Cisco Unified Computing Systems

The hardware for Virtualization & Cloud

Chakrit Visaltanachoti, System Engineer
cvisalta@cisco.com
Virtualization has been promised as the answer. However, virtualization solutions to date may only address part of the problem, but has done so by increasing operational expenses, infrastructure complexity, and risk.
Customers Have Spoken
Cisco Joins Computing’s Top Tier

UCS momentum is fueled by game-changing innovation
Cisco is quickly passing established players in fastest growing segment of x86 computing market

UCS #3 with 10.5%

UCS After Two Short Years

5400 UCS Customers WW

Source:  
1 IDC Worldwide Quarterly Server Tracker, Q1 2011, May 2011  
2 IDC Q4 CY10 Server Forecaster, 2010-2015 CAGR of x86 Blade Servers
Demand for data center innovation has vaulted Cisco Unified Computing System (UCS) to the #3 leader in the fast growing segment of the x86 server market.

Customers have shifted over 10% of the global x86 blade server market to Cisco and nearly 20% in the US.

Market appetite for Innovation fuels UCS growth.

They Said It Couldn’t Be Done.
Cisco Nexus 1000V and VN-Link

- VM-Aware Networking Services
  - Rich feature set and a strong roadmap
  - NX-OS feature richness and consistency
  - 802.1Q complaint
- Efficient operational model
- No compromises for server or network team
- Licensed over 1M virtual ports

“The [N1KV] is a god send…the Price Waterhouse Coopers auditor even commended us on our VM Mngt and Security Strategy.”

NetworkWorld.com 23 Apr 10
Cisco Unified Computing System

Over 1,700 UCS Customers
40+ ISVs Developing to UCS via API
Over 250 B-Series Certified Partners
10 World Record Benchmarks
Overlay Transport Virtualization
Ethernet Encapsulated Over IP

- Seamlessly extend the LAN between data centers
- Ideal for long distance vMotion and Site Recovery Manager
- Brings operational transparency to VM IP address management
- Dynamic/automated – connections between data centers established on the fly

Available with the Nexus 7000
Server Deployment Today
Unified Fabric & Unified Computing
A 1000 words…

From ad hoc and inconsistent... …to structured, but siloed, complicated and costly... …to simple, optimized and automated
UCS: Architecture for Scaleable Virtualization

- Single, scalable integrated system
- Network + compute virtualization
- Dynamic resource provisioning
UCS: Architecture for Scaleable Virtualization

- Single, scalable integrated system
- Network + compute virtualization
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UCS: Architecture for Scaleable Virtualization

- Single, scalable integrated system
- Network + compute virtualization
- Dynamic resource provisioning
Cisco Unified Computing System

One Logical Chassis to Manage*

- LAN Connectivity
- SAN Networking
- Blade Chassis’
- Server Blades
- Rack Servers
- Server Identity Management
- Monitoring, Troubleshooting
  etc.

*architectural limit of 320 servers with 160 servers supported as of 1.4(1)

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UCS Fabric Topologies: Chassis Bandwidth Options

- 2x 1 Link: 20 Gbps per Chassis
- 2x 2 Link: 40 Gbps per Chassis
- 2x 4 Link: 80 Gbps per Chassis
- 2x 8 Links: 160 Gbps per Chassis
Fabric Ports: Discrete vs. Port Channel Mode

- **160 Gb (Discrete Mode)**
  - Servers can only use a single 10GE IOM uplink
  - Bandwidth range per blade - 0 to 20 Gb
  - A blade is pinned to a discrete 10 Gb uplink
  - FabricFailover if a single uplink goes down
  - Per blade traffic distribution, same as Balboa
  - Suitable for traffic engineering use case
  - Addition of links requires chassis re-ack.

- **160 Gb (Port Channel Mode)**
  - Servers can utilize all 8x 10GE IOM uplinks
  - Bandwidth range per blade – 0 to 160 Gb
  - A blade is pinned to a logical interface of 80 Gbps
  - FabricFailover if all uplinks on same side go down
  - Per flow traffic distribution with-in a port-channel
    - Suitable for most environments
  - Addition of links does not require chassis re-ack.
    - Recommended with VIC 1280
Server Connectivity De-evolution

The simplicity of the rack mount design

Full Server Visibility
Server Connectivity De-evolution

Connectivity complexity of the mini-rack design

We traded network visibility and simplicity for the benefits of blades…

Poor Server Visibility
Server Connectivity De-evolution

Obscurity & Complexity of blade+virtual design

As if that wasn’t bad enough… then we gave up even more visibility and simplicity for the benefits of virtualization.

Very Poor Server Visibility

Very Poor Server Visibility
Cisco’s Server Connectivity Revolution
Chassis Remote Line Cards Eliminate Blade Complexity
Cisco’s Server Connectivity Revolution
Chassis Remote Line Cards Eliminate Blade Complexity

Improved Server Visibility

LAN

Switch
Supervisor Module
External Backplane
Remote Line card

Hypervisor

Blade Chassis

Virtual Machine 1
OS
Eth0

Virtual Machine 2
OS
Eth0

Virtual Machine 3
OS
Eth0

Virtual Machine 4
OS
Eth0
Cisco’s Server Connectivity Revolution

Chassis Remote Line Cards Restore Visibility to Blades
Cisco’s Server Connectivity Revolution

Server Remote Line Cards Restore Visibility to VMs

LAN

Supervisor Module

Switch

External Backplane

Remote Line card

Ethernet 0

Virtual Machine 1

OS

Virtual Machine 2

OS

Virtual Machine 3

OS

Virtual Machine 4

OS

Blade Chassis

Full Server Visibility
Cisco’s Server Connectivity Revolution

UCS Design Provides Best of Both Worlds

Rack Mount Design
- No Blade Server Benefits
- No Virtualization Benefits
  - Full Host Visibility
  - Simple Network Design
- No Mini-rack Complexities
- Clear Demarcation Between Server and Network

Legacy Blade Design
- Blade Server Benefits
- Virtualization Benefits
  - Limited Host Visibility
  - Complex Network Design
  - Mini-rack Complexities
- No Clear Demarcation Between Server and Network

Cisco UCS Design
- Blade Server Benefits
- Virtualization Benefits
  - Full Host Visibility
  - Simple Network Design
- No Mini-rack Complexities
- Clear Demarcation Between Server and Network
Cisco Fabric Extender Concept
Port Extender (Pre-standard 802.1Qbh)

Legacy multi-tier architecture

FEX architecture

Collapse networking tiers, reduce network management points!!!
4 Deployments of Cisco’s FEX Technology

#1 Rack FEX
Nexus 5k + Nexus 2k

#2 Chassis FEX
UCS 6k + UCS 2k

#3 Adapter FEX
UCS 6k + VIC

#4 VM-FEX
UCS 6k + VIC + VM Mgmt Link
VN-Link Brings VM Level Granularity

**Problems**

- VMotion may move VMs across physical ports—policy must follow
- Impossible to view or apply policy to locally switched traffic
- Cannot correlate traffic on physical links—from multiple VMs

**VN-Link**

- Extends network to the VM
- Consistent services
- Coordinated, coherent management
Cisco Nexus 1000V
Industry First 3rd Party Virtual Distributed Switch

- Nexus 1000V provides enhanced VM switching for VMW ESX environments

- Features VN-Link capabilities:
  - Policy-based VM connectivity
  - Mobility of network and security properties
  - Non-disruptive operational model

- Ensures visibility and continued connectivity during VMotion

Enabling Acceleration of Server Virtualization Benefits
 VN-Link & Hypervisor Bypass

- Virtual interfaces in hardware
- Visibility direct to VM
- SPAN VM to VM traffic
- Consistent network policy application

- Direct Pass through
- Same Virtual & Physical driver
- Reduced CPU utilization
- Lower Latency
- Higher bandwidth

VN-Link

Hypervisor

Virtual Machine Virtual Machine Virtual Machine

Hypervisor Bypass

Virtual Machine Virtual Machine Virtual Machine
VN-Link in Hardware Modes

**Emulated Mode**
- Each VM gets a dedicated PCIe device
- 12%-15% CPU performance improvement
- Appears as distributed vNetwork switch to hypervisor
  - vMotion supported

**VMDirectPath or PCIe Pass-Thru**
- Co-exists with Standard mode
- Bypasses Hypervisor layer
- 30% improvement in I/O performance
- Appears as distributed vNetwork switch to hypervisor
- vMotion supported with ESX4.1 U1
UCS 1280 VIC

**Customer benefits**

- Dual 4x 10 GE (80 Gb per host)
- VM-FEX scale, up to 112 VM interfaces /w ESX 5.0

**Feature details**

- Dual 4x 10 GE port-channels to a single server slot
  - Host connectivity PCIe Gen2 x16
  - PCIe Gen 2 x16 bandwidth limit is 32 Gbps
  - HW Capable of 256 PCIe devices
    - OS restriction apply
- PCIe virtualization OS independent (same as M81KR)
- Single OS driver image for both M81KR and 1280 VIC
  - FabricFailover supported
- Eth hash inputs: Source MAC Address, Destination MAC Address, Source PPrt, Destination Port, Source IP address, Destination IP address, P address and VLAN
  - FC Hash inputs: Source MAC Address, Destination MAC Address, FC SID and FC DID

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Cisco VIC Benchmark Workload

Two ESX hosts in a single UCS Domain

Each host has up to 24 VMs

Each blade configured with VIC in VN Link & DirectPath mode (24 vNICs)

24x bi-directional concurrent file transfers across both fabrics

VMs transfer large files via HTTP to peer on other host
Virtual Interface Card: Benchmark Results

Network Throughput

<table>
<thead>
<tr>
<th>MB/s</th>
<th>8 VM Pairs</th>
<th>16 VM Pairs</th>
<th>24 VM Pairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypervisor vSwitch</td>
<td>2500</td>
<td>3000</td>
<td>3500</td>
</tr>
<tr>
<td>VN Link in HW w/ Hypervisor Bypass</td>
<td>3000</td>
<td>3500</td>
<td>4000</td>
</tr>
</tbody>
</table>

Time to Complete Task

<table>
<thead>
<tr>
<th>Time (s)</th>
<th>8 VMs</th>
<th>16 VMs</th>
<th>24 VMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypervisor vSwitch</td>
<td>5000</td>
<td>6000</td>
<td>7000</td>
</tr>
<tr>
<td>VN Link in HW w/ Hypervisor Bypass</td>
<td>6000</td>
<td>7000</td>
<td>8000</td>
</tr>
</tbody>
</table>
Optimizing Memory with the Xeon 5600

**Classic**
- 12 DIMMs
- Max 96GB
- Higher Performance

**Or**
- 18 DIMMs
- Max 144GB
- Lower Performance (800 MHz)

**Cisco UCS With Memory Expansion**
- 48 DIMMs
- Max 384GB
- Higher Performance (1333 MHz)
# Memory Expansion Technology for Improved Application Performance

## Cisco Memory Expansion Technology

<table>
<thead>
<tr>
<th>Next-gen Intel processor</th>
<th>Reduce infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x the memory: up to 384GB</td>
<td>Less power &amp; cooling</td>
</tr>
<tr>
<td>100% standard</td>
<td>Increase performance for memory bound applications</td>
</tr>
<tr>
<td>DIMMs, CPUs</td>
<td></td>
</tr>
<tr>
<td>OS, Apps</td>
<td></td>
</tr>
</tbody>
</table>

- **Savings:**
  - Power
Oracle RAC Database Consolidation with Cisco UCS

Cisco UCS Extended Memory Technology Lowers TCO for Oracle RAC OLTP Applications

Solution Overview

- Server sprawl—100s of database servers
- Each with dedicated LAN, SAN and Storage
- CPU underutilized; Limited memory capacity
- Demonstrates consolidation of multiple database onto a single UCS server
- Oracle RAC/Database used in implementation
  - Compares B200 and B250 platforms

Performance Results

- Cisco UCS Extended Memory Technology
- Lowers TCO for Oracle RAC OLTP Applications
- B200—96GB memory
- B250—192GB memory
- 20% higher performance at 20%+ lower I/O
- Consolidation of storage and network resources resulting in optimized infrastructure

Cisco UCS Benefits

- Demonstrates strong benefit of extended memory technology
- 20% higher performance at 20%+ lower I/O
- Consolidation of storage and network resources resulting in optimized infrastructure

20% higher performance at 20%+ lower I/O
Lower TCO through consolidation
Microsoft Exchange 2010 on Cisco UCS M1 and M2 Series

Mail Box Server Performance

M1 Series

<table>
<thead>
<tr>
<th>Number of Mailboxes</th>
<th>UCS B200 M1</th>
<th>UCS B250 M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory limited @ 96GB</td>
<td>9,250</td>
<td>13,400</td>
</tr>
<tr>
<td>HT ON</td>
<td>+105%</td>
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</table>

M2 Series

<table>
<thead>
<tr>
<th>Number of Mailboxes</th>
<th>UCS B200 M2</th>
<th>UCS B250 M2</th>
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<tr>
<td>Memory limited @ 96GB</td>
<td>9,250</td>
<td>19,200</td>
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<td>HT ON</td>
<td>+176%</td>
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UCS extended memory delivers up to 176% better performance

<table>
<thead>
<tr>
<th>CPU</th>
<th>Xeon X5570</th>
<th>Xeon X5570</th>
<th>Xeon X5570</th>
<th>Xeon X5680</th>
<th>Xeon X5680</th>
<th>Xeon X5680</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>96GB (12x8GB)</td>
<td>192GB (48x4GB)</td>
<td>192GB (48x4GB)</td>
<td>96GB (12x8GB)</td>
<td>192GB (48x4GB)</td>
<td>384GB (48x8GB)</td>
</tr>
<tr>
<td>Utilization</td>
<td>CPU available; Mem maxed</td>
<td>Balanced</td>
<td>Balanced</td>
<td>CPU available; Mem maxed</td>
<td>Balanced</td>
<td>Balanced</td>
</tr>
<tr>
<td>HT</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
</tr>
</tbody>
</table>

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Server Consolidation with Cisco UCS M1 and M2 Series

<table>
<thead>
<tr>
<th>Legacy server (Single-core)</th>
<th>UCS B200 M1</th>
<th>UCS B250 M1</th>
<th>UCS B200 M2</th>
<th>UCS B250 M2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Bare-metal</td>
<td>Virtualized</td>
<td>Virtualized</td>
<td>Virtualized</td>
</tr>
<tr>
<td>Xeon X5570</td>
<td>Xeon X5570</td>
<td>Xeon X5680</td>
<td>Xeon X5680</td>
<td>Xeon X5680</td>
</tr>
<tr>
<td>Memory</td>
<td>96GB (12x8GB)</td>
<td>384GB (48x8GB)</td>
<td>96GB (12x8GB)</td>
<td>384GB (48x8GB)</td>
</tr>
<tr>
<td>Utilization</td>
<td>CPU @20%</td>
<td>CPU available, Mem maxed</td>
<td>CPU maxed, mem @44%</td>
<td>CPU available, Mem maxed</td>
</tr>
<tr>
<td># VMs</td>
<td>13</td>
<td>20</td>
<td>13</td>
<td>29</td>
</tr>
</tbody>
</table>

UCS Extended memory enables twice the level of consolidation
# Real Innovation = Real Results

40+ World Records and Counting

<table>
<thead>
<tr>
<th>Q2 CY09</th>
<th>Q1 CY10</th>
<th>Q3 CY10</th>
<th>Q4 CY10</th>
<th>Q4 CY10</th>
<th>Q2 CY11</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECjbb2005 X86/64 2-socket B200 M2</td>
<td>SPECOPL base2001 4-socket C2460 M1</td>
<td>SPECjbb2005 X86/64 2-socket B230 M1</td>
<td>VMmark 2.1 2 -socket-Blade B200 M2</td>
<td>SPECInt_rate200 6 Cisco UCS C460 M2</td>
<td>VMmark 2.1 C460 M2</td>
</tr>
<tr>
<td>SPECOPL base2001 2-socket B200 M2</td>
<td>SPECOMPM base2001 4-socket C2460 M1</td>
<td>SPECjbb2005 X86/64 2-socket B230 M1</td>
<td>VMmark 2.1 2 -socket-Blade B200 M2</td>
<td>SPECCompLbase2001 C460M2</td>
<td></td>
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<tr>
<td>SPECCOMPM base2001 2-socket B200 M2</td>
<td>LS-Dyna 4-socket C460M1</td>
<td>SPECjAPPserver 2004 2-node B230 M1</td>
<td>SPECjEnterprise 2010 Overall B440 M1</td>
<td>SPECCompMba2001 C460 M2</td>
<td></td>
</tr>
<tr>
<td>SPECfp_rate_base 2006 X86/64 2-socket B200 M2</td>
<td>SPECjbb2005 X86/64 4-socket C460 M1</td>
<td>Oracle E-business Suite Medium Model Order to Cash B200M2</td>
<td>SPECInt Enterprise Suite Medium Model payroll Batch B200M2</td>
<td>SPECCompLba2001 B230 M2</td>
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<td>SPECInt_rate_base 2006 X86/64 2-socket B200 M2</td>
<td>SPECfp_rate_base 2006 X86/64 4-socket C460 M1</td>
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<td>SPECOMPL base2001 2-socket B200 M2</td>
<td>SPECInt_rate2006 Cisco UCS C460 M2</td>
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<td>SPECfp_rate_base 2006 X86/64 2-Socket B200 M1</td>
<td>SPECjAPPserver 2004 single node 2-socket C250 M2</td>
<td>SPECInt_rate_base 2006 X86/64 4-socket C460 M1</td>
<td>Oracle E-business Suite Ex-large Model payroll Batch B200M2</td>
<td>SPECInt_rate_base2006 C260 M2</td>
<td></td>
</tr>
<tr>
<td>SPECInt_rate_base 2006 X86/64 2-Socket B200 M1</td>
<td>2-socket VMmark B250 M2</td>
<td>VMmark Overall C460 M1</td>
<td>VMmark 1-Blade C460 M1</td>
<td>SPECInt_rate_base2006 C260 M2</td>
<td></td>
</tr>
<tr>
<td>2-socket server VMmark B200 recapture</td>
<td>VMmark Overall C460 M1</td>
<td>VMmark 1-Blade C460 M1</td>
<td>VMmark 1.1 2 -socket-Blade B230 M1</td>
<td>SPECInt_rate_base2006 C260 M2</td>
<td></td>
</tr>
<tr>
<td>2-socket server VMmark B200 recapture</td>
<td>LinPack 2-socket B200 M2</td>
<td>VMmark 1-Blade B440 M1</td>
<td>SPECjbb2005 X86/64 2-socket B230 M1</td>
<td>SPECfp_rate_base2006 C260 M2</td>
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<tr>
<td>2-socket VMmark B200 M1</td>
<td>SPECjbb2005 X86/64 2-socket B230 M1</td>
<td>VMmark 2.0 Overall B200 M2</td>
<td>SPECfp_rate_base2006 C260 M2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cisco Unified Computing System Powered by the Intel Xeon Processor E7 Family Claim Nine World Records on Industry-Standard Benchmarks

Performance Brief
April 2011

### Highlights

**Nine World Records**
- Cisco captures nine world records on industry benchmarks on the same day that Intel announces the Intel® Xeon® processor E7 family

**Intel Xeon Processor E7 Family**
- The processors provide power and reliability for business-critical solutions with data protection through pervasive encryption

**Broad Range of Performance**
- This world-record performance demonstrates the breadth of Cisco’s product line and the way in which Cisco Unified Computing System™ can accelerate performance across the data center—delivering raw computing power for individual servers, high-performance computing (HPC) grids, powering Java application servers, and the most complex virtualization and cloud-computing workloads

**Broad Range of Server Products**
- Cisco offers nine blade and rack-mount servers to power a range of workload requirements, all in the first converged system based on industry-standard, x86-architecture servers

<table>
<thead>
<tr>
<th>Server</th>
<th>Processor</th>
<th>Benchmark</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco UCS C460 M2 High-Performance Rack-Mount Server</td>
<td>Intel Xeon processor E7-4870</td>
<td>SPECint®_rate_base2006</td>
<td>1030 Best x86 4-Socket Server</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VMware® VMmark™ 2.1</td>
<td>16.68@18 tiles Best Result of Any Server</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPECmp®_lbase2001</td>
<td>727,635 Best 4-Socket Server</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPECmpMbase2001</td>
<td>115,176 Best 4-socket Server</td>
</tr>
<tr>
<td>Cisco UCS C260 M2 Rack-Mount Server</td>
<td>Intel Xeon Processor E7-2870</td>
<td>SPECjbb®2005</td>
<td>1,335,019 bops Best 2-Socket Server</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPECInt_rate_base2006</td>
<td>526 Best x86 2-Socket Server</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPEClp_rate_base2006</td>
<td>365 Best x86 2-Socket Server</td>
</tr>
<tr>
<td>Cisco UCS B230 M2 Blade Server</td>
<td>Intel Xeon Processor E7-2870</td>
<td>SPECmpLbase2001</td>
<td>378,522 Best 2-Socket Server</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPECmpMbase2001</td>
<td>67,926 Best x86 2-Socket Server</td>
</tr>
</tbody>
</table>
Integrated Stateless Computing

Attributes no longer tied to physical hardware
- Not just identity
- Seamless server mobility
- Within interconnect domain

Dynamic Provisioning
- Complete infrastructure repurposing
- Integrated with 3rd part tools
Hardware Abstraction – UCS does for the hardware what hypervisors do for the OS

- Pools, policies and isolation
- Separate firmware, addresses, and parameter settings from server hardware
- Physical servers become interchangeable hardware components

Easy to move OS & applications across server hardware
Dynamic Data Center with Service Profiles

<table>
<thead>
<tr>
<th>Workload</th>
<th>Server Capacity Needed</th>
<th>Server HW HA</th>
<th>Total Servers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oct</td>
<td>Nov</td>
<td>Dec</td>
</tr>
<tr>
<td>Web Servers</td>
<td>5</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Oracle RAC</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>VMware</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Today’s Deployment:
- Provisioned for peak capacity
- Spare node per workload

Total Server Deployment
18 Servers
Key Features: Stateless Computing

Old Deployment:

Web Servers
- Blade
- Blade
- Blade
- Blade
- Blade
- Blade
- Blade
Cisco’s Deployment:
- Resources provisioned based on business need
- Still HA with fewer spares

Oracle RAC
- Blade
- Blade
- Blade
- Blade
- Blade
- Blade
- Blade

VMware
- Blade
- Blade
- Blade
- Blade
- Blade
- Blade
- Blade

Total Server Deployment
14 Servers
Reduction of Four Servers
22% CapEx Savings
## UCS Compute Options

<table>
<thead>
<tr>
<th>Blade</th>
<th>Rack Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B200 M2</strong></td>
<td><strong>C200 M2</strong></td>
</tr>
<tr>
<td>2-Socket Intel 5600, 2 SFF Disk, 12 DIMM</td>
<td>2-Socket Intel 5600, 4/8 Disks, 12 DIMM, 2 PCIe 1U</td>
</tr>
<tr>
<td><strong>B250 M2</strong></td>
<td><strong>C210 M2</strong></td>
</tr>
<tr>
<td>2-Socket Intel 5600, 2 SFF Disk, 48 DIMM</td>
<td>2-Socket Intel 5600, 16 Disks, 12 DIMM, 5 PCIe 2U</td>
</tr>
<tr>
<td><strong>B230 M2</strong></td>
<td><strong>C250 M2</strong></td>
</tr>
<tr>
<td>2-Socket Intel E7-2800, 2 SSD, 32 DIMM</td>
<td>2-Socket Intel 5600, 8 Disks, 48 DIMM, 5 PCIe 2U</td>
</tr>
<tr>
<td>Updated</td>
<td><strong>C260 M2</strong></td>
</tr>
<tr>
<td><strong>B440 M2</strong></td>
<td>4-Socket Intel E7-4800, 4 SFF Disk, 32 DIMM</td>
</tr>
<tr>
<td>Updated</td>
<td>2-Socket Intel E7-2800, 16 Disks, 64 DIMM, 6 PCIe 2U</td>
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<tr>
<td><strong>C250 M2</strong></td>
<td><strong>C460 M2</strong></td>
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<tr>
<td>2-Socket Intel E7-4800, 12 Disks, 64 DIMM, 10 PCIe 4U</td>
<td>4-Socket Intel E7-4800, 12 Disks, 64 DIMM, 10 PCIe 4U</td>
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<tr>
<td><strong>C460 M2</strong></td>
<td>Coming Soon</td>
</tr>
<tr>
<td>4-Socket Intel E7-4800, 12 Disks, 64 DIMM, 10 PCIe 4U</td>
<td>4-Socket Intel E7-4800, 12 Disks, 64 DIMM, 10 PCIe 4U</td>
</tr>
</tbody>
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Updated

Coming Soon
Thank You