RETIRED: This document has been officially retired, and the base products listed herein are now considered obsolete and are no longer available for sale. Consequently, the information contained within may no longer be current. This document is provided exclusively for reference and informational purposes.

Overview

HPE Integrity Superdome X



HPE Superdome X

Overview



HPE BladeSystem Superdome Enclosure front



HPE BladeSystem Superdome Enclosure back



HPE BL920s Gen9 Server Blade

Overview

HPE Superdome X: The Ultimate x86 based Mission-critical Platform

HPE Superdome X is an HPE server that 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. With breakthrough innovations such as the fault-tolerant Crossbar Fabric and Error Analysis Engine coupled with hard partitioning capabilities, Superdome X sets the standard for mission-critical x86 computing.

Key features and benefits

HPE Superdome X offers scalability that surpasses the market, flexibility through HPE nPARs, and mission critical RAS functionality. In summary:

- Support for up to 16 Intel® Xeon® Processor E7 v4 and E7 v3 Family
- 384 DIMM slots with up to 48 TB of DDR4 memory (Gen9), providing a large memory footprint for the most demanding applications
- 16 FlexLOM slots (2 per blade) providing LAN on motherboard configuration flexibility
- 24 Mezz PCIe gen3 slots (3 per blade) for maximum IO bandwidth connectivity to LAN, 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 system reliability and licensing optimization
- Error Analysis Engine self-heals by driving response to failures, minimizing human error

General

The HPE BladeSystem Superdome Enclosure is the foundational building block for Superdome X. Each compute enclosure supports 15 fans, 12 power supplies, associated power cords, 2 Onboard Administrator (OA) modules, 2 Global Partitioning Services Modules (GPSM), and four HPE Crossbar Fabric Modules (XFMs). Configurations of 1 to 8 blades can be populated in an enclosure with support for hard partitions (nPars) containing 1, 2, 3*, 4, 6** or 8 Blades. Multiple HPE nPars of different sizes are supported within a single enclosure.
NOTE*: BL920s Gen9 blades only
NOTE**: 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:

1. Includes two Intel E7 v4 or E7 v3 processors. The included processors depends on which blade model is purchased.
2. 48 DIMMs slots for DDR4 memory (Gen9) or DDR3 memory (Gen8)
3. 3 Mezzanine slots (1 x8, 2 x16) PCIe gen3
4. 2 FlexLOM slots
5. 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.

Service and Support

HPE Pointnext operational, and Warranty Information

Warranty

Hewlett Packard Enterprise branded hardware and options qualified for the HPE Superdome X are covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners. The Hewlett Packard Enterprise branded hardware and options diagnostic support and repair is available for three years from date of purchase, or the warranty length of the server they are attached to, whichever is greater. Additional support may be covered under the warranty or available through additional support packages. Enhancements to warranty services are available through HPE Pointnext operational services or customized service agreements.

Additional information regarding worldwide limited warranty and technical support is available at: **https://support.hpe.com/hpsc/doc/public/display?docId=c01865770**

Support Services

HPE Technology Services for Superdome X

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HPE Pointnext operational services

HPE Pointnext operational services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

Optimized Support recommendation

HPE Proactive Care Advanced – Call to repair commitment, 24x7 coverage, three year Care Pack Service Improve system availability and performance with personal attention from a locally assigned Account Support Manager while you increase stability and reduce unplanned downtime by connecting to Hewlett Packard Enterprise for automated problem detection. This level of HPE Proactive Care Advanced combines rapid critical event management with the industry's highest level of hardware support commitment – hardware will be returned to operating conditions within six (6) hours after you open your case. Collaborative software call management is included; you may prefer full software support from Hewlett Packard Enterprise where we own all cases through to resolution. As a leading global software support provider, we leverage the knowledge and experience gained from long, successful relationships with leading Linux vendors. Purchasing software support from Hewlett Packard Enterprise simplifies troubleshooting and shortens time to resolution with one call for hardware or software questions.

Hewlett Packard Enterprise hardware Installation
This easy-to-buy, easy-to-use HPE Pointnext operational service helps ensure your new Hewlett Packard Enterprise hardware is installed smoothly, efficiently and with minimal disruption to your IT and business operations.

Related Services

Data Center Platform Consulting Services
These services help modernize key systems and leverage new technology to support a changing business climate and prepare you for the new style of IT. Hewlett Packard Enterprise understands the needs of the data center of the future and will serve as your guide for the journey. **https://www.hpe.com/us/en/services/consulting.html**

Data Privacy Services
Protect your data through better media management. HPE Data privacy services help manage and protect sensitive data. **https://www.hpe.com/us/en/services/platform-consulting-services.html**

Service and Support

Factory Express for Servers and storage
HPE Factory Express offers configuration, customization, integration and deployment services for Hewlett Packard Enterprise servers and storage products. Choose how your factory solutions are built, tested, integrated, shipped and deployed. **www.hpe.com/info/factoryexpress**
Additional HPE Pointnext operational services can be found at: **http://ssc.hpe.com/portal/site/ssc/**

Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Insight Online/Insight Remote Support

HPE Insight Remote Support provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. This comes at no additional cost with your HPE solution. Learn more about **Insight Remote Support** and **Insight Online**.

Recommended support services

Operating System Installation & Startup Service
HA114A1#5H4 – Linux
HA114A1#5FR - Windows

Boot from SAN Service
HA124A1#59J

Network Service
HA124A1#56H

SAN Deployment Service
HA124A1#5VY

Standard Features

HPE BL920s Gen9 Server Blade	**w/Intel Xeon v4 Processors**	Each server blade supports two (per blade) of these processors: Intel® Xeon® Processors: E7-8894 v4 24-core/2.4GHz/165W/60MB Intel® Xeon® Processors: E7-8893 v4 4-core/3.2GHz/140W/60MB Intel® Xeon® Processors: E7-8891 v4 10-core/2.8GHz/165W/60M Intel® Xeon® Processors: E7-8890 v4 24-core/2.2GHz/165W/60M Intel® Xeon® Processors: E7-8880 v4 22-core/2.2GHz/150W/55M Intel® Xeon® Processors: E7-8855 v4 14-core/2.1GHz/140W/35MB
	w/Intel Xeon v3 Processors	Each server blade supports two (per blade) of these processors: Intel® Xeon® Processor E7-8891 v3 10-core/2.8GHz/165W/45M Intel® Xeon® Processor E7-4850 v3 14-core/2.2GHz/115W/35M Intel® Xeon® Processor E7-8880 v3 18-core/2.3GHz/150W/45M Intel® Xeon® Processor E7-8890 v3 18-core/2.5GHz/165W/45M Intel® Xeon® Processor E7-8893 v3 4-core/3.2GHz/140W/45M
HPE BL920s Gen8 Server Blade	**w/Intel Xeon v2 Processors**	Each server blade supports two (per blade) of these processors: Intel® Xeon® Processor E7-2890 v2 (15c/2.8Ghz / 37.5M / 155W) Intel® Xeon® Processor E7-2880 v2 (15c/2.5Ghz / 37.5M / 130W) Intel® Xeon® Processor E7-4830 v2 (10c/2.2Ghz / 20M / 105W) Intel® Xeon® Processor E7-8891 v2 (10c/3.2Ghz / 37.5M / 155W) Intel® Xeon® Processor E7-8893 v2 (6c/3.4Ghz / 37.5M / 155W)
	Chipset	HPE sx3000 and XNC2
	Upgradability and scalability	Scalable from 2 socket configurations to 16 socket configurations
	Memory type for HPE BL920s Gen9 Server Blades	HPE 128GB (4x32GB) DDR4-2133 CAS-15-15-15 LRDIMM Memory Kit HPE 128GB (4x32GB) DDR4-2400 CAS-17 LRDIMM Memory Kit HPE 256GB (4x64GB) DDR4-2400 CAS-17 LRDIMM Memory Kit HPE 512GB (4x128GB) DDR4-2400 CAS-17 LRDIMM 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 (DDR3-1866) Registered CAS-13 Memory Kit
	Memory protection	Error checking and correcting (ECC) on memory and caches; double-chip spare
	Certified operating environments	**HPE BL920s Gen9 (v4) Server Blades** • Red Hat Enterprise Linux (RHEL) • SUSE Linux Enterprise Server (SLES) • Microsoft Windows Server 2012 R2 Standard and Datacenter (including Microsoft SQL Server 2014 and 2016) • VMware vSphere 6.0 U2 **HPE BL920s Gen9 (v3) Server Blades** • Red Hat Enterprise Linux (RHEL) • SUSE Linux Enterprise Server (SLES) • Microsoft Windows Server 2012 R2 Standard and Datacenter (including Microsoft SQL Server 2014 and 2016) • VMware vSphere 5.5 U3 and 6.0 U1

Standard Features

- CentOS

HPE BL920s Gen8 Server Blades

- Red Hat Enterprise Linux (RHEL)
- SUSE Linux Enterprise Server (SLES)
- Microsoft Windows Server 2012 R2 Standard and Datacenter (including Microsoft SQL Server 2014 and 2016)
- VMware vSphere 5.5 U2 and 6.0
  CentOS

NOTE: For more information on the HPE Certified and Supported Hewlett Packard Enterprise servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: **http://www.hpe.com/info/ossupport** and our **HPE Integrity Superdome X support page**

Mezzanine I/O slots	1 PCIe Gen3 x8 Mezzanine (Type A) slot per Blade (up to 8 Blades) 2 PCIe Gen3 x16 Mezzanine (Type B) slots per Blade (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 1GbE Switch Modules, 20GbE Switch modules, 10GbE Switch modules, 10GbE Pass-thru modules, 16Gb Fibre Channel and InfiniBand Interconnect Modules.
Partitioning	Multiple 2, 4, 6*, 8, 12** or one 16-socket electrically isolated HPE nPartitions (HPE nPars) supported. NOTE*: BL920s Gen9 blades only NOTE**: BL920s Gen9 (v4) blades only
Form factor	18U Enclosure HPE 600 mm wide 42U Intelligent Series rack with standard rack door
High availability-standard server features	2N (N+N) redundant power supplies N+1 fans (or greater depending on the load) Online, replaceable, and redundant OA, utilities, clock, and service processor subsystems Fault Tolerant Crossbar Fabric built on dynamic multi-pathing and end-to-end retry technology Enhanced MCA recovery (Automated Processor Recovery) w/Intel Cache Fail-Safe Technology® ECC on caches, Memory ECC, and double-chip spare ECC, re-tries, and Link Width Reduction on data paths Automatic de-configuration of memory and processors 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 port for incidental local human interface via SUV cable • 10/100Base-T LAN for Integrity Integrated Lights-Out (iLO 4) management • Removable media via built-in DVD-ROM, accessible from all partitions

Standard Features

Standard Warranty Three year, onsite hardware support – Next Business Day.

HPE Superdome X products are comprised of two main components: HPE BladeSystem Superdome Enclosure and the BL920s Server Blade

HPE BladeSystem Superdome Enclosure

The system can be field racked. However, it is strongly recommended that customers order the systems racked from the factory. This provides the customer the benefit of extensive system testing and avoids possible premium service charges for field racking service. An important restriction to note about field racked units: field racked units are limited to single blade configurations due to weight limitations. Additional blades must be ordered as separate items and will be shipped along with the enclosure. Field racking requires the use of an appropriate material lift capable of lifting 400 lbs. The RONI lift is no longer available for purchase. Suggested replacement is the Genie Material Lift GL-8 (**http://www.genielift.com/**).

Model No.	Description	Overall L x W	Base Dimensions	Maximum Lifting Height	Width – stowed	Capacity	Weight
GL-8	Standard Base GL-8	5'-7.5" x 35"	2' 10.75"L Operating / 2' 0.75"W Outside	10 ft. 5 in	2 ft. 0.75 in	400 lbs	132 lbs.

HPE Superdome X systems are supported in the HPE 600 mm wide 42U Intelligent Series rack.

Other products may be placed in the same rack as Superdome X. Placement of these other products must not result in moving the server enclosure.

All racks in the same order must be the same height and width.

HPE Superdome X Hardware Configuration

Superdome Enclosure (AT147B/AT147A)	
Number of BL920s Blades (min/max) per compute enclosure	1 to 8
Number of CAMnet Completer modules (CCMs)	0 or 1
Number of processor per compute enclosure (min/max) (increments of 2)	2 to 16
Number of DIMMs (increments of 16 DIMMs per Blade)	16, 32 or 48 per Blade
Number of Crossbar Fabric Modules (XFMs)	4
Number of FlexLOM slots	2 slots per Blade
Number of I/O slots	1 Type A Mezzanine slot per Blade 2 Type B Mezzanine slots per Blade
Number of OAs	2
Number of GPSMs (Global Partition Services Modules)	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

Standard Features

the system.

HPE Superdome X is supported in the HPE 600mm 42U wide Intelligent Series rack with a standard rack door.
Each BL920s blade is populated with one XNC2 Agent chip, two processor modules, and eight Intel Scalable Memory Buffer chips.
Detailed partitioning rules are included in the configuration rules for each system. However, general rules are as follows:

1. Load the largest partitions first, and in accordance with the supported nPAR configurations as documented herein.
2. Odd/even slot loading for BL920s blades in the same partition is required by nPAR sizing rules. For instance, a four blade partition must have blades loaded in slots 1/3/5/7 or 2/4/6/8 (not slots 1/2/3/4 as in legacy Superdome).
3. A BL920s blade must be in slot 1 of the enclosure.

A BL920s blade or filler blade (HPE CAMnet Completer Module, CCM) must be in slot 2 or 3 of the compute enclosure. A CCM is needed if there is only a single blade to provide redundant manageability fabric from the GPSMs to the OAs. A CCM is automatically included in the enclosure, in slot 2, when there is only one compute blade.

Ordering and Configuration

HPE Superdome X

Configuration Rules

The HPE BladeSystem Superdome Enclosure is the basic building block for the HPE Superdome X. Multiple HPE nPartitions (HPE nPars) can be supported in 1-Blade, 2-Blade, 3-Blade (BL920s Gen9 blades only), 4-Blade, 6-Blade (BL920s Gen9 (v4) only) or 8-Blade configurations.

- Blades can be ordered in single or multiple quantities. A minimum of one BL920s server blade must be ordered with a Superdome Enclosure and populated in slot 1. If only one blade is ordered, a CCM must be populated in slot 2 for CAMnet topology redundancy. A CCM is automatically included in the enclosure when there is only one blade.
- All blades are populated with two processor modules
- A Superdome Enclosure can have up to eight BL920s server blades
- A Superdome Enclosure contains four Crossbar Fabric Modules (XFMs)
- A Superdome Enclosure has two Onboard Administrator (OA) boards populated
- Two Global Partition Services Modules (GPSMs) are included
- There are single phase and three phase power distribution options.

Racking Choices

The HPE Superdome X has some basic racking rules. The Superdome Enclosure is 18U high and can be racked in the 42U high HPE 600mm wide Intelligent Series rack. The HPE Superdome X may be ordered field racked, but some disassembly is required.

The default assumption is that compute enclosures are loaded in the rack at the bottom. It is recommended that 2U is left below the bottom of the compute enclosure in the 42U rack to provide PDU and cabling exit space.

The supported configuration is a single rack for a Superdome Enclosure at the bottom of the rack leaving space above for other peripherals.
NOTE: The TFT7600 rack mountable display is not supported with the HPE Superdome X.

Partitioning Choices

The HPE Superdome X may be partitioned into different mixes of HPE nPartions – HPE nPARs. The configurations specified herein allow the customer to hard partition their HPE Superdome X into the configuration that best suits their computing needs.

The enclosure's midplane has been routed such there is more bandwidth across odd slots and even slots vs. mixed. Therefore, a four blade partition will have better performance when all four of the blades are in odd (1, 3, 5, 7) or even (2, 4, 6, 8) slots vs. mixed (1, 2, 3, 4) slots.

Below are the configurations when shipped from the factory

HPE Superdome X partition loading

nPartition Size	ENCLOSURE Slot Number							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1-Blade	1	5	2	6	3	7	4	8
2-Blades	1	3	1	3	2	4	2	4
3-Blades	1	2	1	2	1	2	3	4
4-Blades	1	2	1	2	1	2	1	2
6-Blades	1	1	1	1	1	2	1	2
8-Blades	1	1	1	1	1	1	1	1

Ordering and Configuration

NOTE: Support for multiple nPartitions within the enclosure, and those nPartitions can be 1-Blade, 2-Blades, 3-Blades*, 4-Blades, 6-Blades* or 8-Blades in size.
NOTE: 3-blade nPartitions (nPars) are only supported with BL920s Gen9 blades
NOTE: 6-blade nPartitions (nPars) are only supported with BL920s Gen9 (v4) blades

Power Distribution Options

The Superdome Enclosure power supplies are 80 PLUS Platinum Rated 2400W supplies.

The Superdome Enclosure is designed to support N+N redundancy of the power supplies. To retain dual source redundancy in conjunction with the power supply redundancy of Superdome 2, it is necessary to connect all six power supplies located left of center (three top and three bottom) to one source and all six power supplies located right of center (three top and three bottom) to the other source.

There are nine AC power connection options offered in Superdome Enclosures. These can be divided into three main configurations

- Single Phase only (16A/20A, single phase cords that plug directly into wall sockets)
  - Connectors on back of the compute enclosure are IEC60320-C19:



  - A total of 12 single phase power cords are necessary to power the 12 power supplies in the Superdome Enclosure. (power option #001)
  - To limit the number of power cords exiting the rack (decrease from 12 cords to 4 cords) it is possible to use a single phase IEC309 63A Power Distribution Units (PDUs) for power cord aggregation. (power option #006)
  - Power option #010 is only available in Japan. There are 6 NEMA L6-30P single phase PDU's at the bottom of the rack.
    NOTE: Power option #010 is not available with the 36u rack.
- Below is a photo of the rear of a Superdome Enclosure with the single phase power interface modules installed, they are visible at the extreme top and bottom of the unit:

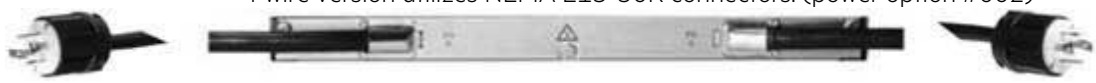


- Single and Three Phase mix (single phase cables within the rack connected to the PDU, three phase cables to customer supplied receptacles)

Ordering and Configuration

- The power interface modules used are the single phase units shown above.
- PDUs used have:
  - 4 wire, IEC 309 60A connector, qty. 2 needed. (power option #004)
  - 5 wire, IEC309 32A connector, qty. 2 needed. (power option #005)

- Three Phase only (three phase cords that connect directly to customer provided receptacles)
  - 4 wire version utilizes NEMA L15-30R connectors: (power option #002)

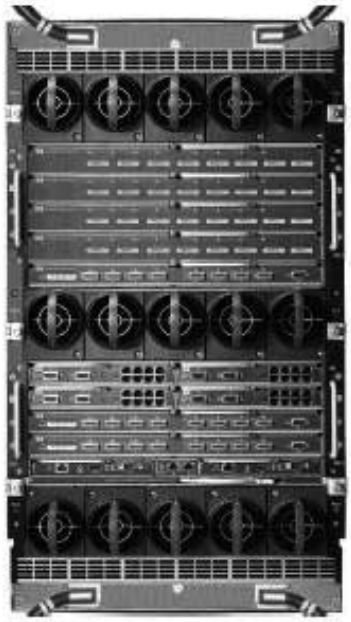


  - 5 wire version utilizes IEC309 16A 5 pin connectors: (power option #003)



  - A total of 4 cords are necessary to power the 12 power supplies in the Superdome Enclosure.

Below is a photo of the rear of a Superdome Enclosure with the three phase power interface modules installed:



All these options are offered for HPE Superdome X.

All PDUs supported in the HPE Superdome X are half depth such that two can fit in 1U (one in the front and one in the back). Many of the PDUs are offered in both 1U (horizontally mounted) and 0U (side-mounted) options. The three phase PDU's for the Superdome Enclosure are AF511A or AF518A.

Specifying power option #007 in conjunction with any of the others (#001 - #006) routes the power cords to exit the top of the rack rather than the bottom.

Ordering and Configuration

Power Option Matrix

Power Option	Country	Power cord and input module* (+phase type)	# of power cords per enclosure	# of PDU's (+phase type) & location	Type of wire plug	Other notes
#001	Localized power cords	Single phase (1Φ)	12	no PDU	Localized	20A/16A power cords
#002		Three phase(3Φ)	4 (2 per Power input module)	no PDU	4 wire	NEMA L15-30P
#003	International	Three phase (3Φ)	4 (2 per Power input module)	no PDU	5 wire	IEC309-16A
#004		Single phase (1Φ)	12 (same qty and length cords)	2 PDU's (3Φ Three phase) Bottom of rack	4 wire	Rack mountable AF511A (PDU p/n)
#005	International	Single phase (1Φ)	12 (Same qty and length cords)	2 PDU's (3Φ Three phase) Bottom of rack	5 wire	Rack Mountable AF518A (PDU p/n) IEC309 32A
#006	NA/Japan/ International	Single phase (1Φ)	12 (Same qty and length cords	4 PDU's (single phase) Bottom of rack	3 wire (single phase)	252663-B34 (single phase 40A PDU p/n)
#007	NA/Japan/ International	Based on options #001, #004 –#006, #010	Based on options #001, #004 – #006, #010	Based on options #001, #004 –#006, #010; places location of PDU top of rack	3 wire (single phase) 4 or 5 wire (three phase)	Trigger to route power top of rack and to replace with longer patch cords/jumper cords);
#010	Japan	Single phase (1Φ)	12 (Same qty and length cords	6 PDU's (single phase) Bottom of rack default	3 wire (single phase)	252663-D74 (24A PDU with NEMA L6-30P Plug) OPTION NOT AVAILABLE with 36U rack, 32s starter pkg #008, or 32s SMP (AH353A)

Connections to the enclosure

HPE Power Advisor The HPE power Advisor is a tool provided by Hewlett Packard Enterprise to assist in the estimation of power consumption at a system, rack, and multi-rack level.

Available at: **https://paonline56.itcs.hpe.com/**

HPE Superdome X Processor Support HPE BL920s Server Blades support Intel® Xeon® Processor E7 Family devices as specified in the following tables. For more details on the processor specifications, see: **http://ark.intel.com/**

Support for the various speed bins is as follows:

Ordering and Configuration

BL920s Gen9 Server Blade Processors

HPE Superdome X BL920s Gen9 supported processor matrix

		Intel® Xeon® Processor E7 v4 Family		
Processor	**# of cores per processor**	**Frequency**	**Cache**	**Power**
Intel Xeon Processor E7-8894 v4	24c	2.4 GHz	60 MB	165W
Intel Xeon Processor E7-8890 v4	24c	2.2 GHz	60 MB	165W
Intel Xeon Processor E7-8880 v4	22c	2.2 GHz	55 MB	150W
Intel Xeon Processor E7-8855 v4	14c	2.1 GHz	35 MB	140W
Intel Xeon Processor E7-8891 v4	10c	2.8 GHz	60 MB	165W
Intel Xeon Processor E7-8893 v4	4c	3.2 GHz	60 MB	140W
		Intel® Xeon® Processor E7 v3 Family		
Processor	**# of cores per processor**	**Frequency**	**Cache**	**Power**
Intel Xeon Processor E7-8890 v3	18c	2.5 GHz	45 MB	165W
Intel Xeon Processor E7-8880 v3	18c	2.3 GHz	45 MB	150W
Intel Xeon Processor E7-4850 v3	14c	2.2 GHz	35 MB	115W
Intel Xeon Processor E7-8891 v3	10c	2.8 GHz	45 MB	165W
Intel Xeon Processor E7-8893 v3	4c	3.2 GHz	45 MB	140W

Ordering and Configuration

BL920s Gen8 Server Blade Processors

HPE Superdome X BL920s Gen8 supported processor matrix

		Intel® Xeon® Processor E7 v2 Family		
Processor	**# of cores per processor**	**Frequency**	**Cache**	**Power**
Intel Xeon Processor E7-2890 v2	15c	2.8 GHz	37.5 MB	155W
Intel Xeon Processor E7-2880 v2	15c	2.5 GHz	37.5 MB	130W
Intel Xeon Processor E7-4830 v2	10c	2.2 GHz	20 MB	105W
Intel Xeon Processor E7-8891 v2	10c	3.2 GHz	37.5 MB	155W
Intel Xeon Processor E7-8893 v2	6c	3.4 GHz	37.5 MB	155W

Processor Mixing Support

HPE Superdome X governing rules for mixing processors are as follows:

- No mixing of processor types within a nPartition
- No support for processors running at different frequencies or different cache sizes within the same nPartition
- Processor modules on a blade must be the same revision, frequency, & cache size
- Mixing of processors with different frequencies and/or cache sizes will be NOT allowed within a nPartition
- You can mix blades of different processor frequencies, cache sizes and generations within a single **enclosure** provided each different processor type is in separate nPartitions per the rules listed above.

HPE Superdome X Memory Support

HPE Superdome X use the Intel® Scalable Memory Buffer chip to translate between the Scalable Memory Interconnect 2 (SMI2 or VMSE) technology on the memory controller and the DDR3 DIMMs.

The following DIMMs are supported on BL920s Gen9 blades:

- 16GB DDR4-2133 CAS-15-15-15 LRDIMMs for BL920s Gen9 (v3)
- 32GB DDR4-2133 CAS-15-15-15 LRDIMMs for BL920s Gen9 (v3)
- 32GB DDR4-2400 CAS-17 LRDIMMs for BL920s Gen9 (v4)
- 64GB DDR4-2400 CAS-17 LRDIMMs for BL920s Gen9 (v3, v4)
- 128GB DDR4-2400 CAS-17 LRDIMMs for BL920s Gen9 (v4)

The following DIMMs are supported on BL920s Gen8 blades:

- 16GB PC3-12800R (DDR3-1600) Registered CAS-11 DIMMs for BL920s Gen8
- 32GB PC3-14900R (DDR3-1866) Registered CAS-13 DIMMs for BL920s Gen8

Only DIMMs that Hewlett Packard Enterprise has qualified on BL920s Server Blades are supported.
The BL920s Server Blade supports 48 DIMMs and eight Intel® Scalable Memory Buffer chips. This equates to twelve DIMMs and two Scalable Memory Buffer chips per memory controller (two memory controllers per processor).

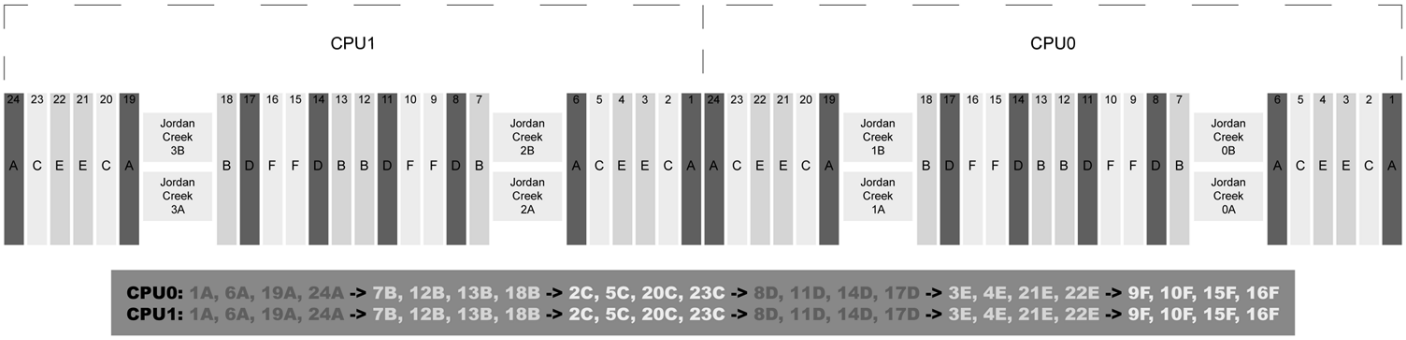
General memory configuration rules:

- For best performance, the amount of memory on each blade within the partition should be the same.
- Use the same amount of memory on each processor module within a partition.
- Use fewer DIMM populations of larger DIMM sizes to get the best performance where possible (use 16x 32GB DIMMs instead of 32x 16GB DIMMs if you need 512 GB of memory per Blade)

Ordering and Configuration

HPE Superdome X DIMM loading rules and numbering (top-down view of blade)

The DIMMs must be loaded in groups of 16 on the Blade, and must be loaded in the following order: A -> B -> C -> D -> E -> F



BL920s Server Blade DIMM Arrangement

NOTE: Per the commonality guidelines, the first DIMMs to be loaded will have white DIMM connector latches loaded on the blade. Therefore, "A" and "B" connector latches will be white. Connectors in slot positions "C", "D", “E” and “F” will have black latches.

The following table shows the supported configurations as shipped from the factory

NOTE: Mixing DIMM sizes within the same blade is not supported.

NOTE: For the BL920s Gen8 blade, the 16GB DIMMs are only supported with 16 DIMMs (min/max) per BL920s Gen8 Server Blade.

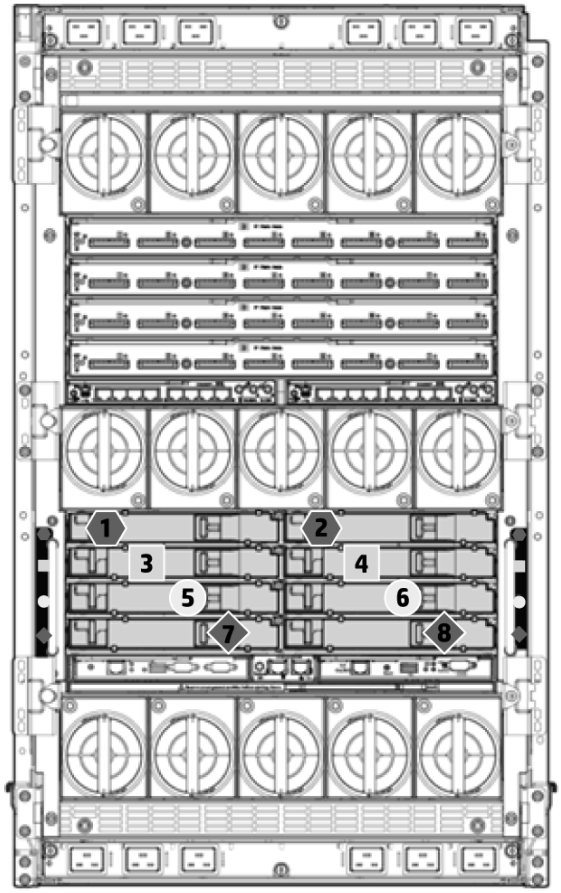
Recommended Configurations per BL920s Server Blade

Total Memory per Blade (GBytes)	Number of DIMMS				Echelon A	Echelon B	Echelon C	Echelon D	Echelon E	Echelon F
	16GB DIMMs	32GB DIMMs	64GB DIMMs	128GB DIMMs						
256	16				16G	16G				
512 (Gen9 v3)	32				16G	16G	16G	16G		
512		16			32G	32G				
768 (Gen9 v3)	48				16G	16G	16G	16G	16G	16G
1024		32			32G	32G	32G	32G		
1024 (Gen9)			16		64G	64G				
1536		48			32G	32G	32G	32G	32G	32G
2048 (Gen9)			32		64G	64G	64G	64G		
2048 (Gen9)				16	128G	128G				
3072 (Gen9)			48		64G	64G	64G	64G	64G	64G
4096 (Gen9)				32	128G	128G	128G	128G		
6144 (Gen9)				48	128G	128G	128G	128G	128G	128G

Ordering and Configuration

HPE Superdome X Interconnect Module Support

HPE Superdome X will support some of the same I/O cards and I/O interconnect modules as the HPE BladeSystem c7000 and c3000 Enclosures. FlexLOMs and/or Mezzanine I/O cards installed on the Blades are routed through the Superdome Enclosure as depicted in the following picture and table:



NOTE: In order to route the I/O from the FlexLOM and Mezzanine card slots on the individual server Blades, the appropriate interconnect module must be installed in the appropriate I/O Bay.

Server blade port	Compute enclosure Interconnect Bay	Interconnect Bay label
FlexLOM 1 Port 1	1	1
FlexLOM 1 Port 2	2	2
FlexLOM 2 Port 1	1	1
FlexLOM 2 Port 2	2	2
Mezzanine 1 port 1	3	3
Mezzanine 1 port 2	4	4
Mezzanine 1 port 3	3	3
Mezzanine 1 port 4	4	4
Mezzanine 2 port 1	5	5
Mezzanine 2 port 2	6	6
Mezzanine 2 port 3	7	7
Mezzanine 2 port 4	8	8
Mezzanine 3 port 1	7	7
Mezzanine 3 port 2	8	8
Mezzanine 3 port 3	5	5
Mezzanine 3 port 4	6	6

Ordering and Configuration

Interconnect Modules	HPE 6127XLG Ethernet Blade Switch	787635-B21
	HPE 6125XLG Ethernet Blade Switch	711307-B21
	HPE 10GbE Ethernet Pass-Thru Module II for c-Class BladeSystem	854194-B21
	HPE Cisco B22HP Fabric Extender for BladeSystem c-Class	641146-B21
	NOTE: Not available factory integrated in bays 1 & 2; can be factory integrated in bays 3-8	
	HPE Cisco B22HP Fabric Extender with 16 FET for BladeSystem c-Class	657787-B21
	NOTE: Not available factory integrated in bays 1 & 2; can be factory integrated in bays 3-8	
	HPE 4X FDR InfiniBand Switch Module for c-Class BladeSystem	648312-B21
	NOTE: BL920s Gen9 only	
Converged Networking	HPE FlexFabric 20Gb 2-port 650M Adapter	700767-B21
	HPE FlexFabric 20Gb 2-port 650FLB Adapter	700763-B21
	HPE FlexFabric 20Gb 2-port 630FLB Adapter	700065-B21
	HPE FlexFabric 20Gb 2-port 630M Adapter	700076-B21
	HPE FlexFabric 10Gb 2-port 534M Adapter	700748-B21
	NOTE: FlexLOM and Mezzanine I/O cards mentioned are supported in HPE BL920s Server blades. **NOTE:** FlexFabric 534FLB/534M adapters not supported with Windows Server or SQL Server. **NOTE:** FlexFabric 20Gb 2-port 630 & 650 Adapters supported with BL920s Gen9 only.	
Networking	HPE Ethernet 10Gb 2-port 560FLB Adapter	655639-B21
	HPE Ethernet 10Gb 2-port 560M Adapter	665246-B21
Storage	HPE QMH2672 16Gb Fibre Channel Host Bus Adapter	710608-B21
InfiniBand	HPE InfiniBand FDR 2-port 545M Adapter	702213-B21
	NOTE: InfiniBand FDR 2-port 545M Adapter only supported with BL920s Gen9	

HPE Superdome X Boot Support

Fibre Channel is the only supported local disk option

- MSA 2050 is the recommended FC Array, see **https://www.hpe.com/h20195/v2/GetPDF.aspx/c04123144**
- Other HPE Fibre Channel storage devices are supported for boot and SAN connectivity. For details, see the **HPE SPOCK** website.
  NOTE: For FC, a SAN Switch is required

Each partition (nPar) requires dedicated boot path(s)

- One dedicated FC HBA per partition
- FC: 710608-B21 - HPE QMH2672 16Gb FC HBA
- Two dedicated FC HBAs for Serviceguard
- Dual port HBAs may utilize “second” port for data access

Up to 8 partitions per enclosure

- Minimum partition size = one blade

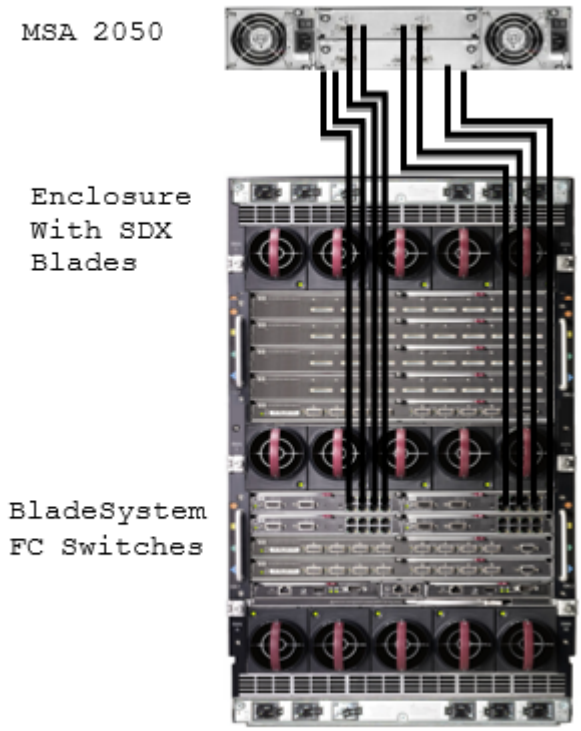
Superdome X supports PXE boot for network disks

- Can use any of the supported Superdome X 20GbE and 10GbE FlexLOMs or mezzanine cards

Ordering and Configuration

Local Boot direct attach FC

NOTE: Information pertains to boot requirements only.



Superdome X Chassis

One MSA 2050 SAN can support boot to all partitions

- Use the Explicit Mapping feature of the array to assign boot disks

One MSA 2050 array can support up to two (2) dual port array controllers

- Each controller supports up to four (4) 8/16GB FC links

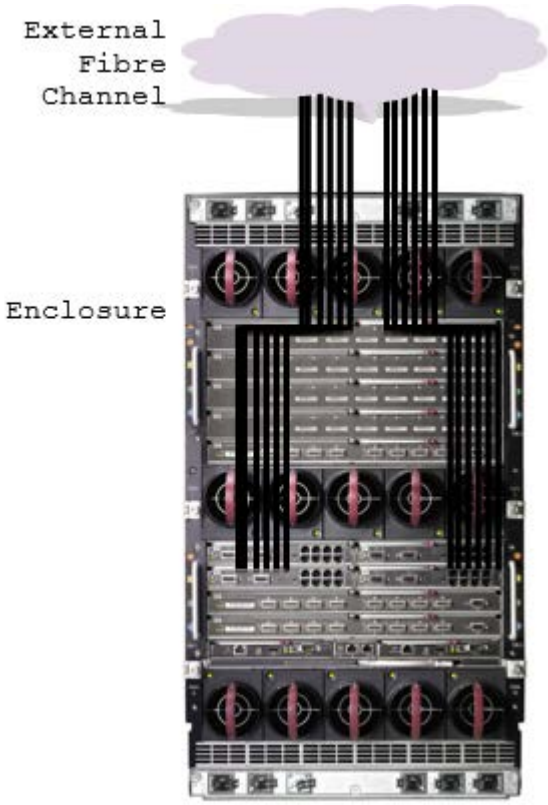
Considerations for local boot

- Minimum configuration: one controller
  - One controller supports boot to all partitions but lacks controller redundancy or online f/w upgrading
- Optimal configuration: two controllers
  - Configure redundant boot paths to separate controllers
  - Controller firmware may be independently upgraded without taking down the server partitions

Ordering and Configuration

Boot From "Local" SAN

NOTE: Information pertains to boot requirement only.



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 firmware
- No factory installation of operating environment

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 20000/8000/7000/10000 Storage
- HPE MSA 2040/2050 Storage
- HPE XP7 Storage
- HPE XP P9500 Storage
- HPE EVA P6000 Storage
- HPE EVAx400 Storage

For detailed information on supported HPE Storage devices, please visit the **HPE SPOCK** website.

Platform and Partition Management

Ordering and Configuration

The HPE Superdome X delivers partition administration and control and platform management both in easy-to-use graphical management tools and also in a comprehensive and concise command-line interface.

The Onboard Administrator in Superdome X is a unique OA option specific to the Superdome Enclosure. It is based on HPE BladeSystem OA, but adds more memory, more firmware control, and tools designed for platforms using the Superdome Enclosures. The benefit of reusing the OA is reduced administration costs along with improved platform and partition management, all within a familiar graphical user interface (GUI) or command line interface (CLI).

The HPE Superdome X has a built-in and always available platform and partition management system. By integrating the management into the server platform, Hewlett Packard Enterprise ensures that every Superdome X comes with the full set of management features, and simplifies the task of integrating Superdome X into the data center. The purpose of the HPE Superdome X management system is to:

- Provide built-in tools to manage hardware and provide mission-critical system availability (inventory, monitor, diagnose, configure, maintain, and self-healing)
- Make it easier for users and applications to manage partitions (create, modify, inventory, start, stop, connect console, and so on)

The HPE Superdome X manageability system provides a user-friendly experience, and the OA makes managing the HPE Superdome X much easier by centralizing the control and building the management into the hardware and firmware of the system. It provides the following features:

- Intuitive GUI interface makes it easier for system administrators to navigate the intricacies of the HPE Superdome X management. GUI status displays update automatically when system status changes (dynamic Web technology).
- CLI for easy scripting and power user convenience
- Console for each nPartition, simultaneously available from OA GUI or CLI.
- Sharable enclosure DVD or remotely connected iLO virtual media can be used to attach a DVD-ROM to nPartitions.
- OA controlled power management features across the Superdome X HPE nPartitions
- Built-in Error Analysis Engine constantly monitors all system hardware, analyzes log and telemetry data, and determines corrective actions for highest system uptime (often performing corrective actions automatically)
- HPE Superdome X OA integrates with Insight Remote Support for data center wide fault management visibility and tie-in to the HPE support services.

Onboard Firmware Manager

This functionality can scan a partition and report components with incompatible firmware versions. Single nPars, or the entire Superdome X, with mismatched firmware due to parts replacements or system upgrades, can have firmware updated to a consistent level with just a click of a button, and the partitions with consistent firmware levels fully validated for the most reliable operation.

Onboard Partition Manager

The Onboard Partition Manager is a set of commands built into the OA to manage partitions. With these tools, partitions can be built and configured to meet changing workloads as necessary.

There are three main aspects of partition management:

1. Partition configuration and re-configuration
2. Partition start/stop
3. Management of the OS running on the partition

The Onboard Partition Manager focuses on the first two aspects, partition configuration and partition start/stop. The core of partition management functionality now resides on the built-in Onboard Administrator.

The new OA-based partition management architecture supports an nPar management model that is implemented entirely in firmware. There are no dependencies on software tools, no need for an external management station or a special "hypervisor" to build your desired partition configuration. The result is faster, easier, partition configuration and partition start/stop. Both graphical user interface (GUI) and command line interface (CLI) are supported on the OA to manage partitions.

Ordering and Configuration

The HPE Superdome X can utilize "ParSpecs" which are a way to save, create, and build partitions from resource definitions. ParSpec definitions allow you to have overlapping resources as long as the partitions booted don't all claim the same resources at the same time. One way to use ParSpecs is to create one set for "end of month" jobs, and another set for "daily work". ParSpec commands are built into the OA CLI at first release.

Step 1: Choose Required Superdome X Enclosure and Power Requirements

Enclosure	HPE Superdome X Base Enclosure	AT147B
	NOTE: Adding Option code "#0D1" to the enclosure will integrate the enclosure into the Superdome Rack (which must be on the same order) **NOTE:** Min 1/Max 1 Power Option #001 - #006, #010 must be selected. Option #007 - can be added if power is out of the top of the rack **NOTE:** Min 1/Max 1 Superdome X partitioning LTU is required for each enclosure ordered. See HPE Superdome X system software listed below.	
Power options	HPE Superdome X Local Power	#001
	HPE Superdome X 4 Wire No PDU	#002
	HPE Superdome X 5 Wire Intl No PDU	#003
	HPE Superdome X 4 Wire 3 Phase PDU	#004
	HPE Superdome X 5 Wire Intl 3 Phase PDU	#005
	HPE Superdome X 3 Wire Local SP PDU	#006
	HPE Superdome X Top Power	#007
	HPE Superdome X 3 Wire Japan SP PDU	#010
Enclosure upgrade	HPE Superdome X Crossbar Fabric 2 Module	H7B49A
	NOTE: The HPE Superdome X Crossbar Fabric 2 Module can be used to upgrade the AT147A enclosure to the AT147B enclosure. The upgrade is not required but may provide up to 33% greater bandwidth for some high-end configurations	

Step 2: Choose Interconnect Module Options

NOTE: Select minimum one (1) and maximum eight (8)

Networking modules	**NOTE:** Select minimum one (1) and maximum eight (8) networking modules **NOTE:** If the HPE BLc 10GbE pass-thru module (538113-B21 or 854194-B21) is installed in slots 1 or 2 of the enclosure, then the HPE FlexFabric 10Gb 2P 534FLB adapter (700741-B21) cannot be installed in any blade.	
	HPE 10GbE 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 Cisco B22HP Fabric Extender for BladeSystem c-Class	641146-B21
	NOTE: Not available factory integrated in bays 1 & 2; can be factory integrated in bays 3-8	
	HPE Cisco B22HP Fabric Extender with 16 FET for BladeSystem c-Class	657787-B21
	NOTE: Not available factory integrated in bays 1 & 2; can be factory integrated in bays 3-8	

Ordering and Configuration

InfiniBand modules	HPE 4X FDR InfiniBand Switch Module for c-Class BladeSystem	648312-B21
	NOTE: Select minimum one (0) and maximum two (2) InfiniBand modules	
	NOTE: Double-Wide (consumes 2 bays)	
	NOTE: Supported with BL920s Gen9 only	

Step 3: Choose BL920s Server Blades and options

HPE BL920s Gen9 (v4) Server Blades	HPE Superdome X BL920s Gen9 E7-8894v4 2.4GHz 48-core Server Blade	Q1F43A
	HPE Superdome X BL920s Gen9 E7-8893v4 3.2GHz 8-core Server Blade	H7B44A
	HPE Superdome X BL920s Gen9 E7-8891v4 2.8GHz 20-core Server Blade	H7B45A
	HPE Superdome X BL920s Gen9 E7-8890v4 2.2GHz 48-core Server Blade	H7B46A
	HPE Superdome X BL920s Gen9 E7-8880v4 2.2GHz 44-core Server Blade	H7B47A
	HPE Superdome X BL920s Gen9 E7-8855v4 2.1GHz 28-core Server Blade	H7B48A
	NOTE: Select minimum one (1) and maximum eight (8) server blades	
	NOTE: All server blades in a partition must be identical	
	NOTE: Min1/Max 1 iLO Advance LTU per blade	
HPE DDR4 memory modules for BL920s Gen9 (v4) blades	HPE Superdome X DDR4 128GB (4x32GB) PC4-2400 Load Reduced CAS-17 Memory Kit	H7B82A
	HPE Superdome X DDR4 256GB (4x64GB) PC4-2400 Load Reduced CAS-17 Memory Kit	H7B83A
	HPE Superdome X DDR4 512GB (4x128GB) PC4-2400 Load Reduced CAS-17 Memory Kit	Q1F79A
	NOTE: No mixing of DIMM capacities on individual Blades	
	NOTE: Memory modules must be ordered in multiples of 4	
	NOTE: Minimum 4/ maximum 12 modules per blade	
	NOTE: Q1F79A is in pre-release status and requires approval before ordering; expect longer than normal lead times.	
Blade FlexLOM	**NOTE:** Minimum 1/ maximum 2 per blade	
	HPE FlexFabric 20Gb 2-port 630FLB Adapter	700065-B21
	HPE FlexFabric 20Gb 2-port 650FLB Adapter	700763-B21
	NOTE: BL920s Gen9 only	
	NOTE: FlexFabric 534FLB adapter not supported with Windows Server or SQL Server	
HPE Networking Mezz cards	HPE FlexFabric 20Gb 2-port 630M Adapter	700076-B21
	HPE FlexFabric 20Gb 2-port 650M Adapter	700767-B21
	NOTE: BL920s Gen9 only	
	NOTE: Min 0/ Max 3 per blade	
	HPE Ethernet 10Gb 2-port 560M Adapter	665246-B21
	NOTE: Min 0/ Max 1 per blade	
HPE Fibre Channel mezz cards	HPE QMH2672 16Gb Fibre Channel Host Bus Adapter	710608-B21
	NOTE: Minimum 0/ maximum 3 per blade	
InfiniBand mezz cards	HPE InfiniBand FDR 2-port 545M Adapter	702213-B21
	NOTE: BL920s Gen9 only	

Ordering and Configuration

	NOTE: Minimum 0/ maximum 2 per blade	
HPE Superdome X system software	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
	NOTE: If 5 or more blades are ordered OR More than 1 partition is selected, then AT152A is required **NOTE:** AT150A or AT152A can be ordered with 4 blades or less with a single partition **NOTE:** Min 1/Max 1 Superdome X partition LTU (AT150A or AT152A) required per enclosure ordered	
HPE iLO Advanced	**NOTE:** Min 1/Max 1 iLO Advanced license required per blade	
	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A
	HPE iLO Adv incl 3yr TS U E-LTU	E6U64BE

Technical Specifications

This section describes the physical and environmental information.

HPE Superdome X

NOTE: Site planning and installation included.

System Unit	**Dimensions**	Height	798 mm / 31.4" (18U)
		Width	485 mm / 19.1"
		Depth	828 mm / 32.6"
	Weight	Minimum (empty chassis with midplane assembly and rear chassis cage)	108 kg / 238 lb (empty chassis with midplane assembly and rear chassis cage)
		Typical (half populated)	254 kg / 559 lb
		Maximum (fully populated)	314 kg / 692 lb
	BTU Rating	Maximum Heat dissipation (fully populated system)	30.93 kBTU//hr (2.5 Tons) , 9065W
	Electrical Characteristics	AC input power: 3-phase	2N Dual Power input modules with two 5-wire cords each: IEC309 16A or two 4-wire cords each: NEMA L15-30P 30A. 5 wire: 12.26A per cord. 4wire: 23.3A per cord
		AC input power: Single-Phase	2N Dual Power input modules with 6 Input Receptacles each: IEC-C19, 16/20A.
		Maximum Input Current: Single Phase (200V)	13.8A per C19 cord
		Maximum Input Power total	9,250 VA at PF .98 or greater
		Cooling airflow	600 CFM min; 1000 CFM@32 deg. C avg; 1900 CFM max
	Environmental Characteristics	Acoustics	<= 8.6 bels LwA^{d} (Sound Power)
		Temperature - Recommended Operating Range	+18°C to +27°C
		Temperature - Allowable Operating Range	+5°C to +40°C
		Maximum rate of temperature change	20°C/hr
		Non-operating temperature (storage)	-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 - Recommended Operating Range (non-condensing)1	+5.5 °C DP to 15°C DP and 65% RH

Technical Specifications

Humidity - Allowable Operating Range (non-condensing)1	-12 °C DP and 8% RH to 24 °C DP and 85% RH
Non-operating relative humidity (storage)	8% RH to 90% RH and 32 °C DP
Maximum Operating altitude	3050m (10,000 ft)
Maximum Non-operating altitude (storage)	4500m (15,000 ft)
Voltage tolerance range	200-240 VAC

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.
NOTE: 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).

Environmental Info

Regulatory model numbers:
AT147A/AT147B (Superdome Enclosure), RMN: FCLSB-1001
AT068A (BL920s Gen8 Server Blade), RMN: FCLSB-BB31

Additional Power Data

The maximum power figures given were developed with the maximum configuration running applications designed to draw the maximum power possible. It is highly unlikely that any real-world application will result in this amount of power use for any significant time period.

Summary of Changes

Date	Version History	Action	Description of Change
17-Jun-2019	Version 20	Changed	Standard Features and Ordering and Configuration sections were updated.
		Removed	Obsolete SKUs were deleted: C8S47A, 648311-B21.
04-Feb-2019	Version 19	Changed	Service and Support and Ordering and Configuration sections were updated.
		Removed	Obsolete SKUs were deleted: 658247-B21, C8S45A.
02-Apr-2018	Version 18	Changed	Service and Support, Standard Features, and Ordering and Configuration sections were updated.
		Removed	Obsolete SKUs were deleted: A0R98A, H7B40, A0S01A, A0R99A, H7B43A, AT068A, A0R97A, B9F03A, B9F04A, H7B42A, A0S02A, H7B38A, H7B83A, B9F09A, 655639-B21, 700748-B21.
23-Oct-2017	Version 17	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
07-Aug-2017	Version 16	Changed	Ordering and Configuration section was updated.
		Added	SKU was added in Ordering and Configuration section: 854194-B21
		Removed	SKU was removed from Ordering and Configuration section: 538113-B21
27-Mar-2017	Version 15	Changed	Overview, Standard Features, and Ordering and Configuration.
		Added	SKUs added in Ordering and Configuration section: 700741-B21, AT147A, H7B39A.
		Removed	Obsolete SKUs deleted from Ordering and Configuration section: 700767-B21, 700763-B21, Q1F43A, H7B83A, Q1F79A.
23-Sep-2016	Version 14	Changed	Standard Features and Ordering and Configuration sections were updated.
24-Jun-2016	Version 13	Changed	Service and Support, Standard Features, Ordering and Configuration, and Technical Specifications.
06-Jun-2016	Version 12	Changed	Overview, Standard Features, Ordering and Configuration, and Technical Specifications sections were updated.
		Added	SKUs added in Ordering and Configuration section: AT147B, H7B49A, H7B44A, H7B45A, H7B46A, H7B47A, H7B48A, H7B82A, 700763-B21, 700767-B21.
11-Mar-2016	Version 11	Changed	Overview, Standard Features, Ordering and Configuration, and Service and Support, sections were updated.
		Added	SKUs added to QuickSpecs: 641146-B21, 657787-B21, 700076-B21
08-Jan-2016	Version 10	Changed	QuickSpecs updated and rebranded.
		Added	SKU added in Ordering and configuration section: 787635-B21
09-Oct-2015	Version 9	Changed	Overview, Service and Support, HPE Pointnext operational, and Warranty Information, standard, features, ordering and configuration.
28-Sep-2015	Version 8	Changed	Ordering and Configuration, Overview and Standard Features sections were updated.
		Added	SKUs added: C8S45A, 648311-B21, 648312-B21, 700065-B21, 702213-B21, 648311-B21, 648312-B21, A0R98A, H7B40A, A0S01A, A0R99A, H7B43A, A0S02A, H7B38A, 700076-B21, 702213-B21
17-Jul-2015	Version 7	Changed	Standard Features, Ordering and Configuration sections were updated.
		Added	SKUs added in Ordering and Configuration Section: BD505A, E6U634BE
		Removed	SKUs deleted in Ordering and Configuration Section: BD502A, E6U63ABE
19-Jun-2015	Version 6	Changed	Ordering and Configuration section was updated
1-Jun-2015	Version 5	Added	SKU added to Ordering and Configuration:

Summary of Changes

			H7B42A
		Changed	Standard Features Ordering and Configuration sections were updated.
27-Feb-2015	Version 4	Changed	Standard Features and Ordering and Configuration sections were updated.
16-Jan-2015	Version 3	Changed	Changes were made throughout the QuickSpecs
1-Dec-2014	Version 2	Changed	Name change to HPE Integrity Superdome X, several changes were made throughout the QuickSpecs
		Removed	SKU removed: 658247-B21



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