

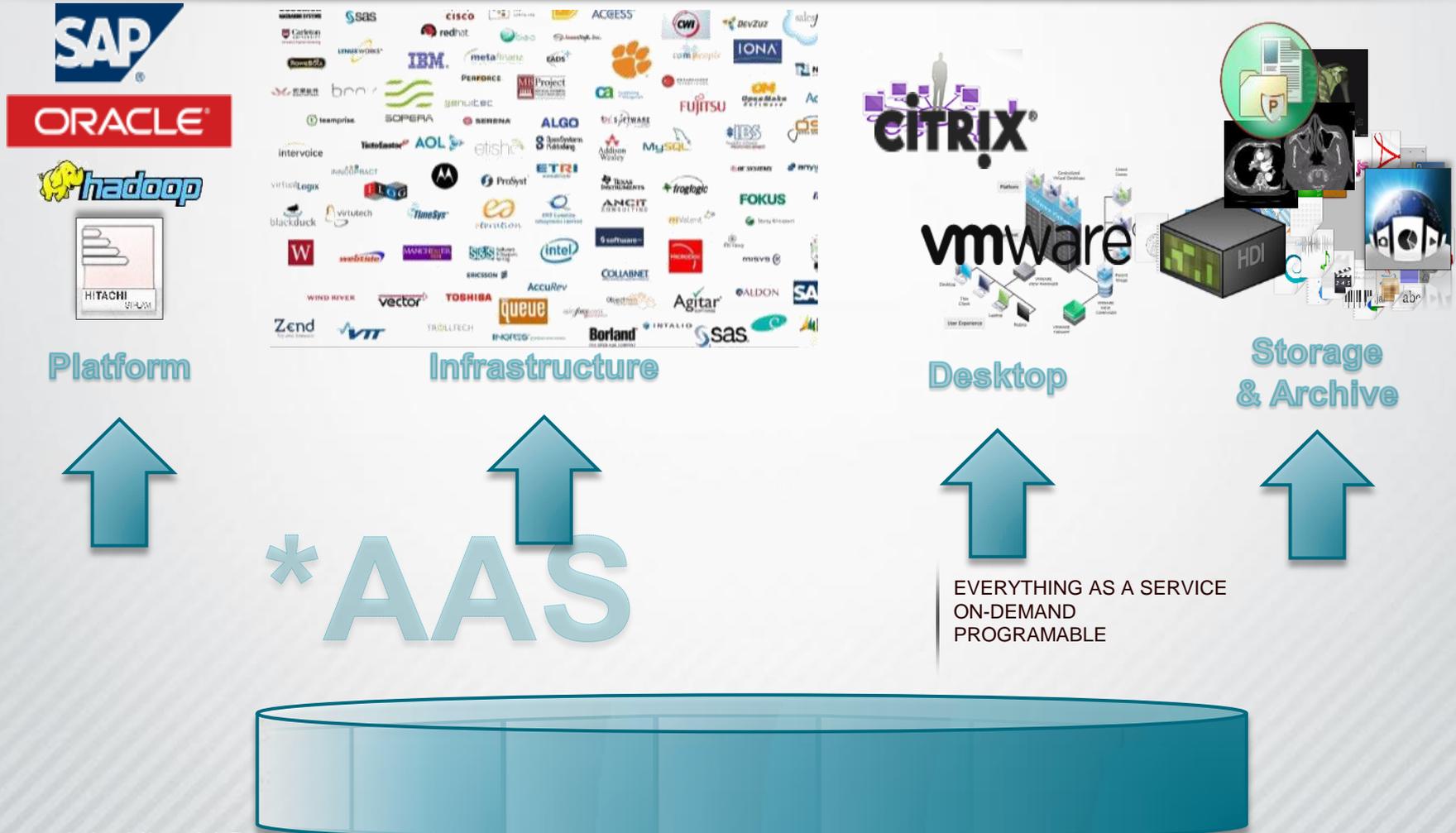
# HITACHI UNIFIED COMPUTE PLATFORM

## *NEXT-GEN CONVERGED INFRASTRUCTURE SOLUTIONS FOR MISSION-CRITICAL WORKLOADS*

Frank Tenambergen  
*Special Engagement Manager Norway*



## 1: EVERYTHING AS A SERVICE



## 2: MANAGEMENT ABSTRACTION

### CLOUD MANAGEMENT FRAMEWORKS



## 3: PROGRAMMABLE INFRASTRUCTURE

MANAGEMENT

ELEMENTS



PROGRAMMABLE CONTROL

```
allocate.Compute ()  
allocate.Storage ()  
allocate.Net ()
```

RESTful  
OpenStack  
CloudStack  
CDMI  
Applications  
Virtual Machines  
Computing  
Networking  
Storage

# INFRASTRUCTURE CHALLENGES FOR DIFFERENT ENVIRONMENTS

**HITACHI**  
Inspire the Next

## MANY APPS ON VMS / CLOUD

### MANAGEMENT COMPLEXITY & COST

- *Deployment complexity*
- *Low utilization of resources*
- *No end-to-end provisioning*
- *Multiple handoffs*
- *High cost of operations*

## CORE MISSION CRITICAL APPS

### NEED TO MAINTAIN STRINGENT SLAs

- *Time to deploy*
- *Uptime limitations*
- *Cost of performance and scaling*
- *Vendor lock in*
- *Licensing cost*

eCommerce  
CRM

Healthcare  
Data Warehouse

Utility  
Services

Manufacturing  
ERP



**MANY APPS ON VMS / CLOUD**

**CORE MISSION CRITICAL APPS**

# Hitachi UCP

Virtual DC / Private Cloud

**Pro**

Solutions for Specific Applications

**Select**

eCommerce  
CRM

Healthcare  
Data Warehouse

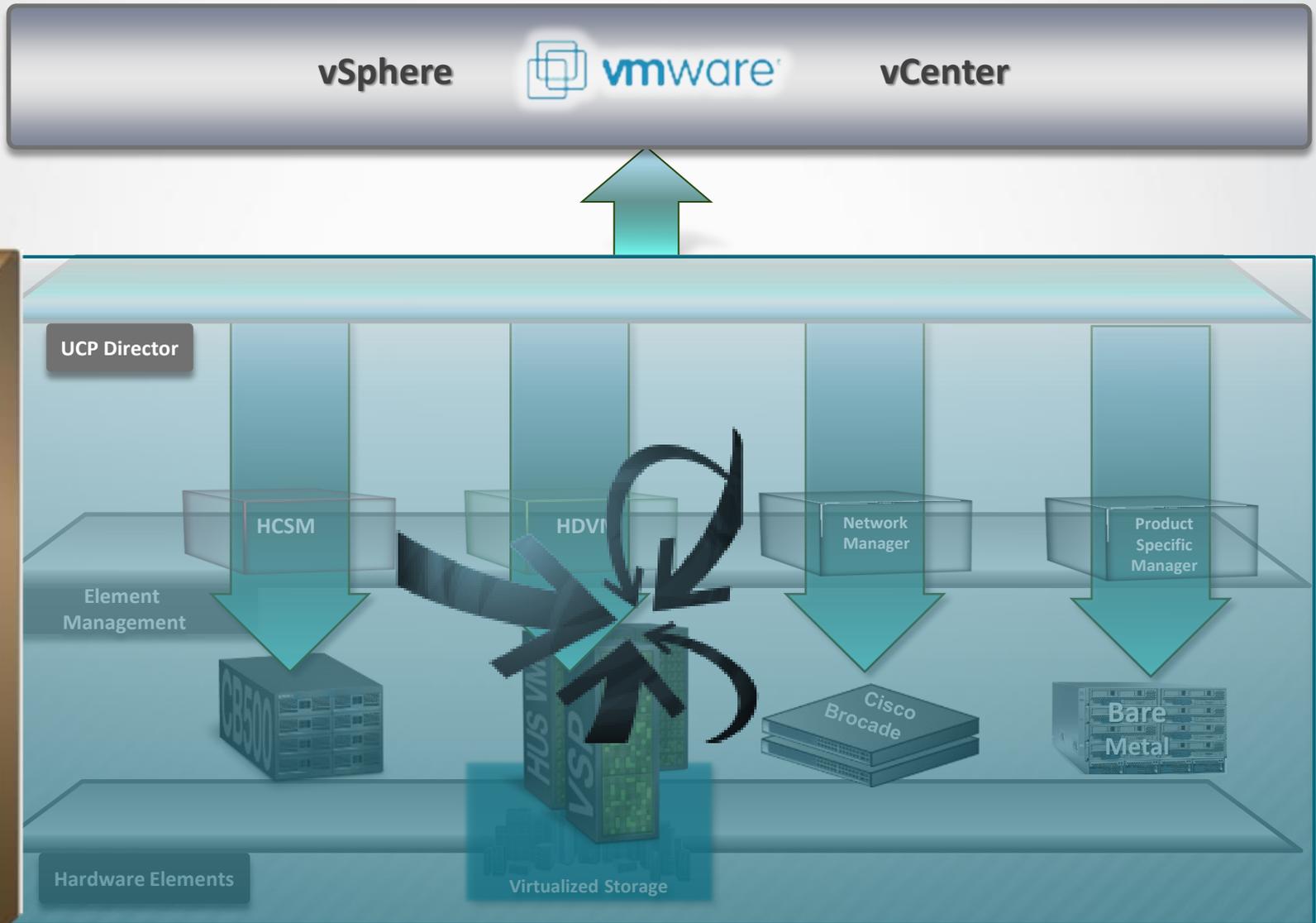
Utility  
Services

Manufacturing  
ERP

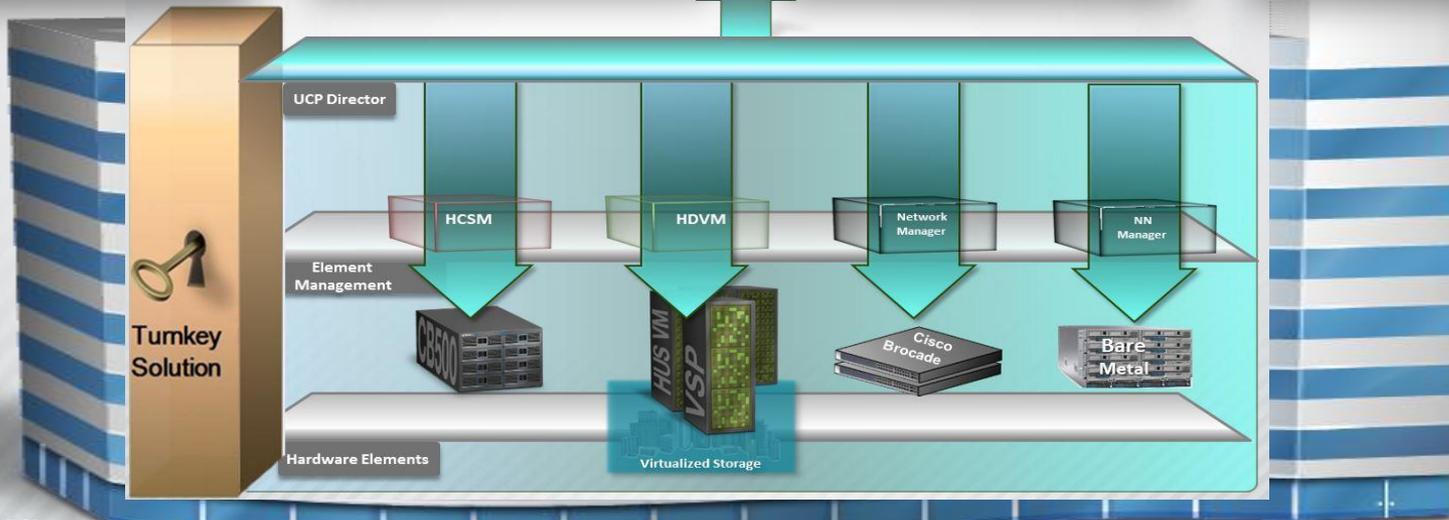
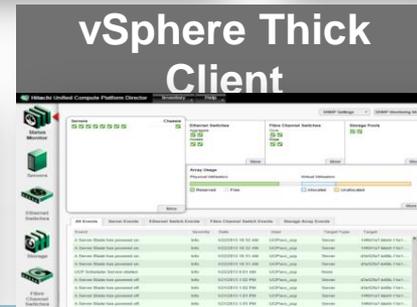
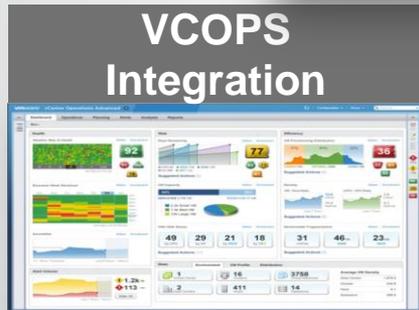
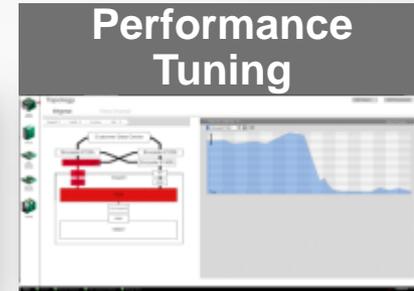
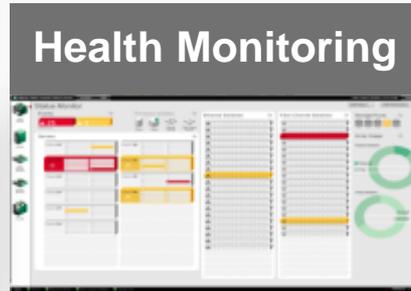


# Never Change a Winning Team

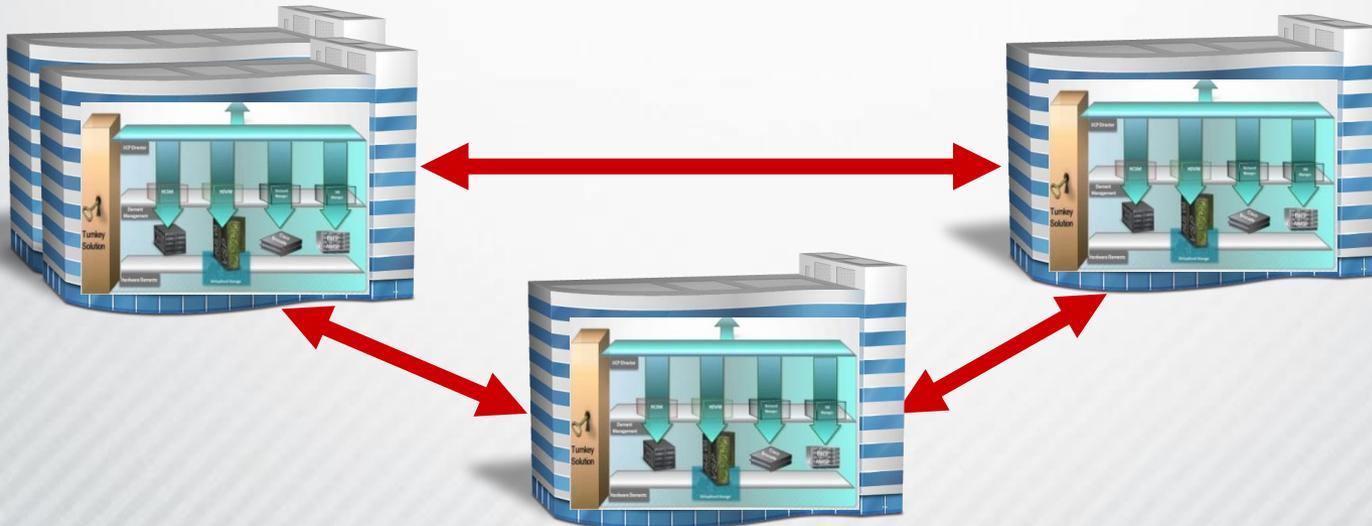
# HARDWARE AND SOFTWARE DESIGNED TO WORK TOGETHER

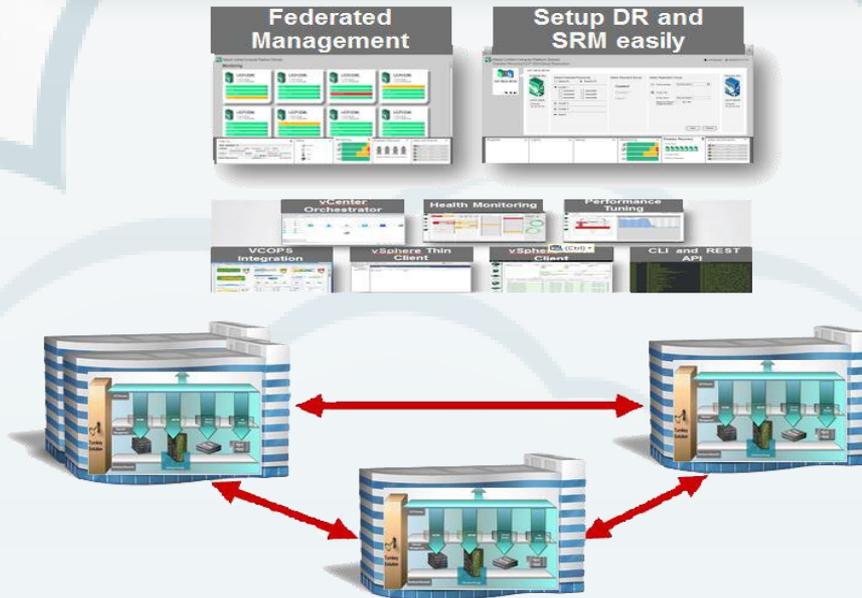
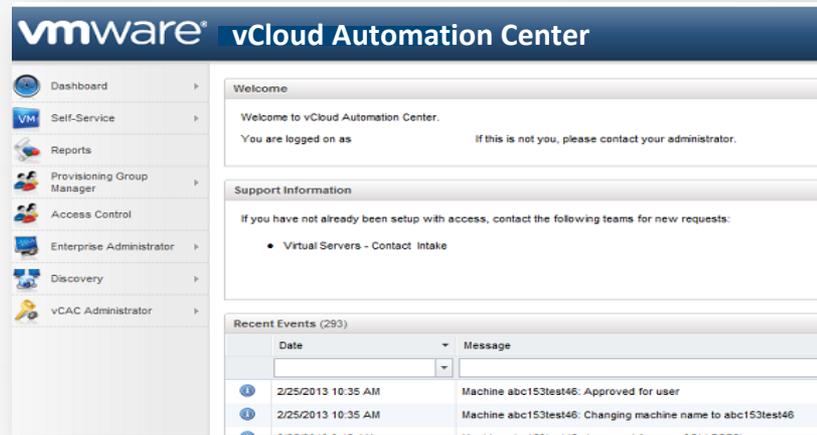


# UCP MANAGEMENT



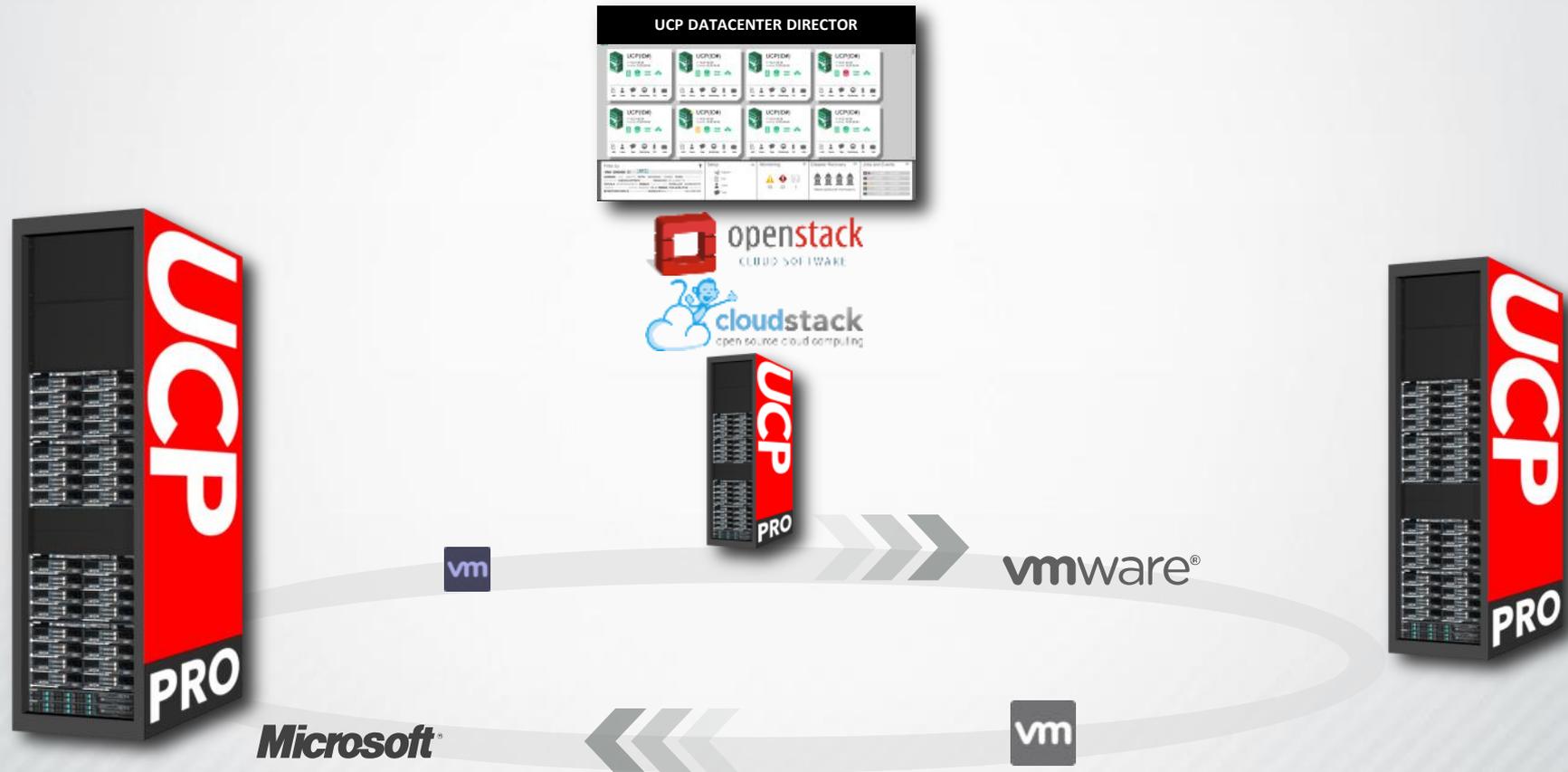
# MULTI-DATACENTER MANAGEMENT





# ALL INTEGRATED IN ONE SYSTEM

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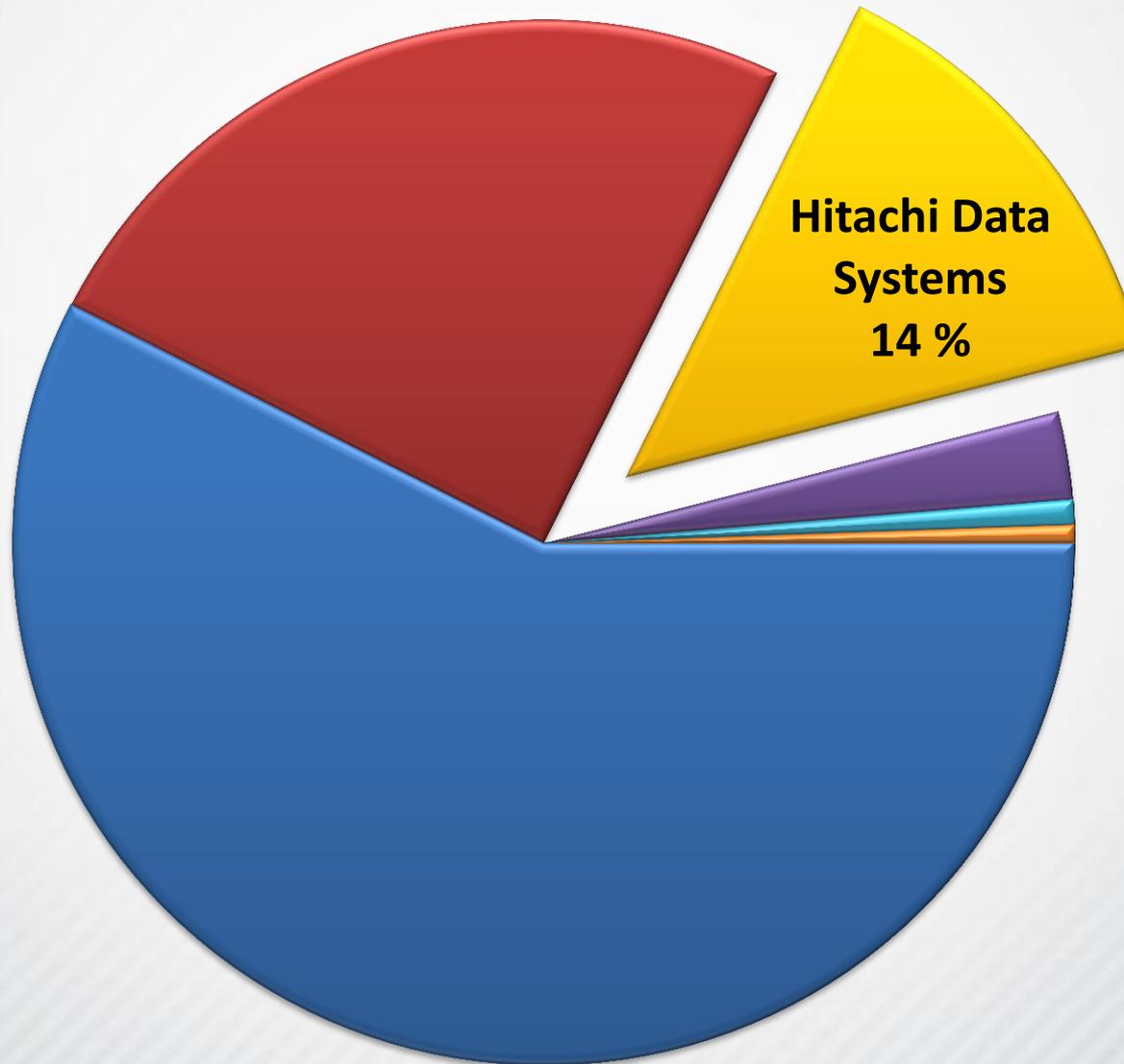


VM MIGRATION BETWEEN MICROSOFT SYSTEM CENTER, VMWARE vSPHERE AND OPEN SOURCE PLATFORMS ACROSS UCP PROs

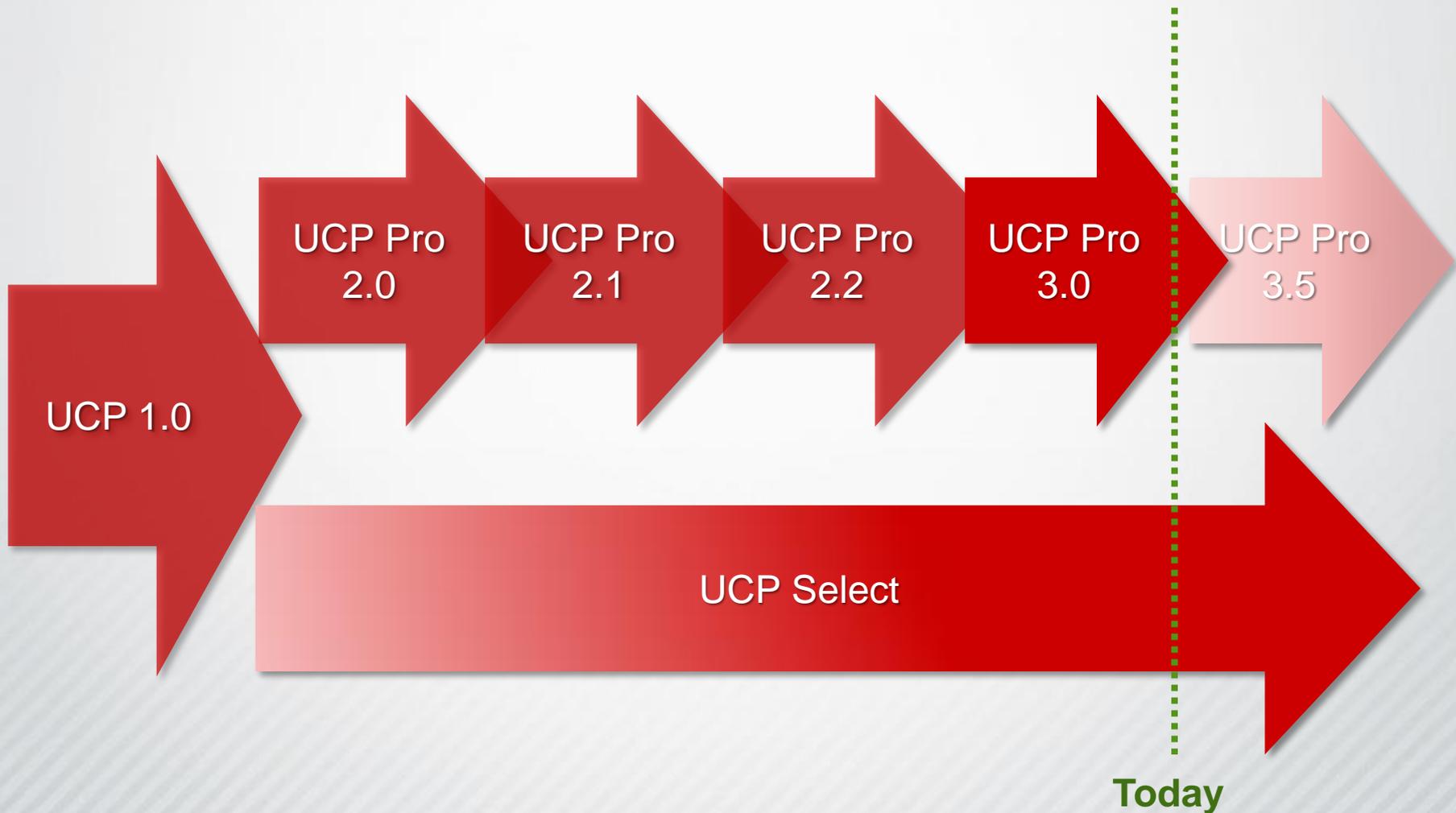
# Always build on a Rock Solid Platform

# MARKET SHARE: INTEGRATED INFRASTRUCTURE SYSTEMS

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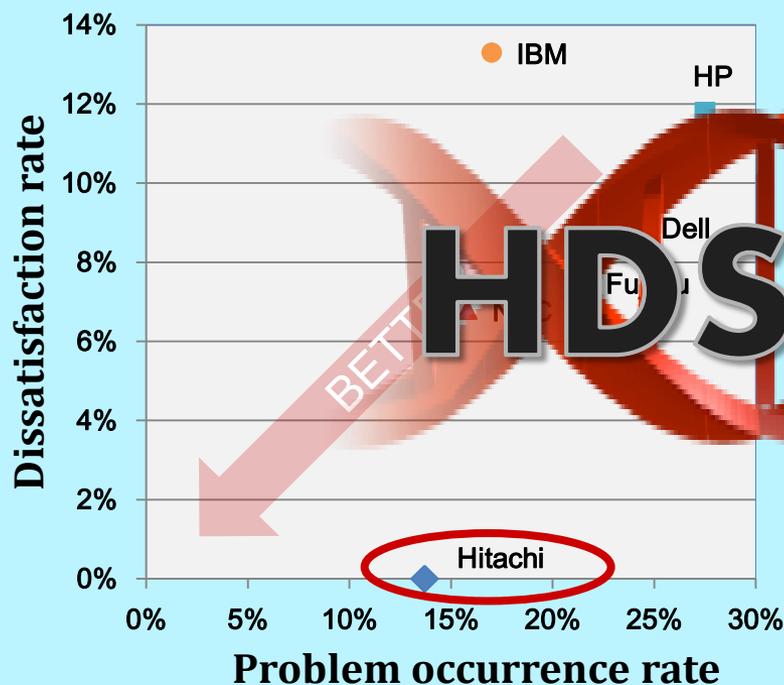


Source: Gartner  
Market Share Analysis: Data Center Hardware Integrated Systems, 1Q11-2Q12  
Copyright Hitachi Data Systems 2013  
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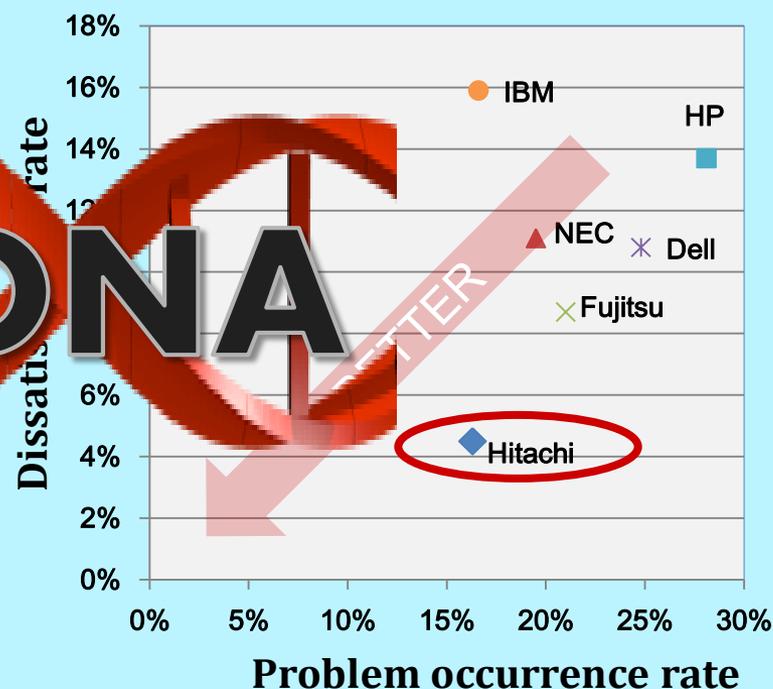


Hitachi servers have the lowest problem occurrence and highest satisfaction rates among X86 vendors

**Problems at Installation**



**Problems after 1 Week**



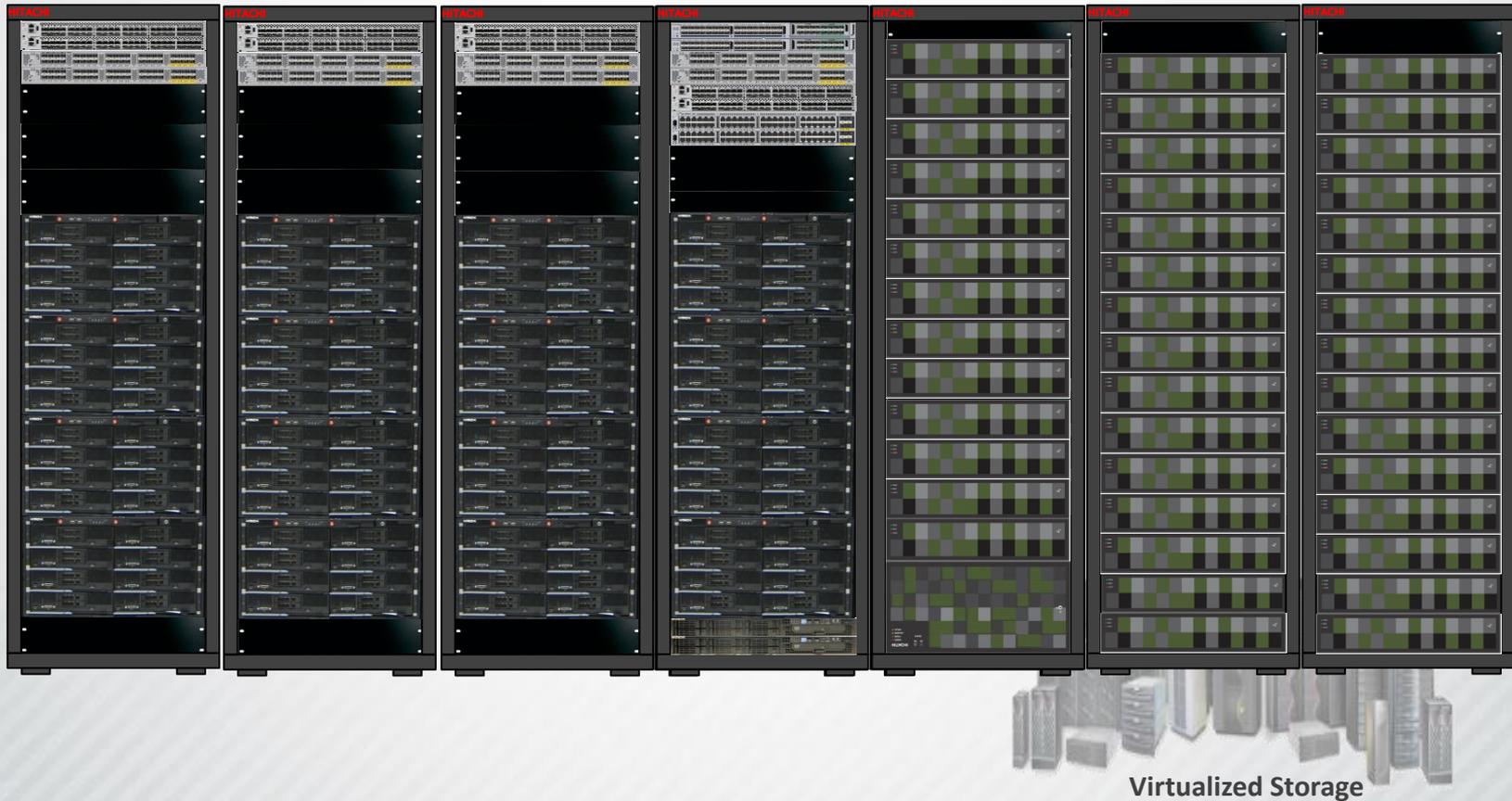
Reference: IDC Japan "CY2012 Research for Japanese x86 server vendor's support" IDC #J12220104 2012.3

Note: Problem occurrence rate includes the problems of hardware, OS, drivers, application and interoperability.

# **Expand from Small to Large Enterprise in the Same System**

**No Interrupt and No Need for «Forklift»**

UCP Pro - expansion up to 128 blades - **NO FORKLIFT!**



# **Simplicity and Predictability**

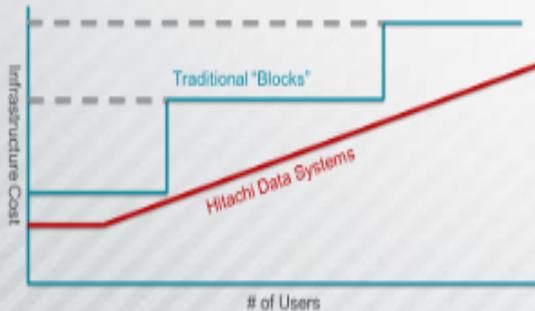
**Reduce Opex and Capex**



- Blade: CPU Performance



- Disk: Storage Capacity



- Capacity On Demand,  
Pay as You Grow

### Taking the example of an Oracle query from a real customer proof of concept



### Number of used cores (Relevant aspects of Oracle licenses, power consumption, cooling, etc)



### List price of the used configuration (Total cost included maintenance over 3 years)



# Time to Market is EVERYTHING

Collect customer requirements

- **Networking**
  - Cisco, Brocade, production IP
- **Compute**
  - CPU and RAM configuration
- **Storage**
  - Configuration and total capacity



Total time:  
varies according to customer



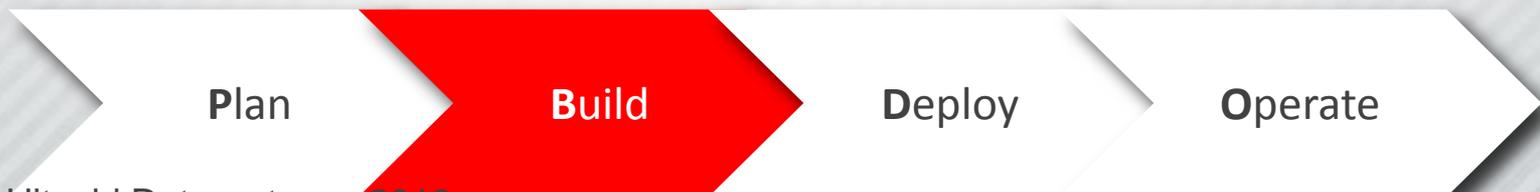
Customer requirements passed to Distribution Center

## Hardware

- Rack and stack
- Configure
- Validate



Total time: 1 – 3 weeks





UCP Pro systems are delivered to customer site

- **Connect power**
- **Re-validate systems**
- **Connect to customer network**
- **Configure software**

Total time: 2 – 3 days



vmware vSphere Web Client | ucpadmin@ucp.local | Help | Search

UCP Status Monitor

Hitachi Unified Compute Platform Director

SNMP Settings | SNMP Monitoring Mode

**Servers** [6 green checkmarks] **Chassis** [1 green checkmark]

**Ethernet Switches**  
 Aggregate [2 green checkmarks]  
 Access [2 green checkmarks]

**Fibre Channel Switches**  
 Core [2 green checkmarks]  
 Edge [2 green checkmarks]

**Pools** [3 green checkmarks]

**Storage Array Utilization**

**Physical Utilization**  
 Reserved (54.35 GB) | Free (4.66 TB)

**Logical Utilization**  
 Allocated (1.47 TB) | Unallocated (283.00 GB)

**All Events** | Server Events | Ethernet Switch Events | Fibre Channel Switch Events | Storage Array Events

Description	Severity	Date Time	User	Target Type	Target
UCP has updated inventory details for storage	info	3/6/2013 10:34 AM	UCPlucpadmin	None	
UCP inventory details for storage array and s	info	3/6/2013 10:34 AM	UCPlucpadmin	None	
UCP Scheduler Service fail to start schedule	error	3/6/2013 10:33 AM	UCPlucpadmin	None	
UCP has successfully updated the inventory	info	3/6/2013 10:33 AM	UCPlucpadmin	HCSM	http://10.21.45.167:23015/ComputeSystem

**Recent Tasks**  
 All | Running | Failed  
 Refresh server invento [green checkmark]  
 vcenter.ucp.local  
 Refresh server invento [green checkmark]  
 vcenter.ucp.local

**Work In Progress**  
 Add Host  
 Deploy OVF ...

**Alarms**  
 All (...) | Ne... | Ack...

Plan

Build

Deploy

Operate



**ONE PLATFORM AND  
SINGLE MANAGEMENT  
FOR ALL  
APPLICATIONS**

