HPE Integrity Superdome X Server - Product Information Reference

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Abstract

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Revision history

Part number	Publication date	Edition	Summary of changes

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Summary

Subtopics

Product description

Product description



HPE Integrity Superdome X Server represents a new category of x86 modular, Mission-Critical systems to consolidate all tiers of critical applications on a common platform. Engineered with trusted Superdome 2 reliability, the HPE Superdome X includes a modular, bladed design, and shares HPE bladeSystem efficiencies including a common server management framework, supported from x86 to Superdome 2.

Product features

Feature	Description
Key features and benefits	HPE Superdome X offers scalability that surpasses t he market, flexibility through HPE HPE nPartitions (HPE nPars), and mission critical RAS functionality. In summary: • Support for up to 16 Intel Xeon Processor E7 v4 and E7 v3 family. • 384 Dual In-line Memory Module (DIMM) slots w ith up to 24TB of dual data rate (DDR)4 memory (Gen9), providing a large memory footprint for t he most demanding applications. • 16 FlexLOM slots (Two per blade) providing LA N on motherboard configuration flexibility. • 24 Mezz PCIe Gen3 slots (Three per blade) for maximum IO bandwidth connectivity to LAN, Sto rage Area Network (SAN), and InfiniBand. • Built-in shared DVD • **HPE nPARs:** 1, 2, 3 (BL920s Gen9 blades only), 4, 6 (BL920s Gen9 (v4) blades only) or 8-blade and multiple nPARs supported for greater syste m reliability and licensing optimization. • Error analysis engine self-heals by driving respo nse to failures, minimizing human error.
General	• The HPE bladeSystem Superdome enclosure is t he building block for Superdome X. • Each compute enclosure supports 15 fans, 12 po wer supplies, associated power cords, 2 Onboard Administrator (OA) modules, 2 Global Partitionin g Services Modules (GPSM), and 4 HPE Crossbar Fabric Modules (XFMs). • Configurations of 1 to 8 blades can be populate d in an enclosure with support for hard nPars co ntaining 1, 2, 3 [1], 4, 6 [2] or 8 blades. Multiple HP

Feature	Description
	E nPars of different sizes are supported within a single enclosure. **NOTE** 1. BL920s Gen9 blades only 2. BL920s Gen9 (v4) blades only
HPE BladeSystem Superdome enclosure	The enclosure can support up to eight server blades and up to eight IO Interconnect modules .
BL920s server blade	**Each server blade - Has the following specifications:** • Includes two Intel E7 v4 or E7 v3 CPUs. The included CPU depends on which blade model is purchased. • 48 DIMMs slots for DDR4 memory (Gen9) or DDR3 memory (Gen8). • 3 Mezzanine slots (1 x8, 2 x16) PCIe gen3. • 2 FlexLOM slots • The XNC2 chipset to enable smooth, High-Performance scalability from 2 to 16 sockets in addition to mission-critical class RAS features.
Partitioning packages	Each enclosure must be purchased with one of these two partitioning licenses: 1. Basic partition license = Single partition, up to 4 blades (8s) in size = Entry config 2. Advanced partition license = Multiple partitions, each up to 8 blades (16s) in size.
Supported storage devices	HPE Integrity Superdome X currently supports fibre channel data connectivity and boot support with the following HPE Storage devices: • HPE 3PAR StoreServ 8400/7000/7450/10000 Storage • HPE MSA 2040 Storage

Feature	Description
	• HPE XP7 Storage • HPE XP P9500 Storage • HPE EVA P6000 Storage • HPE EVAx400 Storage
SAN provides essentially unlimited LUNs	Considerations for SAN boot • Two hops or less strongly recommended • Redundant paths to SAN/Storage recommended for all partitions. • Allows online updates of switch and array firmw are. • No factory installation of operating environment
HPE BL920s Gen9 Server blade with Intel Xeon v4 processors and v3 processors	With Intel Xeon v4Processors Each server blade supports two (Per blade) of these Intel Xeon processors: • E7-8894 v4 24-core/2.4 GHz/165 W/60MB • E7-8893 v4 4-core/3.2 GHz/140 W/60MB • E7-8891 v4 10-core/2.8 GHz/165 W/60M • E7-8890 v4 24-core/2.2 GHz/165 W/60M • E7-8880 v4 22-core/2.2 GHz/150 W/55M • E7-8855 v4 14-core/2.1 GHz/140 W/35MB **With Intel Xeon v3 Processors** Each server blade supports two (Per blade) of these processors: • E7-8891 v3 10-core/2.8 GHz/165 W/45 M • E7-4850 v3 14-core/2.2 GHz/115 W/35 M • E7-8880 v3 18-core/2.3 GHz/150 W/45 M • E7-8890 v3 18-core/2.5 GHz/165 W/45 M • E7-8893 v3 4-core/3.2 GHz/140 W/45 M

Feature	Description
HPE BL920s Gen8 server blade with Intel Xeon v2 processors	Each server blade supports two (Per blade) of these processors: • E7-2890 v2 (15 c/2.8 GHZ/ 37.5/155 W) • E7-2880 v2 (15 c/2.5 GHZ/ 37.5M/130 W) • E7-4830 v2 (10 c/2.2 GHZ/ 20 M/105 W) • E7-8891 v2 (10 c/3.2 GHZ/ 37.5 M / 155 W) • E7-8893 v2 (6 c/3.4 GHZ/ 37.5 M / 155 W)
Chipset	HPE sx3000 and XNC2
Upgradability and scalability	Scalable from 2 socket configurations to 16 socket c onfigurations.
Memory type for HPE BL920s Gen9 server blades	• HPE 64GB (4 x 16GB) DDR4-2133 CAS-15-15 -15 Load-Reduced Dual In-Line Memory Module (LRDIMM) memory kit • HPE 128GB (4 x 32GB) DDR4-2133 CAS-15-15 -15 LRDIMM memory kit • HPE 128GB (4 x 32GB) DDR4-2400 CAS-17 LR DIMM memory kit • HPE 256GB (4 x 64GB) DDR4-2400 CAS-17 LR DIMM memory kit • HPE 512GB (4 x 128GB) DDR4-2400 CAS-17 L RDIMM memory kit
Memory type for HPE BL920s Gen8 server blades	• HPE 64GB (4x16GB) PC3-12800R (DDR3-1600) Registered CAS-11 memory kit. • HPE 128GB (4x32GB) PC3-14900R (DDR3-186 6) Registered CAS-13 memory kit.
Memory protection	Error Checking and Correcting (ECC) on memory an d caches; double-chip spare
Processor mixing support	HPE Superdome X governing rules for mixing proces sors are as follows: • No mixing of processor types within a nPartition

Feature	Description
	• No support for processors running at different f requencies or different cache sizes within the sa men Partition. • Processor modules on a blade must be the same revision, frequency, and cache size. • Mixing of processors with different frequencies and/or cache sizes will be not allowed within an Partition. • User can mix blades of different processor frequ encies, cache sizes and generations within a sing le enclosure provided each different processor t ype is in separate nPars as per the rules listed a bove.
Mezzanine I/O slots	• 1 PCIe Gen3 x8 Mezzanine (Type A) slot per bla de (Up to 8 blades). • 2 PCIe Gen3 x16 Mezzanine (Type B) slots per b lade (Up to 8 blades).
Flex LOM slots	2 Dual-port NIC FlexLOM daughter cards per blade (Up to 8 blades).
I/O Interconnect bays	Up to 8 I/O Interconnect Bays may contain 1 GbE sw itch modules, 20 GbE switchmodules, 10 GbE switch modules, 10 GbE Pass-Through modules, 16Gb fibre channel and InfiniBand Interconnect modules.
Partitioning	Multiple 2, 4, 6 [1], 8, 12 [2] or one 16-socket electricall y isolated HPE nPars supported. **NOTE** 1. BL920s Gen9 blades only 2. BL920s Gen9 (v4) blades only
Form factor	• 18U enclosure

Feature	Description
	• HPE 600 mm wide 42U Intelligent series rack wi th standard rack door
High availability standard server features	• 2N (N+N) redundant power suppliesN+1 fans (O r greater depending on the load). • Online, replaceable, and redundant OA, utilities, clock, and service processor subsystems. • Fault tolerant crossbar fabric built on dynamic M ulti-Pathing and end-to-end retry technology. • Enhanced MCA recovery (Automated processor recovery) With Intel cache Fail-Safe technology. • ECC on caches, memory ECC, and Double-Chip s pare. • ECC, re-tries, and link width reduction on data p aths. • Automatic de-configuration of memory and proc essors. • I/O advanced error recovery • Redundant network paths • Redundant fibre channel paths
Other I/O	• 1 RS-232 serial port, 2 USB ports and 1 VGA po rt for incidental local human interface VIA Serial, USB, and Video (SUV) cable. • 10/100 Base-T LAN for Integrity Integrated Lig hts-Out (iLO 4) management. • Removable media VIA built-in DVD-ROM, access ible from all partitions.

System Specifications

Feature	Description
Superdome Enclosure (AT147B/AT147A)	
Number of BL920s Blades per compute enclosure	1 (Minimum) to 8 (Maximum)
Number of CAMnet Completer Modules (CCMs)	0 (Minimum) or 1 (Maximum)
Number of processor modules per compute enclosure	2 to 16
Number of DIMMs (Increments of 16 DIMMs per Blade)	16, 32 or 48 per Blade
Number of XFMs	4
Number of FlexLOM slots	2 slots per Blade
Number of I/O slots	• One (1) type A Mezzanine slot per Blade • Two (2) type B Mezzanine slots per Blade
OA	2
Number of GPSMs (Global partition services module)	2
DVD module	1
Fans	15
Power supplies	2N: 12
SUV dongle cable	1

NOTE

The SUV dongle cable is HPE part number 409496. It connects to the SUV port on the front of each blade and brings out USB (2 port) serial (DB9) and VGA (DB15). This is how a crash cart or a direct-attached USB DVD is connected for debugging the system.

Physical Specifications

Specification	Description
Dimensions (H x W x D)	79.8 x 48.5 x 82.8 cm (31.4 x 19.1 x 32.6 in)
Weight	• Typical: 254 kg (559 lb) • Minimum: 108 kg (238 lb) • Maximum: 314 kg (692 lb)

Environmental Specifications

Specification	Description		
Acoustics	< = 8.6 bels LwAd (Sound power)		
Temperature	**Recommended operating range**	**Allowable operating range**	
	+18°C to +27°C	+5°C to +40°C	
Temperature rate	Temperature change (Maximum storage)	Temperature change (Minimum storage)	
	20°C/hr	-40°C to +80°C	
Air quality	Gaseous contaminants must be at the G1 level or less as defined by ISA Standard ISA-71.04-1985		
Humidity	**Operating range (Non-condensing)**	**Allowable operating range (Non-condensing)**	**Non-operating relative humidity (Storage)**
	+5.5°C DP to 15°C DP and 65% RH	-12°C DP and 8% RH to 24°C DP and 85% RH	8% RH to 90% RH and 32°C DP
Altitude	**Operating altitude (Maximum)**		**Non-operating altitude (Maximum)**

Specification	Description	
	3050 m (10,000 ft)	4500 m (15,000 ft)
Voltage tolerance range	200 - 240 V ac	
Regulatory model numbers	AT147A/AT147B (Superdome Enclosure), RMN: FCLSB-1001 AT068A (BL920s Gen8 Server Blade), RMN: FCLSB-BB31	

NOTE

- The recommended operating range is recommended for continuous operation. Operating within the allowable operating range is supported but may result in a decrease in system performance
- All temperature ratings shown are for sea level. An altitude de-rating of 1°C per 300 m above 900 m is applicable. No direct sunlight allowed. Upper operating limit is 3,048 m (10,000 ft)

Electrical Specifications

Specification	Description
BTU rating	30.93 kBTU//hr (2.5 Tons) , 9065 W
AC input power: 3-phase	2N Dual power input modules with: • **Two 5-wire cords each:** IEC309 16 A • **Two 4-Wire cords each:** NEMA L15-30P 30 A • **5-wire:** 12.26 A per cord • **4-wire:** 23.3 A per cord
AC input power: Single phase	2N Dual power input modules with 6 input receptacles each: IEC-C19, 16/20 A
Maximum input current: Single phase (200 V)	13.8 A per C19 cord
Maximum input power total	9,250 V A at PF .98 or greater

Specification	Description
Cooling airflow	• **Minimum:** 600 CFM • **Average:** 1000 CFM at 32°C • **Maximum:** 1900 CFM

Spare Parts

Subtopics

New model specific parts lists
Spare Parts

New model specific parts lists

To look up RoHS-compliant information in PartSurfer, use the component?s option part number or the sales order number for a system in which the component is used (available from the product QuickSpecs). **Click here to visit the HPE PartSurfer website**.

Spare Parts

Description	Spare Part Number
External USB cable - USB type 'A' to mini-USB type ' B', 600 mm (2.0 ft) long - Connects the OA module to the GPSM module	AH337-2025A
HP Modular Power Distribution Unit (PDU) HP 17.3 kVA Modular PDU, 48 A Core Only (NA/JPN) (Option #: AF511A)	483913-001
PDU Module Core (only) - 22 kVA PDU with six IEC 320 C-19 power connectors, six 16-Amp circuit brea kers, and attached 3.5 m (11.5 ft) power cable with I EC 60309 4 pole, 5-wire power plug - Requires 380 -415 V ac, 32-Amp, 3-phase powe	483914-001

Description	Spare Part Number
Local I/O diagnostic SUV connector cable dongle - Has 36-pin blade server connector to DB-9 serial port cable, 2-USB port cable, and DB-15 port video cable - For blade server administration, configuration and diagnostic procedures	416003-001
Power cord (Black), 16A - 2.5 m (8.2 ft) long - Has straight (F) C19 receptacle to straight (M) C20 plug	242867-002
Power cord (Black), 16A - 1.2 m (3.9 ft), straight (F) C19 receptacle to straight (M) C20 plug	242867–004
Power cord (Gray), 16A - 2.0 m (6.6 ft), straight (F) C19 receptacle to straight (M) C20 plug	242867–005
Local I/O diagnostic SUV connector cable dongle - Has 36-pin blade server connector to DB-9 serial port cable, 2-USB port cable, and DB-15 port video cable - For blade server administration, configuration and diagnostic procedures	416003–001
Local I/O diagnostic SUV connector cable dongle - Has 36-pin blade server connector to DB-9 serial port cable, 2-USB port cable, and DB-15 port video cable - For blade server administration, configuration and diagnostic procedures	409496-001
Generation II rack mounting rail kit - Includes left and right rack mount rails	AH337-2156B
Midplane assembly (brick) - Includes the control board backplane, midplane chassis assembly, and associated cables	AH337-67102
Miscellaneous cables kit - Contains the following: • Upper fan cable 33.65 cm (13.25 in) • Lower fan cable 43.82 cm (17.25 in) • Connect cable 30.48 cm (12 in) • LCD cable 31.12 cm (12.25 in)	416002-001
Upper fan board ribbon cable	AH337-2004A
DVD midplane cable assembly	AH337-2003A
Upper BPS board ribbon cable	AH337-2005A
Status panel cable assembly	AH337-2024A

Description	Spare Part Number
LCD connector board assembly (Does NOT include t he LCD)	519347-001
Replacement DVD drive assembly - Includes the DV D drive tray module, backplane board, DVD drive, an d USB thumb drive	AH337-67002
SATA media board assembly - Includes the DVD dri ve module interface board and interconnecting 'Y' ca ble	518234-001
USB extension pigtail cable	AH337-2026A
Optical drive bracket - For 9.5 mm high optical dri ves - Mounts to the rear of the optical drive and is us ed to secure the drive in the drive bay	532475-001
Replacement GPSM assembly - Includes mini-USB port (for DVD drive), eight RJ45 CAMNet ports, thre e Global clock connectors, and status LEDs - GPSM board mounted in the tray module assembly	AH337-67001
Replacement XFMs assembly - Includes the XFM boa rd mounted in the tray module assembly	AH341-67001
Crossbar fabric 2 module	H7B49-69001
Panel control board, CAMNet Pass-Thru	AH337-67014
Active cool fan 200 module assembly - Includes the fan housing assembly with high flow fan tube, fan m otor with impeller, and light pipe assembly	413996-001
2450 W AC Hot-Plug power supply module - Up to 9 4% efficiency - Requires 200 to 240 V ac, 50/60 Hz nominal input - 12 V dc at 200 A and 5 V dc at 200 mA maximum output - Latches into one of twelve po wer bay slots	588733-001
Single-phase AC input power module Factory Installa ble Option (FIO) - 200-240 V ac, 50-60 Hz - Has a C 19-C20 cord, and six IEC C20 inlets	413494-001
3-Phase AC input power supplymodule (North Ameri ca and Japan) - FIO	413495-001
3-Phase AC input power supply module (Internation al version) -FIO	413496-001

Description	Spare Part Number
Replacement OA module assembly - Provides complex health and remote complex manageability - Includes RJ45 LAN management port, USB 2.0 port (connects to the GPSM module), DB-9 RS232 port, and DB-15 VGA port	AH389-67001
OA sleeve assembly - Includes the double-wide metal tray assembly with center RJ45 service port connector - Holds two OA modules	519346-001
PCA, PWR MOD BP, MDR AMP RoHS ASSY, FAN PCA AMP, RoHS PCA, SIG MPlane, SWTCH/SVR AMP, RoHS	AH337-67011
Value Added Chassis, Superdome X	AH337–2101E
Superdome2 value added chassis assembly - Includes the chassis structure with midplane assembly, management sleeve (tray), Insight Display, and fifteen fans	AH337-2101C
I/O chassis assembly - Rear chassis structure that inserts into the Superdome rack - Includes 15 fan bays, four XFM bays, GPSM bay, eight interconnect bays, and OA bay	AH337-2118B
Insight Display widescreen module kit - Includes the 3 in LCD display module with control buttons and interconnecting cable	519349-001
LCD pass thru board assembly - Provide display and control data to the Insight Display assembly cable - Mounts on the left side of the chassis	519348-001
DVD drive Bezel	AH337-3441A
Blade filler panel assembly (full-height) - For filling unused blade slots in the Superdome 2 mainframe	AH337-2170A
Blade filler panel assembly (half-height) - For filling unused half-height blade slots in the Superdome 2 mainframe	414051-001
Power supply filler panel assembly (blank) - For filling unused power supply bays in the Superdome 2 mainframe	416043-001

Description	Spare Part Number
Interconnect filler panel assembly (blank) - For filling unused interconnect bays in the Superdome 2 mainf rame	414053-001
OA bay filler panel assembly (blank) - For filling unu sed OA bays in the Superdome 2 mainframe	414054-001
Hardware kit - Contains blade slot shelf, vertical cabl e cover, and left LCD cap	432463-001
BATTERY M4T28-BR12SH1	708907-001
3.0 V system battery - Lithium - Type CR2450	Not an HPE spare. readilyavailable elsewhere.
Hardware plastics kit - Includes small form factor ha rd drive blank, processor blank, GBX cover, and blad e coupler blank	446289-001
Brocade 16Gb/16-Port SAN switch for blade system c-class - Embedded Fiber Channel (FC) SAN switch with 12 front panel Small Form-factor Pluggable Plu s (SFP+) ports - Capable of 16 enabled ports for any combination front of panel plus internal (connects vi a the enclosure midplane connector)	724423–001
Brocade 16Gb/28-port SAN switch Power Pack+ for blade system c-class - Embedded FC SAN switch wit h 12 front panel SFP+ ports and 16 internal ports (c onnects via the enclosure midplane connector)	724425-001
6125G blade switch module - Includes four 1Gb SFP ports (two of which are capable of Intelligent Resilie nt Networking (IRF) operating as SFP+ ports), eight RJ45 10/100/1000BASE-T autosensing ports, and o ne RJ45 console port	663656–001
Blade System c-Class 16-Port 10G SFP+ pass-thru m odule - Plugin module with 16 10 GbE SFP+ ports a nd mini-USB RS-232 management port - Accepts 10 G SFP+ and 1G SFP transceivers	504624-001
Thames AT084A Pass-Thru	538113-B21
6125 6125XLG interconnect module	711307-B21
1.2TB Multi-level Cell (MLC) IO accelerator board - Type B c-Class mezzanine, PCI Express gen-2x4	658604–001
6125G interconnect module	658247-B21

Description	Spare Part Number
Blade server front bezel assembly - Includes the fron t bezel with SUV access door, light pipe assembly, an d ejector latch	AT068-69003
Front bezel assembly - Includes the front bezel wit h SUV access door, light pipe assembly, and ejector l atch	A0R69-69002
Bezel (5U) MC990	864954-901
Replacement blade server base unit - Includes the system board, chassis structure, access panel, and air flow guide - Does not include the front bezel assemb ly, processors, heat sinks, memory, or any optional ad apter boards	AT068-6901A
Replacement blade server base unit - Includes the system board, chassis structure, access panel, and air flow guide - Does not include the front bezel assemb ly, processors, heat sinks, memory, or any optional ad apter boards	A0R69-69001
16Gb FC mezzanine card	710608–B21
Ethernet 10Gb 2-port 560FLB adapter, FlexibleLOM form factor - Provides two 10 Gb/s Ethernet ports in the interconnect module in the server system - Requi res one x8 PCI (Gen 2) Express FlexibleLOM slot on t he blade system board	656243-001
Ethernet 10Gb 2-port 560M adapter, mezzanine for m factor - Provides two 10 Gb/s Ethernet ports in t he interconnect module in the server system - Requi res one x8 PCI (Gen 2) Express mezzanine slot on th e blade system board	669282-001
IC uP BDW E7-8893v4 4C 3.2 GHz 60M 140 W	845003-003
Processor, 15 core, 2.8 GHz, 37.5 M, 155 W (includ es cleaning pads and new TIM) (BL920s Gen8)	769744-001
Intel Xeon E7-8891 v3 Ten-Core 64-bit processor - 2.8 GHz (Haswell, 45MB Last Level Cache, Intel Quic kPath Interconnect (QPI) speed 9.6 GT/s, 165 W The rmal Design Power (TDP), FCLGA 2011 socket)	788375-001
Intel Xeon E7-8891v4 Ten-Core 64-bit processor - 2 .80 GHz (Broadwell, 60MB Level-3 cache, Intel QPI s peed 9.6 GT/s, 165 W TDP, socket FCLGA 2011)	868055-001

Description	Spare Part Number
Intel Xeon E7-8890 v3 Eighteen-Core 64-bit processor - 2.5 GHz (Haswell, 45MB Last Level Cache, Intel QPI speed 9.6 GT/s, 165 W TDP, FCLGA 2011 socket)	788366-001
Intel Xeon E7-4850 v3 Fourteen-Core 64-bit processor - 2.2 GHz (Haswell, 35MB Last Level Cache, Intel QPI speed 8.0 GT/s, 115 W TDP, FCLGA 2011 socket)	788369-001
Intel Xeon E7-8855v4 Fourteen-Core 64-bit processor - 2.10 GHz (Broadwell), 35MB Level-3 cache, Intel QPI speed 8.0 GT/s, 140 W TDP, socket FCLGA 2011	868051-001
Intel Xeon E7-8893 v3 Four-Core 64-bit processor - 3.2 GHz (Haswell, 45MB Last Level Cache, Intel QPI speed 9.6 GT/s, 140 W TDP, FCLGA 2011 socket)	788376-001
Intel Xeon E7-8893 v4 Four-Core 64-bit processor - 3.20 GHz (Broadwell, 60MB Level-3 cache, Intel QPI speed 9.6 GT/s, 140 W TDP, FCLGA 2011 socket)	868056-001
Intel Xeon E7-8880v4 Twenty-Two-Core 64-bit processor - 2.20 GHz (Broadwell, 55MB Level-3 cache, Intel QPI speed 9.6 GT/s, 150 W TDP, socket FCLGA 2011)	868054-001
Processor, 22 core, 2.2 GHz	844995-001
Intel Xeon E7-8890v4 Twenty-Four-Core 64-bit processor - 2.20 GHz (Broadwell, 60MB Level-3 cache, Intel QPI speed 9.6 GT/s, 165 W TDP, socket FCLGA 2011)	868053-001
Processor, 24 core, 2.2 GHz	844994-001
Intel Xeon E7-8894 v4 Twenty-four-Core 64-bit processor - 2.4 GHz (Broadwell, 60MB Cache, Intel QPI speed 9.6 GT/s, 165 W TDP, FCLGA 2011 socket)	858204-001
Intel Xeon E7-4830 Ten-Core 64-bit processor - 2.20 GHz (20MB Level-3 cache, Intel QPI speed 7.2 GT/s, 105 W TDP, FCLGA 2011 socket)	729443-001
Intel Xeon E7-8891 v2 Ten-Core 64-bit processor - 3.2 GHz (Ivy Bridge, 37.5MB Level-3 cache, Intel QPI speed 8.0 GT/s, 155 W TDP, FCLGA 2011 socket)	731932-001
Processor, 15 core, 2.8 GHz (BL920s Gen8)	743824-001
Intel Xeon E7-8880 v3 Eighteen-Core 64-bit processor - 2.3 GHz (Haswell, 45MB Last Level Cache, Inte	788367-001

Description	Spare Part Number
l QPI speed 9.6 GT/s, 150 W TDP, FCLGA 2011 soc ket)	
Processor heatsink with TIM attached (Includes clea ning pads to remove old TIM from processor) (BL92 0s Gen8)	AT068-69002
Processor heatsink with TIM attached (BL920s Gen9 +)	AT068-2106C
32GB, 1866 MHz, PC3-14900L-13, DDR3, quad-ran k x4, 1.50 V, LRDIMM	715275-001
DIMM 32GB DDR4 (BL920s Gen9)	752372-081
16GB PC4-2133P-L - LRDIMM , Synchronous Dyna mic Random Access Memory (SDRAM) module, DDR 4, organized as 2Gx4	752371-081
DIMM 32GB PC4-2400T/L (BL920s Gen9+)	867285-001
DIMM 64GB PC4-2400T/L (BL920s Gen9+)	867286-001
16GB 1600 MHz, PC3L-12800R-11, DDR3, dual-ran k x4, 1.35 V, registered dual in-line memory module (RDIMM)	715284-001
16GB, 2133 MHz, PC4-2133P-L, DDR4, dual-rank x 4, 1.20 V, CAS-15-15-15, LRDIMM	774173-001
32GB PC4-2133P-L - LRDIMM, SDRAM module, DD R4, organized as 4Gx72	774174-001
64GB, 2133 MHz, PC4-2133P-L, DDR4, quad-rank x 4, 1.20 V, CAS-15-15-15, LRDIMM	774176-001
32GB PC4-2400T-L, LRDIMM SDRAM, DDR4 mode, organized as 4Gx72	809084-391
64GB PC4-2400T-L, LRDIMM SDRAM, DDR4 mode, organized as 8Gx72	809085-391
64GB PC4-2133P-L - LRDIMM organized as 8Gx72, SDRAM Module, organized as 4Gx4	752373-G91
DIMM, 64GB, PC4-2133P-L	852661-001
4GB 1333 MHz, PC3-10600R, DDR3, single-rank x4, 1.50 V, RDIMM	AM327-69001
6125XLG blade switch module - Includes four 40 G bE Quad Small Form-factor Pluggable Plus (QSFP+) ports, eight 10 GbE SFP+ ports, and one RJ45 conso	716102-001

Description	Spare Part Number
le port - Accepts 40 GbE, 10G SFP+, and 1G SFP tra nsceivers	
Decina 6125XLG Ethernet switch	711307-B21
ComNu I 6125G	658247-B21
Brocade C8S47A FC switch	C8S47-63001/C8S47a
Brocade C8S45A FC switch	C8S45-63001/C8S45a
4X Fourteen Data Rate (FDR) InfiniBand managed s witch	648311-B21
4X InfiniBand managed switch module for blade system c-class - Double wide switch blade with 1 8 front panel 56 Gb/s FDR QSFP uplink ports and 1 6 internal downlink ports (connects via the enclosure midplane connector)	649891-001
4X InfiniBand switch module for blade system c-clas s - Double wide switch blade with 18 front panel 56 Gb/s FDR QSFP uplink ports and 16 internal downlin k ports (connects via the enclosure midplane conne ctor) - Externally managed	649892-001
HPE FlexFabric 10Gb 2P 534FLB Adapter	700741-B21
HPE FlexFabric 10Gb 2P 534 M Adapter	700748-B21
20Gb FlexFabric 2P 630FLB Adapter	700064-B21
20Gb FlexFabric 2P 630FLB FIO Adapter	700066-B21
HPE FlexFabric 20Gb 2P 630 M Adapter	700076-B21
FlexFabric 20Gb 2-port 630FLB adapter, FlexibleLO M form factor - Provides two 20 Gb/s Ethernet ports in the interconnect module in the server system - Re quires one x8 PCI (Gen 3) Express FlexibleLOM slot on the blade system board	701527-001
FlexFabric 20Gb 2-port 630M adapter, mezzanine fo rm factor - 900MB integrated memory - Provides tw o 20 Gb/s Ethernet ports in the interconnect module in the server system - Requires one x8 PCI (Gen 3) E xpress mezzanine slot on the blade system board	701528-001
FlexFabric 20Gb 2-port 650FLB adapter, FlexibleLO M form factor - 900MB integrated memory - Provid es two 20 Gb/s Ethernet ports in the interconnect m	701536-001

Description	Spare Part Number
odule in the server system - Requires one x8 PCI (Ge n 3) Express FlexibleLOM slot on the blade	
FlexFabric 20GB two-port 650M converged mezzan ine adapter - 2-ports bi-directional, PCIe v3.0x8, Ty pe A adapter	701535-001
RonI Lift Adjustable Fork Adapter kit - Used to preve nt the compute enclosure from becoming misaligned when lifted from the shipping pallet - Compensates for flexing of the lift forks	AH337-2165A
FlexFabric 20Gb 2-port 650FLB adapter, FlexibleLO M form factor - 900MB integrated memory - Provid es two 20 Gb/s Ethernet ports in the interconnect m odule in the server system - Requires one x8 PCI (Ge n 3) Express FlexibleLOM slot on the blade	700762-B21
FlexFabric 10Gb 2-port 534FLB adapter, FlexibleLO M form factor - 900MB integrated memory - Provid es two 10 Gb/s Ethernet ports in the interconnect m odule in the server system - Requires one x8 PCI (Ge n 2) Express FlexibleLOM slot on the blade system board	701529-001
FlexFabric 10Gb 2-port 534M adapter, mezzanine fo rm factor - 900MB integrated memory - Provides tw o 10 Gb/s Ethernet ports in the interconnect module in the server system - Requires one x8 PCI (Gen 2) E xpress mezzanine slot on the blade system board	701530-001
InfiniBand FDR 2-port 545M adapter, mezzanine for m factor - Has two ports provide more than 100 G b/s throughput linking to a FDR IB switch module in t he server - Requires one x16 PCI (Gen 3) Express m ezzanine slot on the blade system board	705002-B21
InfiniBand FDR 2-port 545M adapter, mezzanine for m factor - Has two ports provide more than 100 G b/s throughput linking to a FDR IB switch module in t he server - Requires one x16 PCI (Gen 3) Express m ezzanine slot on the blade system board	705086-001
10GB 554FLB network adapter - Ethernet, 2-port, Fl exible LAN on Motherboard (FlexibleLOM)	649940-001
10Gb 2P 554FLB FIO adapter	684212-B21
8Gb AMH2572 FC Host Bus Adapter (HBA)	651281-B21
8Gb QMH2572 FC HBA mezzanine - Supports virtua lized servers, two-8 Gb/s Fibre Channel ports, 8/4/2 automatic speed negotiation	656452-001

Description	Spare Part Number
FC 16Gb QMH2672 HBA, mezzanine form factor - Provides two 8 Gb/s or 16 Gb/s FC ports - Optimized for HP and also supported by third-party SAN vendors - Requires one x8 PCI Express mezzanine slot on the blade system board	711305-001
16GB SFP+ short wave industrial extended transceiver - 100 m (328 ft) on high-bandwidth 50/125 um (OM3) MM fibers, 125 m (410 ft) on OM4 fiber. Cannot be used in the 3PAR product line	793443-001

NOTE

This PDU option is for HPE Integrity Superdome X systems. CS9000 systems have different PDU options not shown here.

Option Parts

Subtopics

New model specific parts lists
Superdome X Enclosure
Power Options
Enclosure Upgrade
Networking Modules
InfiniBand Modules
HPE BL920s Gen9 (v4) Server Blades
HPE BL920s Gen9 (v3) Server Blades
HPE BL920s Gen8 Server Blades
HPE DDR4 Memory Modules for BL920s Gen9 (v4) Blades
Blade FlexLOM
HPE Networking Mezz Cards
HPE Fibre Channel Mezz Cards
InfiniBand Mezz Cards
HPE Superdome X System Software
HPE iLO Advanced

New model specific parts lists

To look up RoHS-compliant information in PartSurfer, use the component's option part number or the sales order number for a system in which the component is used (available from the product QuickSpecs). **Click here to visit the HPE PartSurfer website**.

Superdome X Enclosure

Description	Option Part Number
HPE Superdome X base enclosure	AT147B

Power Options

Description	Option Part Number
HPE Superdome X local power	AT147A##001
HPE Superdome X 4 Wire No PDU	AT147A##002
HPE Superdome X 5 Wire Intl No PDU	AT147A##003
HPE Superdome X 4 Wire 3 Phase PDU	AT147A##004
HPE Superdome X 5 Wire Intl 3 Phase PDU	AT147A##005
HPE Superdome X 3 Wire Local SP PDU	AT147A##006
HPE Superdome X Top Power	AT147A##007
HPE Superdome X 3 Wire Japan SP PDU	AT147A##0010

Enclosure Upgrade

Description	Option Part Number
HPE Superdome X crossbar fabric 2 module	H7B49A

Networking Modules

Description	Option Part Number
HPE 10 GbE Ethernet Pass-Thru Module II for c-Class BladeSystem	854194-B21
HPE 6127XLG Ethernet blade switch	787635-B21
HPE 6125XLG Ethernet blade switch	711307-B21
HPE 6125G Ethernet blade switch	658247-B21
HP Cisco B22HP Fabric extender for BladeSystem c-Class	641146-B21
HP Cisco B22HP Fabric extender with 16 FET for BladeSystem c-Class	657787-B21

InfiniBand Modules

Description	Option Part Number
HP 4X FDR InfiniBand switch module for c-Class BladeSystem	648312-B21

HPE BL920s Gen9 (v4) Server Blades

Description	Option Part Number
HPE Superdome X BL920s Gen9 E7-8894v4 2.4 GHz 48-core Server Blade	Q1F43A
HPE Superdome X BL920s Gen9 E7-8893v4 3.2 GHz 8-core Server Blade	H7B44A
HPE Superdome X BL920s Gen9 E7-8891v4 2.8 GHz 20-core Server Blade	H7B45A
HPE Superdome X BL920s Gen9 E7-8890v4 2.2 GHz 48-core Server Blade	H7B46A
HPE Superdome X BL920s Gen9 E7-8880v4 2.2 GHz 44-core Server Blade	H7B47A
HPE Superdome X BL920s Gen9 E7-8855v4 2.1 GHz 28-core Server Blade	H7B48A

HPE BL920s Gen9 (v3) Server Blades

Description	Option Part Number
HPE Superdome X BL920s Gen9 8890 2.5 GHz 36-core Server Blade	A0R98A
HPE Superdome X BL920s Gen9 8880 2.3 GHz 36-core Server Blade	H7B40A
HPE Superdome X BL920s Gen9 8891 2.8 GHz 20-core Server Blade	A0S01A
HPE Superdome X BL920s Gen9 4850 2.2 GHz 28-core Server Blade	A0R99A
HPE Superdome X BL920s Gen9 8893 3.2 GHz 8-core Server Blade	H7B43A

HPE BL920s Gen8 Server Blades

Description	Option Part Number
HP Superdome X BL920s Gen8 2890 2.8 GHz 30-core Server Blade	AT068A
HP Superdome X BL920s Gen8 2880 2.5 GHz 30-core Server Blade	A0R97A
HP Superdome X BL920s Gen8 8891 3.2 GHz 20-core Server Blade	B9F03A
HP Superdome X BL920s Gen8 4830 2.2 GHz 20-core Server Blade	B9F04A
HP Superdome X BL920s Gen8 8893 3.4 GHz 12-core Server Blade	H7B42A

HPE DDR4 Memory Modules for BL920s Gen9 (v4) Blades

Description	Option Part Number
HPE Superdome X DDR4 128GB (4 x 32GB) PC4-2400 load reduced CAS-17 memory kit	H7B82A
HPE Superdome X DDR4 256GB (4 x 64GB) PC4-2400 load reduced CAS-17 memory kit	H7B83A
HPE Superdome X DDR4 512GB (4 x 128GB) PC4-2400 load reduced CAS-17 memory kit	Q1F79A

Blade FlexLOM

Description	Option Part Number
HPE FlexFabric 20Gb 2-port 630FLB adapter	700065-B21
HPE FlexFabric 20Gb 2-port 650FLB adapter	700763-B21
HPE Ethernet 10Gb 2-port 560FLB adapter	655639-B21

HPE Networking Mezz Cards

Description	Option Part Number
HPE FlexFabric 20Gb 2-port 630M adapter	700076-B21
HPE FlexFabric 20Gb 2-port 650M adapter	700767-B21
HPE Ethernet 10Gb 2-port 560M adapter	665246-B21
HPE FlexFabric 10Gb 2-port 534M adapter	700748-B21

HPE Fibre Channel Mezz Cards

Description	Option Part Number
HPE QMH2672 16Gb Fibre channel HBA	710608-B21

InfiniBand Mezz Cards

Description	Option Part Number
HP InfiniBand FDR 2-port 545M adapter	702213-B21

HPE Superdome X System Software

Description	Option Part Number
HPE Superdome X basic partitioning LTU	AT150A
HPE Superdome X advanced partitioning LTU	AT152A
HPE Superdome X advanced partitioning upgrade LTU	AT154A
HPE Superdome X advanced partitioning upgrade E-LTU	AT154AAE

HPE iLO Advanced

Description	Option Part Number
HPE iLO Advanced including 3 yr 24x7 Tech support and updates 1-server LTU	BD505A
HPE iLO Advanced including 3 yr TS U E-LTU	E6U64BE

Software Compatibility

Subtopics

OS Compatibility

Feature	Description
Operating System (OS) support	**HPE BL920s Gen9 (v4) server blades** • Red Hat Enterprise Linux (RHEL) • SUSE Linux Enterprise Server (SLES) • Microsoft Windows Server 2012 R2 Standard an d Datacenter (Including Microsoft SQL Server 20 14 and 2016) • VMware vSphere 6.0 U2 **HPE BL920s Gen9 (v3) server blades** • RHEL • SLES • Microsoft Windows Server 2012 R2 Standard an d Datacenter (Including Microsoft SQL Server 20 14 and 2016) • VMware vSphere 5.5 U3 and 6.0 U1 • CentOS **HPE BL920s Gen8 server blades** • RHEL • SLES • Microsoft Windows Server 2012 R2 Standard an d Datacenter (Including Microsoft SQL Server 20 14 and 2016) • VMware vSphere 5.5 U2 and 6.0 • CentOS

Supported OS

Important links

- **Click here to access the basic troubleshooting page for HPE Integrity Superdome X Server** .
- **Click here to access the troubleshooting compute enclosure events page for HPE Integrity Superdome X Server** .
- **Click here to access the troubleshooting the network page for HPE Integrity Superdome X Server** .

Superdome X OS

- This is the current OS support information for Superdome X systems.

OSs supported

Integrity Superdome X supports these OS:

- Microsoft Windows Server
  - 2012 R2 (BL920s, all versions)
  - 2016 (BL920s, all versions)
- VMware
  - vSphere 5.5 U2 (BL920s Gen8 up to 8 sockets)
  - vSphere 5.5 U3 (BL920s Gen8 and Gen9 v3 up to 8 sockets)
  - vSphere 6.0 (BL920s Gen8 up to 8 sockets)
  - vSphere 6.0 U1 (BL920s Gen8 up to 16 sockets and Gen9 v3 up to 8 sockets)
  - vSphere 6.0 U2 (BL920s Gen8 up to 16 sockets and Gen9 v3 & v4 up to 8 sockets)
  - vSphere 6.0 U3 (BL920s Gen8 up to 16 sockets and Gen9 v3 & v4 up to 8 sockets)
- Red Hat Linux
  - RHEL 6.5 (BL920s Gen8)
  - RHEL 6.6 (BL920s Gen8 and Gen9 v3)
  - RHEL 6.7 (BL920s, all versions)
  - RHEL 6.8 (BL920s, all versions)
  - RHEL 6.9 (BL920s, all versions)

- RHEL 7.0 (BL920s Gen8)
- RHEL 7.1 (BL920s Gen8 and Gen9 v3)
- RHEL 7.2 (BL920s, all versions)
- RHEL 7.3 (BL920s, all versions)

- SuSE Linux
  - SLES 11 SP3 (BL920s Gen8 and Gen9 v3)
  - SLES 11 SP3 for SAP (BL920s Gen8 and Gen9 v3)
  - SLES 11 SP4 (BL920s, all versions)
  - SLES 12 (BL920s Gen8 and Gen9 v3)
  - SLES 12 SP1 (BL920s, all versions)
  - SLES 12 SP2 (BL920s, all versions)

Support for some OSs requires a minimum firmware version. For the minimum required firmwareversions,see the Firmware Matrix for HPE Integrity Superdome X servers **Click here to access the Firmware Matrix for HPE Integrity Superdome X servers**.

For the latest list of supported OSs, see the HPE Integrity Superdome X OS Reference at **Click here to access the HPE Library**.

HPE Integrity Superdome X servers **Click here to access the Firmware Matrix for HPE Integrity Superdome X servers**.

Useful Links

Descriptions	Direct Links
QuickSpecs	**Click here to access "QuickSpecs of HPE Integrity Superdome X".**