it to a host.
Automated firmware updates

NON-DISRUPTIVE FIRMWARE UPDATES

- Guided management block update
  
  All updates are fully qualified before shipping

- Update chassis, blade and switches firmware from within vSphere

Firmware for all switches in the inventory will be updated sequentially, one path at a time. Custom boot servers and ESXi hosts will lose connectivity during firmware update if they do not have redundant Ethernet access configured. Are you sure you want to update firmware for all Ethernet switches listed in the inventory?

Yes  No
Topology Views
Manage multiple UCP systems

UCP Director Operations Center

Health Monitoring

Seamless Migration

Disaster Recovery Management

Data center 1

Data center 2

Inventory  Provision  Operate  Monitor
Disaster recovery with ease

Best of breed Hitachi DR and VMware SRM

Easy to set up.
Error free

Enterprise class replication and DR
Performance Monitoring
vCops

Monitor

Inventory

Provision

Operate

Monitor
Alarm Definitions

Monitor

Inventory

Provision

Operate

Monitor

Hitachi - Server CPU temperature problem - Edit

Specify the actions to take when the alarm state changes:

<table>
<thead>
<tr>
<th>Action</th>
<th>Configuration</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Send a notification email</td>
<td><a href="mailto:serveradmin@pdi.local">serveradmin@pdi.local</a></td>
<td>Once</td>
</tr>
<tr>
<td>2. Send a notification email</td>
<td><a href="mailto:serveradmin@pdi.local">serveradmin@pdi.local</a></td>
<td>Once</td>
</tr>
<tr>
<td>3. Enter maintenance mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Send a notification email</td>
<td><a href="mailto:serveradmin@pdi.local">serveradmin@pdi.local</a></td>
<td>Once</td>
</tr>
</tbody>
</table>

Repeat actions every: 5 minutes.

Email sender is not configured.
To receive an email when the alarm triggers, configure vCenter Server and set the mail sender.

Back  Next  Finish  Cancel

vCenter Server

Summary  Monitor  Manage  Related Objects

vCenter Server

Alarm Definitions
Secure Access management

User roles and privileges are managed through vCenter
System and deployment
Hitachi Compute blade 500

ENTERPRISE CLASS HIGH AVAILABILITY ON INTEL X86 ARCHITECTURE

• Highest efficiency and uptime
• High-density computing, massive throughput
• Embedded LPAR logical partitioning
• Latest Intel Xeon x86 processor

Highest customer satisfaction of any x86 vendor*

* IDC Japan “CY2012 Research for Japanese x86 server vendor’s support”   IDC #J12220104   2012.3
CHOICE OF enterprise-grade storage

LEGENDARY STORAGE RELIABILITY

Intelligent and powerful enterprise storage
Virtualization, high performance and massive connectivity

Enterprise-class in a modular package

Leading price/performance in a modular array

..or, connect to your existing storage
Choice of enterprise-grade networking

Cisco or Brocade Ethernet switches

Brocade fibre channel switches
On Demand Converge infrastructure

ON DEMAND SERVERS
- Ethernet Brocade or Cisco IP Network
- FC Brocade SAN
- Hitachi Compute Blade CB500 with vSphere 5.1
- Management Server CR210

ON DEMAND STORAGE
- Hitachi VSP, HUS-VM or HUS Storage

ON DEMAND Networking

Start small and grow your infrastructure quickly and easily with UCP Director Software
Summary
Oxya: SAP Hosting Services Customer

Customer Overview:
• SAP hosting service provider to nearly 100,000 users
• 250 technical consultants and IT specialists

■ Challenges:
  – Rapid deployment to meet customers needs
  – Meet high availability required by their clients
  – Operational efficiencies

■ Competitor could not deliver:
  – Simplified provisioning (with one tool)
  – End-to-end monitoring
  – Resiliency and scale to meet customer demand

■ Solution – Hitachi UCP Pro:
  – Pre-configured for fast deployment
  – Unified management provided rapid provisioning
  – Ability to scale with business needs
“Hitachi is a perfect example of how converged infrastructure vendors should be approaching customer’s expectations for management tooling.”

“This approach to integration hits right at the core of the expected benefit of converged infrastructure.”

“What makes Hitachi’s approach impressive is that they have chosen to aggregate operational data from each of the converged platform components. Having this single source of data greatly simplifies the complexity of the integration, but more importantly it helps drive a user interface design that truly reflects the converged nature of the platform.

“The combination of Hitachi’s UCP Director and vCenter Operations Management Pack for UCP Director allow converged infrastructure IT staff to operate much more efficiently. They will be able to use just one integrated management tool where historically as many as seven would have been needed.
Hitachi UCP Pro

Additional Information

http://www.hds.com/go/vmware
http://www.youtube.com/HDScorp
Questions and Discussion
Upcoming WebTechs

- **WebTechs**
  - A Perfect Fit: Converged Solution for the Software-Defined Data Center, February 26, 9 a.m. PT, noon ET

- **Check [www.hds.com/webtech](http://www.hds.com/webtech) for**
  - Links to the recording, the presentation, and Q&A (available next week)
  - Schedule and registration for upcoming WebTech sessions
  - Questions will be posted in the HDS community at [http://community.hds.com/groups/webtech](http://community.hds.com/groups/webtech)