

Comstor™



Cisco® Unified Computing

With Intelligent Intel® Xeon® Processors



- Leading Application Performance
- Lower Cost of Computing
- Real IT Innovation

Manage Integrated Infrastructure

Cisco UCS Director Software Automate integrated infrastructure orchestration and management



Manage Multiple Domains Worldwide

Cisco UCS Central Software Manage multiple domains on the same campus or worldwide



Manage a Single Domain



Cisco UCS® Manager
Scale up to 160 blade or rack servers in a single management domain

XML Application Programming Interface



Graphical User Interface



Cisco SingleConnect Technology

Connect LAN, SAN, and management networks and physical and virtual servers with one physical connection



Cisco UCS 5108 Blade Server Chassis



Cisco UCS 2200 Series Fabric Extenders Scale without complexity



Cisco UCS 6200 Series Fabric Interconnect Single point of connectivity and management



Cisco UCS 6300 Series Fabric Interconnect Single point of connectivity and management for integrated UCS or UCS mini solutions



Optional Cisco Nexus® 2232PP 10GE Fabric Extenders



Cisco R-Series Racks

CISCO DIRECTCONNECT TECHNOLOGY

Leap into Data Center

Cisco Integrated Infrastructure

Accelerates and simplifies application deployment



FlexPod

VCE Vblock™ System



Cisco Solutions for EMC VSPeX



Nimble Storage SmartStack



Cisco Solutions for Hitachi UCP Select



Scale Out



Cisco UCS B22 M3

Enterprise Class



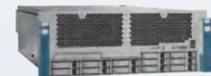
Cisco UCS B200 M3



Cisco UCS B420 M3



Cisco UCS C460 M4



Cisco UCS C460 M2

Mission Critical



Cisco UCS B230 M2



Cisco UCS C260 M2

Enterprise Class



Cisco UCS C420 M3



Cisco UCS C240 M3



Cisco UCS C220 M3

Scale Out



Cisco UCS C22 M3



Cisco UCS C24 M3

CISCO UCS® B-SERIES BLADE SERVERS

CISCO UCS® C-SERIES RACK SERVERS

Solid-State Application Acceleration



Cisco UCS Invicta C3124SN Nodes



Cisco UCS Invicta Scaling System

Cisco UCS Invicta C710SR Routers



Cisco UCS Invicta C3124SA

CISCO UCS® INVICTA™ SERIES

EDGE

For more information about Cisco Unified Computing System, please visit <http://www.cisco.com/go/ucs>.
© 2012-2014 Cisco Systems Inc. All rights reserved. This document is Cisco Public Information. Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. Intel, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries. (1110R).

Cisco UCS® B-Series Blade Servers							
	B22 M3	B200 M3	B230 M2	B420 M3	B440 M2	B260 M4	B460 M4
Form Factor	Half width	Half width	Half width	Full width	Full width	Full width	Full width, double height
No. of Sockets	2	2	2	4	4	2	4
Intel Xeon Processor Family	E5-2400 v2 and E5-2400		E5-2600 v2 and E5-2600		E7-8800 and E7-2800		E7-8800 v2 and E7-4800 v2
Processor Model, Number of Cores, and Clock Speed	E5-2470 v2 (10 cores, 2.4 GHz) E5-2450 v2 (8 cores, 2.5 GHz) E5-2440 v2 (8 cores, 1.9 GHz) E5-2430L v2 (6 cores, 2.4 GHz) E5-2430 v2 (6 cores, 2.5 GHz) E5-2420 v2 (6 cores, 2.2 GHz) E5-2407 v2 (4 cores, 2.4 GHz) E5-2403 v2 (4 cores, 1.8 GHz)	E5-2697 v2 (12 cores, 2.7 GHz) E5-2695 v2 (12 cores, 2.4 GHz) E5-2690 v2 (10 cores, 3.0 GHz) E5-2680 v2 (10 cores, 2.8 GHz) E5-2670 v2 (10 cores, 2.5 GHz) E5-2667 v2 (8 cores, 3.3 GHz) E5-2660 v2 (10 cores, 2.2 GHz) E5-2658 v2 (10 cores, 2.4 GHz) E5-2650L v2 (10 cores, 1.7 GHz) E5-2650 v2 (8 cores, 2.6 GHz) E5-2643 v2 (6 cores, 3.5 GHz) E5-2640 v2 (6 cores, 2.0 GHz) E5-2637 v2 (4 cores, 3.5 GHz) E5-2630L v2 (6 cores, 2.4 GHz) E5-2630 v2 (6 cores, 2.6 GHz) E5-2620 v2 (6 cores, 2.1 GHz) E5-2609 v2 (4 cores, 2.5 GHz)	E5-2690 (8 cores, 2.9 GHz) E5-2680 (8 cores, 2.7 GHz) E5-2670 (8 cores, 2.6 GHz) E5-2667 (6 cores, 2.9 GHz) E5-2665 (8 cores, 2.4 GHz) E5-2660 (8 cores, 2.2 GHz) E5-2658 (8 cores, 2.1 GHz) E5-2650 (8 cores, 2.0 GHz) E5-2643 (4 cores, 3.3 GHz) E5-2640 (6 cores, 2.5 GHz) E5-2637 (2 cores, 3.0 GHz) E5-2630L (6 cores, 2.0 GHz) E5-2630 (6 cores, 2.3 GHz) E5-2620 (6 cores, 2.0 GHz) E5-2609 (4 cores, 2.4 GHz)	E7-8867L (10 cores, 2.13 GHz) E7-2870 (10 cores, 2.40 GHz) E7-2860 (10 cores, 2.26 GHz) E7-2850 (10 cores, 2.00 GHz) E7-2830 (8 cores, 2.13 GHz) E7-2803 (6 cores, 1.73 GHz)	E5-4657 v2 (12 cores, 2.4 GHz) E5-4650 v2 (10 cores, 2.4 GHz) E5-4640 v2 (10 cores, 2.2 GHz) E5-4627 v2 (8 cores, 3.3 GHz) E5-4620 v2 (8 cores, 2.6 GHz) E5-4610 v2 (8 cores, 2.0 GHz) E7-2803 (6 cores, 1.73 GHz)	E7-8867L (10 cores, 2.13 GHz) E7-8837 (8 cores, 2.66 GHz) E7-4870 (10 cores, 2.4 GHz) E7-4860 (10 cores, 2.26 GHz) E7-4850 (10 cores, 2.0 GHz) E7-4830 (8 cores, 2.13 GHz) E7-4807 (6 cores, 1.86 GHz)	E7-8893 v2 (6 cores, 3.4 GHz) E7-8891 v2 (10 cores, 3.2 GHz) E7-8880L v2 (15 cores, 2.2GHz) E7-8857 v2 (12 cores, 3.0 GHz) E7-4890 v2 (15 cores, 2.8 GHz) E7-4880 v2 (15 cores, 2.5 GHz) E7-4870 v2 (15 cores, 2.3 GHz) E7-4860 v2 (12 cores, 2.2 GHz) E7-4850 v2 (12 cores, 2.0 GHz) E7-4809 v2 (15 cores, 1.9 GHz) E7-2880 v2 (15 cores, 2.5 GHz) E7-2870 v2 (15 cores, 2.3 GHz) E7-2850 v2 (12 cores, 2.3 GHz)
Maximum Memory	192 GB (12 DIMMs)	768 GB (24 DIMMs)	512 GB (32 DIMMs)	1.5 TB (48 DIMMs)	1 TB (32 DIMMs)	Up to 3 TB (with 48 64-GB LRDIMMs)	Up to 6 TB (with 96 64-GB LRDIMMs)
Max. Bandwidth	80 Gbps	80 Gbps	80 Gbps	160 Gbps	160 Gbps	160 Gbps	320 Gbps
Internal SFF Disks	Up to 2	Up to 2	Up to 2	Up to 4	Up to 4	Up to 2	Up to 4
Internal RAID	RAID 0 and 1	RAID 0 and 1	RAID 0 and 1	RAID 0, 1, and 5	RAID 0, 1, 5, and 6 with battery-backed write cache (BBWC)	RAID 0 and 1	RAID 0 and 1
Mezzanine Cards	1 plus 1 Cisco UCS VIC 1240	1 plus 1 Cisco UCS VIC 1240	1	2 plus 1 Cisco UCS VIC 1240	2	2 plus 1 Cisco UCS VIC 1240	4 plus 2 Cisco UCS VIC 1240

Cisco UCS® C-Series Rack Servers								
	C22 M3	C24 M3	C220 M3	C240 M3	C260 M2	C420 M3	C460 M2	C460 M4
Form Factor	1RU	2RU	1RU	2RU	2RU	2RU	4RU	4RU
No. of Sockets	2	2	2	2	2	4	4	4
Intel Processor Family	E5-2400 v2 and E5-2400		E5-2600 v2 and E5-2600		E7-2800 and E7-8800		E5-4600	
Processor Model, Number of Cores, and Clock Speed	E5-2470 v2 (10 cores, 2.4 GHz) E5-2450 v2 (8 cores, 2.5 GHz) E5-2440 v2 (8 cores, 1.9 GHz) E5-2430L v2 (6 cores, 2.4 GHz) E5-2430 v2 (6 cores, 2.5 GHz) E5-2420 v2 (6 cores, 2.2 GHz) E5-2407 v2 (4 cores, 2.4 GHz) E5-2403 v2 (4 cores, 1.8 GHz)	E5-2470 (8 cores, 2.3 GHz) E5-2450 (8 cores, 2.1 GHz) E5-2440 v2 (8 cores, 2.4 GHz) E5-2430L (6 cores, 2.0 GHz) E5-2430 v2 (6 cores, 2.5 GHz) E5-2420 v2 (6 cores, 1.9 GHz) E5-2407 v2 (4 cores, 2.4 GHz) E5-2403 (4 cores, 1.8 GHz)	E5-2697 v2 (12 cores, 2.7 GHz) E5-2695 v2 (12 cores, 2.4 GHz) E5-2690 v2 (10 cores, 3.0 GHz) E5-2680 v2 (10 cores, 2.8 GHz) E5-2670 v2 (10 cores, 2.5 GHz) E5-2667 v2 (8 cores, 3.3 GHz) E5-2660 v2 (10 cores, 2.2 GHz) E5-2658 v2 (10 cores, 2.4 GHz) E5-2650L v2 (10 cores, 1.7 GHz) E5-2650 v2 (8 cores, 2.6 GHz) E5-2643 v2 (6 cores, 3.5 GHz) E5-2640 v2 (8 cores, 2.0 GHz) E5-2637 v2 (4 cores, 3.5 GHz) E5-2630L v2 (6 cores, 2.4 GHz) E5-2630 v2 (6 cores, 2.6 GHz) E5-2620 v2 (6 cores, 2.1 GHz) E5-2609 v2 (4 cores, 2.5 GHz)	E5-2690 (8 cores, 2.9 GHz) E5-2680 (8 cores, 2.7 GHz) E5-2670 (8 cores, 2.6 GHz) E5-2667 (6 cores, 2.9 GHz) E5-2665 (8 cores, 2.4 GHz) E5-2660 (8 cores, 2.2 GHz) E5-2650 (8 cores, 1.8 GHz) E5-2650L (8 cores, 2.0 GHz) E5-2643 (4 cores, 3.3 GHz) E5-2640 (6 cores, 2.5 GHz) E5-2630L (6 cores, 2.0 GHz) E5-2630 (6 cores, 2.3 GHz) E5-2620 (6 cores, 2.0 GHz) E5-2609 (4 cores, 2.4 GHz)	E7-8867L (10 cores, 2.13 GHz) E7-2870 (10 cores, 2.40 GHz) E7-2860 (10 cores, 2.26 GHz) E7-2850 (10 cores, 2.00 GHz) E7-2830 (8 cores, 2.13 GHz) E7-2803 (6 cores, 1.73 GHz)	E5-4650 (8 cores, 2.7 GHz) E5-4640 (8 cores, 2.4 GHz) E5-4620 (8 cores, 2.2 GHz) E5-4610 (6 cores, 2.4 GHz) E5-4607 (6 cores, 2.2 GHz) E5-4603 (4 cores, 2.0 GHz)	E7-8867L (10 cores, 2.13 GHz) E7-8837 (8 cores, 2.67 GHz) E7-4870 (10 cores, 2.40 GHz) E7-4860 (10 cores, 2.26 GHz) E7-4850 (10 cores, 2.0 GHz) E7-4830 (8 cores, 2.13 GHz) E7-4807 (6 cores, 1.86 GHz)	E7-8893 v2 (6 cores, 3.4 GHz) E7-8891 v2 (10 cores, 3.2 GHz) E7-8880L v2 (15 cores, 2.2GHz) E7-8857 v2 (12 cores, 3.0 GHz) E7-4890 v2 (15 cores, 2.8 GHz) E7-4880 v2 (15 cores, 2.5 GHz) E7-4870 v2 (15 cores, 2.3 GHz) E7-4860 v2 (12 cores, 2.6 GHz) E7-4850 v2 (12 cores, 2.3 GHz) E7-4830 v2 (10 cores, 2.2 GHz) E7-4820 v2 (8 cores, 2.0 GHz) E7-4809 v2 (6 cores, 1.9 GHz)
Maximum Memory	384 GB (12 DIMMs)	384 GB (12 DIMMs)	512 GB (16 DIMMs)	768 GB (24 DIMMs)	1 TB (64 DIMMs) Requires optional memory riser boards: 2 per socket	1.5 TB (48 DIMMs)	2 TB (64 DIMMs) Requires optional memory riser boards: 2 per socket	Up to 6 TB (with 96 64-GB LRDIMMs)
Network Ports	Dual GE	Dual GE	Dual GE	Quad GE	Dual GE and Optional Dual 10 GE SFP+	Quad GE	Dual GE, Dual 10 GE SFP+, and Dual 10GBASE-T	Dual GE and Dual 10 GE
Internal Disks	Up to 4 LFF drives or 8 SFF drives	Up to 12 LFF or 24 SFF drives	Up to 4 LFF or 8 SFF drives	Up to 12 LFF or 24 SFF drives	Up to 16 SFF drives	Up to 16 SFF drives	Up to 12 SFF drives	Up to 12 SFF drives
RAID Controller Options	Embedded 3-Gbps SAS and SATA RAID controller (RAID 0, 1, and 10) 6-Gbps LSI SAS MegaRAID SAS 9270CV-8i with flash backed write cache (FBWC) (RAID 0, 1, 5, and 6) 6-Gbps LSI SAS MegaRAID SAS9240-8i (RAID 0, 1, and 10) 6-Gbps LSI SAS MegaRAID SAS9240-4i (RAID 0, 1, and 10)	Embedded 3-Gbps SAS and SATA RAID controller (RAID 0, 1, and 10) 6-Gbps LSI SAS MegaRAID SAS 9271CV-8i with FBWC (RAID 0, 1, 5, and 6) 6-Gbps LSI SAS MegaRAID SAS9286CV-8e with FBWC (RAID 0, 1, 5, and 6) 6-Gbps LSI SAS Nytro MegaRAID controller with 200 GB flash memory (RAID 0, 1, 5 and 6) (Cisco UCS C240 M3 only) Cisco UCS RAID SAS 2008M-8i mezzanine card RAID controller (RAID 0, 1, and 5)	Embedded 3-Gbps SAS and SATA RAID controller (RAID 0, 1, and 10) 6-Gbps LSI SAS MegaRAID SAS 9271CV-8i with FBWC (RAID 0, 1, 5, and 6) 6-Gbps LSI SAS MegaRAID SAS9286CV-8e with FBWC (RAID 0, 1, 5, and 6) 6-Gbps LSI SAS Nytro MegaRAID controller with 200 GB flash memory (RAID 0, 1, 5 and 6) (Cisco UCS C240 M3 only) Cisco UCS RAID SAS 2008M-8i mezzanine card RAID controller (RAID 0, 1, and 5)	6-Gbps LSI MegaRAID 9261-8i with BBWC (RAID 0, 1, 5, 6, 50, and 60)	6-Gbps LSI MegaRAID SAS 9240-8i (RAID 0, 1, 5, and 6) 6-Gbps LSI MegaRAID SAS 9271CV-8i (RAID 0, 1, 5, and 6) 6-Gbps LSI MegaRAID SAS 9286CV-8e (RAID 0, 1, 5, and 6)	6-Gbps LSI MegaRAID SAS 9240-8i (RAID 0, 1, 5, and 6) 6-Gbps LSI MegaRAID SAS 9271CV-8i (RAID 0, 1, 5, and 6) 6-Gbps LSI MegaRAID SAS 9286CV-8e (RAID 0, 1, 5, and 6)	12-Gbps LSI SAS MegaRAID SAS 9361CV-8e with FBWC (RAID 0, 1, 5, and 6)	
Power Supplies	1 650 or 450W	N+1 (2) 450 or 650W	N+N (2) 450 or 650W	N+N (2) 650 or 1200W	N+N (2) 1200W	N+N (2) 1200W	N+N (4) 850W	N+N (2) 1400W
PCIe Slots	2 Gen-3 PCIe slots: 1 x 16 full height and half length, 1 x 8 half height and half length	5 Gen-3 PCIe slots: 1 x 8 half height and ¼ length, 3 x 8 half height and half length, 1 x 4 full height and half length	2 Gen-3 PCIe slots: 1 x 8 half height and half length, 1 x 16 full height and half length	5 Gen-3 PCIe slots: 1 x 8 half height and ¼ length, 3 x 8 full height and half length, 1 x 16 full height and ¼ length	6 PCIe slots: 3 x 8 low profile and half length, 2 x 16 full height and half length, 1 x 4 low profile and half length	7 Gen-3 PCIe slots: 2 x 16 full height and half length, 5 x 8 half height and half length	10 full-height Gen-3 PCIe slots: Gen 2: 4 x 8 ¼ length, 3 x 4 half length, 1 x 16 ¼ length, Gen 1: 1 x 4 half length, and 1 x 4 ¼ length	10 full-height Gen-3 PCIe slots: 1 x 4 ¼ length, 2 x 8 half length, 2 x 8 ¼ length, 2 x 8 full length, 1 x 16 ¼ length, 2 x 16 full length
Connectors	VGA port, 4 USB 2.0 ports, serial port, 1 GE management port, 2 x GE network ports, 2 front-panel USB 2.0 ports	VGA port, 2 USB 2.0 ports, RJ45 serial port, and GE management port	VGA port, 2 USB 2.0 ports, RJ45 serial port, and GE management port	VGA port, 4 USB 2.0 ports, RJ45 serial port, and GE management port	VGA port, 4 USB 2.0 ports, RJ45 serial port, and GE management port	2 VGA ports, 2 USB 2.0 ports, RJ45 serial port, and GE management port	2 VGA ports, 5 USB 2.0 ports, serial port, and GE management port	1 VGA port, 5 USB 2.0 ports, serial port, and GE management port

Cisco UCS® 6200 Series Fabric Interconnect		
	Cisco UCS 6296UP 96-Port Fabric Interconnect	Cisco UCS 6248UP 48-Port Fabric Interconnect
Form Factor	2RU	1RU
Maximum Ports	96	48
Cisco UCS Manager Version	Cisco UCS Manager 2.0 (2)	Cisco UCS Manager 2.0 (1)
Expansion Modules	Up to 3 x 16-port UPs	Up to 1 x 16-port UPs
Fixed Base Ports	48	32
Prelicensed Base Ports	18	12
Fans	4	2
Power Supply Units	2	2
Throughput	1920 Gbps	960 Gbps
Maximum Chassis per System	20	20

Cisco UCS® Virtual Interface Cards				
	Cisco UCS VIC 1280	Cisco UCS VIC 1240	Cisco UCS VIC 1225	Cisco UCS VIC 1285
Maximum Number of Interfaces (vNICs or vHBAs)	256	256	256	256
Interface Type	Dynamic	Dynamic	Dynamic	Dynamic
Cisco Data Center VM-FEX	Hardware	Hardware	Hardware	Hardware
Failover Handling	Fabric failover; no driver required			
Form Factor	Mezzanine card	Modular LOM	PCIe (half height)	PCIe (half height)
Network Throughput	80 Gbps	40 Gbps 80 Gbps with port expander	20 Gbps	80 Gbps
Cisco UCS Server Compatibility	Cisco UCS M3 and M4 blade servers, Cisco UCS B230 M2, and Cisco UCS B440 M2	Cisco UCS M3 and M4 blade servers	Cisco UCS M3 rack servers, Cisco UCS C260 M2, and Cisco UCS C460M2 and M4	Cisco UCS C460 M4 Rack Server

Cisco UCS® Invicta™ Series Solid State Systems		
	Cisco UCS Invicta C3124SA Appliance	Cisco UCS Invicta Scaling System
Raw Capacity	3, 6, 12, and 24 TB	6 - 240 TB
Maximum Capacity with Deduplication	64 TB	640 TB
I/O Operations per Second (IOPS)	250,000 read 200,000 write	Up to 1.2 million
I/O Throughput	1.2 GBps	12 GBps
I/O Connectivity	Up to 4 ports of 10 Gigabit Ethernet and/or 8-Gbps Fibre Channel	Up to 8 ports of 10 Gigabit Ethernet and/or 8-Gbps Fibre Channel
Protocol Support	Fibre Channel and iSCSI	Fibre Channel and iSCSI
Power Outage Protection	Write-protection buffer	Write-protection buffer
Data Integrity Protection	RAID	RAID
Software	Cisco UCS Invicta OS	Cisco UCS Invicta OS

Cisco Fabric Extenders			
	Cisco UCS 2208XP Fabric Extender	Cisco UCS 2204XP Fabric Extender	Cisco Nexus® 2232PP 10GE Fabric Extender
Form Factor	Chassis fabric extender (up to 2 per chassis)	Chassis fabric extender (up to 2 per chassis)	Rack fabric extender (1RU)
Server-Facing Ports	32	16	32
Port Speed	10 GE with FCoE	10 GE with FCoE	1 GE and 10 GE with FCoE
10-Gbps Fabric Ports	8	4	8
Throughput	80 Gbps	40 Gbps	80 Gbps

Cisco UCS® 5108 Blade Server Chassis	
	Cisco UCS 5108 Blade Server Chassis
Form Factor	1RU
Chassis Characteristics	GRU with flexible bay configurations supporting up to 8 half-width or 4 full-width blade servers
Fabric Extenders	Up to 2 Cisco UCS 2204XP or 2208XP Fabric Extenders
I/O Bandwidth	Maximum of 80 Gbps to each half-width blade and 160 Gbps to each full-width blade
Power Supply Units	Maximum 4 2500W power supplies
Redundancy	N+N or N+1 redundant

Cisco R-Series Racks	
	Cisco R42610 Rack
Tested with Cisco UCS	Industry-standard, EIA-310-D 42RU, 2100-lb (161-kg) capacity rack that has been optimized for Cisco UCS rack and blade servers
Standard and Expansion Racks	Standard and expansion racks excellent for single- or multi-rack Cisco UCS deployments
Front and Rear Doors	80% perforation increases airflow, locks added for additional security; split rear doors reduce clearance required at rear of rack
PDU Mounting	Sidewall spaces and PDU trays allow quick installation of ORU and 1RU PDUs; toolless mounting for optional ORU Cisco RP-Series PDU's

With Intelligent Intel® Xeon® Processors



For more information about Cisco Unified Computing System, please visit <http://www.cisco.com/go/ucs>.

© 2012–2014 Cisco Systems Inc. All rights reserved. This document is Cisco Public Information. Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries (1110R).