QuickSpecs

Overview

HPE Superdome Flex

Superdome Flex: The Ultimate x86 based Mission-critical Platform

The HPE Superdome Flex Server is a compute breakthrough to power critical applications, accelerate data analytics and tackle AI and HPC workloads holistically. It delivers an unmatched combination of flexibility, performance and reliability for critical environments of any size. Its unique modular architecture and unparalleled scale allows you to start small and grow at your own pace. Leveraging its in-memory design and groundbreaking performance, you can process and analyze the growing amount of data moving through your business at extreme speed. With superior RAS and end-to-end security, the HPE Superdome Flex Server safeguards your vital workloads. The HPE Pointnext Services portfolio, partner ecosystem, and HPE´s mission-critical expertise complements the platform value to ensure your move to HPE Superdome Flex is a success.

Key features and benefits

HPE Superdome Flex offers an unmatched combination of flexibility, reliability and performance for critical environments of any size. In summary

- Support for 4 to 32-sockets of Intel Xeon Scalable processors in a single system with up to 28-cores per socket for a maximum of 896 cores
- 48 DIMM slots of DDR4 memory per chassis.
- 768Gb – 48TB of shared memory
- Choice of high performance DRAM only, or with 2nd Generation 62XX and 82XX processors, a combination of DRAM and HPE Persistent Memory available in 128, 256 and 512GB kits featuring Intel® Optane™ DC Persistent Memory to meet individual workload requirements. Superdome Flex supports only App-direct Mode on HPE Persistent Memory
- 16 half-height IO slots, or 8 full-height + 4 half-height IO slots, per four-socket chassis
- Base IO includes 4-drive bays, two 1GbE and two 10GbE NIC ports, four USB ports
- Built-in DVD
- Superdome Flex Analysis Engine for better diagnostics and mission-critical reliability.
- HPE nPARs: 4 socket to 16 socket and multiple nPARs configurations per rack supported for greater system reliability and licensing optimization
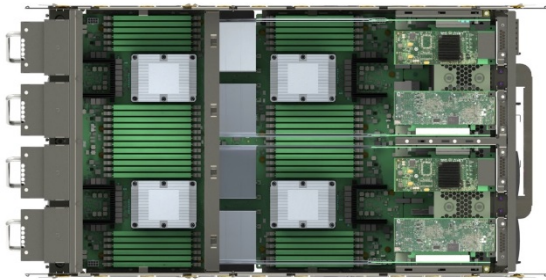
Overview
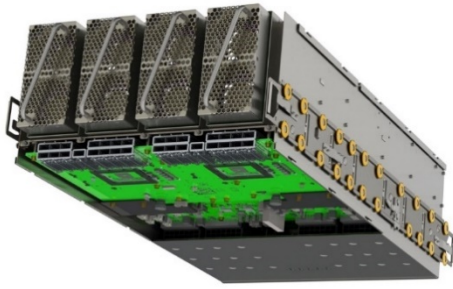
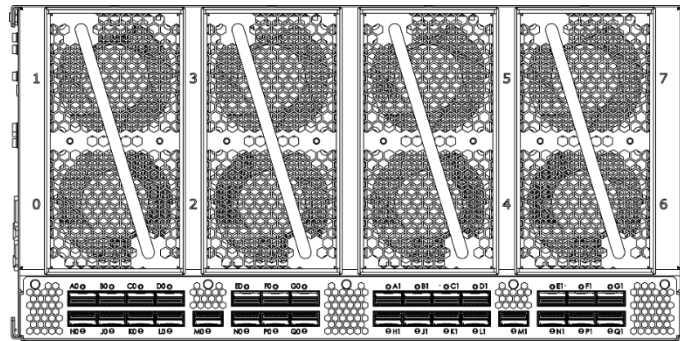**Chassis front and bottom**
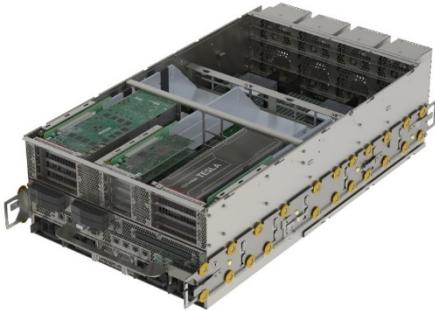
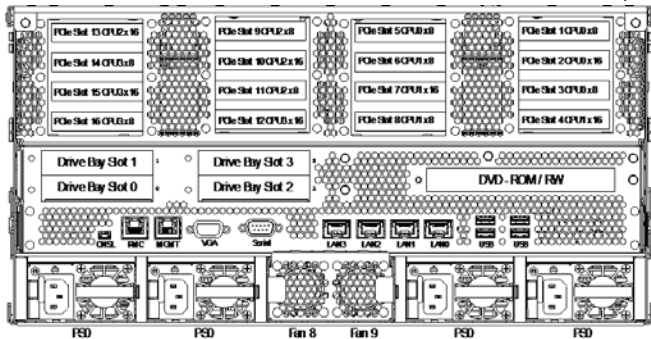

Chassis back and top

Chassis top view

Full Rack

Overview

Chassis front view
8x Superdome Flex fans
30x Superdome Flex ports

Base Chassis rear view (16-slot)	**Base Chassis rear view (12-slot)**
16x LP PCIe IO slots	12x FH/LP PCIe IO slots
4x HDD/SSD bays	4x HDD/SSD bays
1x DVD-R/DVD-RW bay	1x DVD-R/DVD-RW bay
4x Ethernet ports	4x Ethernet ports
4x Power supplies	4x Power supplies
2x Superdome Flex ASIC fans	2x Superdome Flex ASIC fans

General

The Superdome Flex system is built using 4-socket, 5U chassis that are cabled together to create systems from 4-sockets (1 chassis) to 32 sockets (8 chassis). Each chassis supports 8 fans, 4 power supplies (1600W each), associated power cords, and connecting Grid cables.

Power Supply (1600W)

80PLUS Platinum Power Supply		
Loading	**100% maximum**	**50% of maximum**
Minimum Efficiency*	91%	94%
Platinum Minimum Efficiency**	91%	94%

Notes:

- *Absolute minimum efficiency at 50% of load = 93.5%
- *Optional 2130W Premium Power Supply is available (Chassis SKU option #001)
- **Ordering rules can be found in the Superdome Flex server menu and in the ordering & configuration tools.

Overview

Rated Specifications	Value	Units
Input Voltage	100-127/200-240	Volts
Input Current	14/10	Amps
Input Frequency	47-63	Hz
Rated Output Power	1600	Watts

System
The system can support up to eight (8) chassis.

Chassis
Each chassis has the following specifications:
- Support for four (4) Intel Xeon Scalable processors
- Supports 48 DDR4 DIMM slots (12 DIMMs per processor)
- Supports up to 16 PCIe Gen 3 slots
- Supports additional IO capability in a Base IO chassis

Base and expansion chassis
Every Superdome Flex system starts with one 4-socket Base Chassis (with boot support). Up to seven (7) Expansion/Partition Chassis can be added to expand the system from 4-sockets to 32-sockets.

I/O slots
Chassis support either 16 half-height PCIe slots (7 x16 slots and 9 x8 slots); 12 slots with eight-full height slots (4 x16 slots and 4 x8 slots) + 4 half-height slots (1 x16 slot and 3 x8 slots); or a compute-only configuration (no PCIe slots). The compute-only configuration is only supported with the Expansion Chassis.
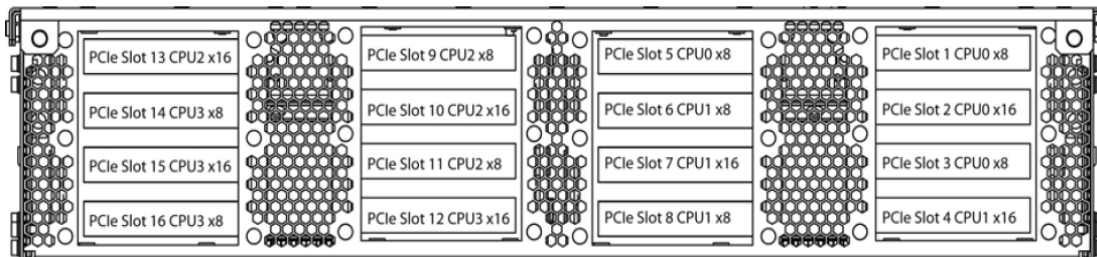
16-slot configuration
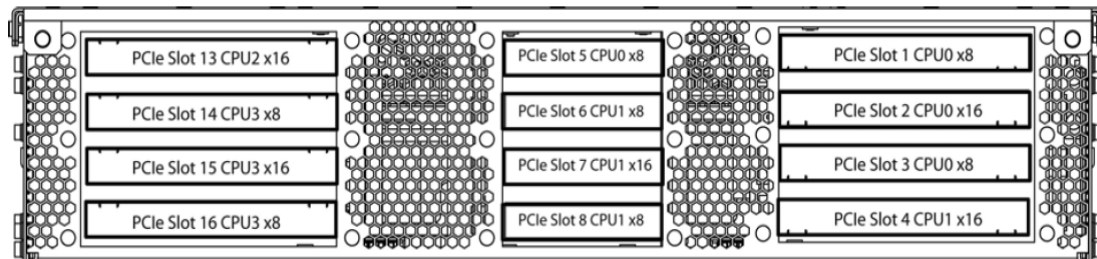
12-slot configuration

Overview

Base I/O

Base Chassis

The Base IO includes the board management controller (BMC), a DVD bay, four drives bays, two 10GbE + two 1GbE NIC ports, serial console, VGA and four USB ports. A Management LAN port and 1GbE Rack management controller port is also included. The 2 x 10GbE ports will clock down to 1GbE if needed.
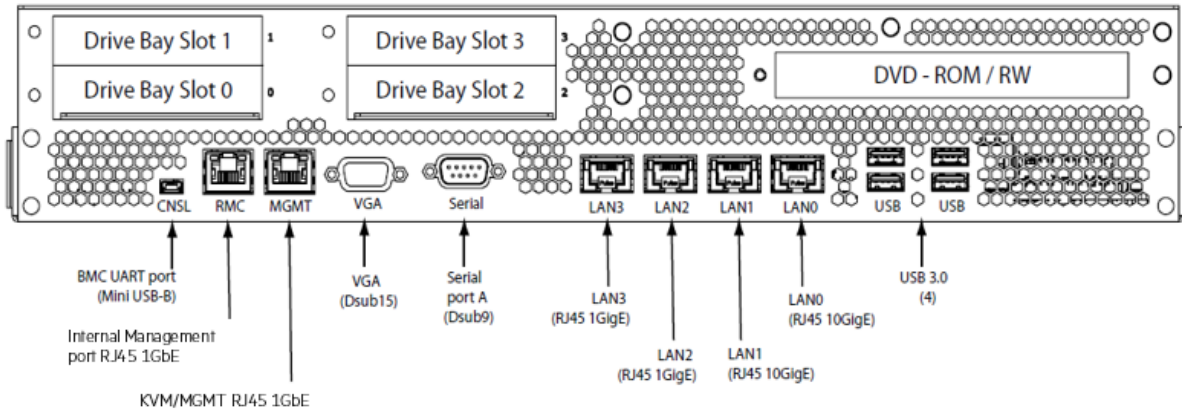
Expansion Chassis

The Base IO includes the board management controller (BMC), a Management LAN port, and 1GbE Rack management controller port.
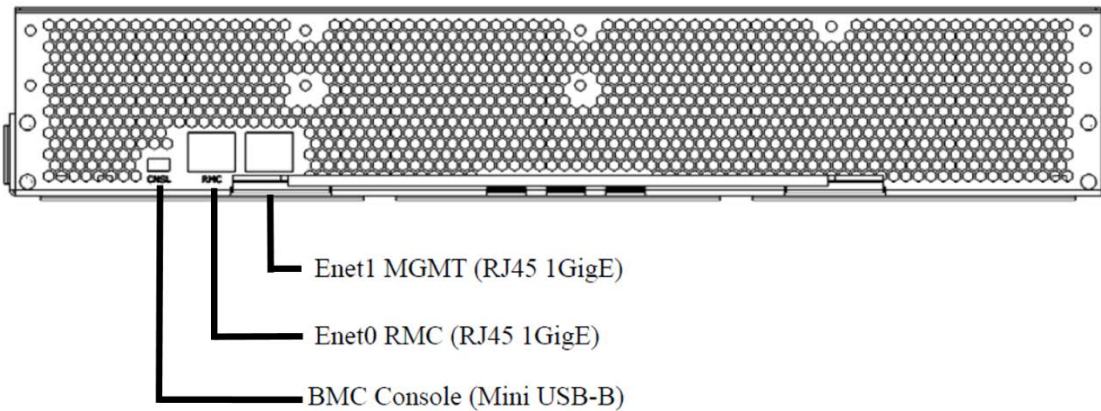
I/O Options

- 1Gb, 10Gb, 25Gb NIC, 16Gb/32Gb FC Internal and External SAS controllers
- InfiniBand EDR/Ethernet 100Gb; Infiniband HDR
- IO Accelerators
- GPU Options

Standard Features

Processors

Each server chassis supports four 81XX, 61XX, 82XX or 62XX Intel® Xeon® Scalable processors:

- Intel® Xeon® Platinum 8180 Processor 28-cores/2.5GHz/205W/38.5M
- Intel® Xeon® Platinum 8180M Processor 28-cores/2.5GHz/205W/38.5M
- Intel® Xeon® Platinum 8176 Processor 28-cores/2.1GHz/165W/38.5M
- Intel® Xeon® Platinum 8176M Processor 28-cores/2.1GHz/165W/38.5M
- Intel® Xeon® Platinum 8170 Processor 26-cores/2.1GHz/165W/35.5M
- Intel® Xeon® Platinum 8170M Processor 26-cores/2.1GHz/165W/35.5M
- Intel® Xeon® Platinum 8168 Processor 24-cores/2.7GHz/205W/33M
- Intel® Xeon® Platinum 8160 Processor 24-cores/2.1GHz/150W/33M
- Intel® Xeon® Platinum 8160M Processor 24-cores/2.1GHz/150W/33M
- Intel® Xeon® Platinum 8156 Processor 4-cores/3.6GHz/105W/16.5M
- Intel® Xeon® Platinum 8158 Processor 12-cores/3.0GHz/150W/24.75M
- Intel® Xeon® Gold 6150 Processor 18-cores/2.7GHz/165W/24.75M
- Intel® Xeon® Gold 6152 Processor 22-cores/2.1GHz/140W/30.25M
- Intel® Xeon® Gold 6154 Processor 18-cores/3.0GHz/200W/24.75M
- Intel® Xeon® Gold 6146 Processor 12-cores/3.2GHz/165W/24.75M
- Intel® Xeon® Gold 6144 Processor 8-cores/3.5GHz/150W/24.75M
- Intel® Xeon® Gold 6142 Processor 16-cores/2.6GHz/150W/22M
- Intel® Xeon® Gold 6142M Processor 16-cores/2.6GHz/150W/22M
- Intel® Xeon® Gold 6140 Processor 18-cores/2.3GHz/140W/24.75M
- Intel® Xeon® Gold 6140M Processor 18-cores/2.3GHz/10W/24.75M
- Intel® Xeon® Gold 6138 Processor 20-cores/2.0GHz/125W/27.5M
- Intel® Xeon® Gold 6132 Processor 14-cores/2.6GHz/140W/19.25M
- Intel® Xeon® Gold 6130 Processor 16-cores/2.1GHz/125W/22M
- Intel Xeon-Gold 6226 (2.7GHz/12-core/125W) Processor Kit
- Intel Xeon-Gold 6230 (2.1GHz/20-core/150W) Processor Kit
- Intel Xeon-Gold 6240 (2.6GHz/18-core/150W) Processor Kit
- Intel Xeon-Gold 6240L (2.6GHz/18-core/150W) Processor Kit
- Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor Kit
- Intel Xeon-Gold 6244 (3.6GHz/8-core/150W) Processor Kit
- Intel Xeon-Gold 6246 (3.3GHz/12-core/165W) Processor Kit
- Intel Xeon-Gold 6248 (2.6GHz/20-core/150W) Processor Kit
- Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) Processor Kit
- Intel Xeon-Gold 6254 (3.1GHz/18-core/200W) Processor Kit
- Intel Xeon-Platinum 8253 (2.2GHz/16-core/125W) Processor Kit
- Intel Xeon-Platinum 8256 (3.8GHz/4-core/105W) Processor Kit
- Intel Xeon-Platinum 8260 (2.4GHz/24-core/165W) Processor Kit
- Intel Xeon-Platinum 8260L (2.4GHz/24-core/165W) Processor Kit
- Intel Xeon-Platinum 8268 (2.9GHz/24-core/205W) Processor Kit
- Intel Xeon-Platinum 8270 (2.7GHz/26-core/205W) Processor Kit
- Intel Xeon-Platinum 8276 (2.3GHz/28-core/165W) Processor Kit
- Intel Xeon-Platinum 8276L (2.3GHz/28-core/165W) Processor Kit
- Intel Xeon-Platinum 8280 (2.7GHz/28-core/205W) Processor Kit
- Intel Xeon-Platinum 8280L (2.7GHz/28-core/205W) Processor Kit

Notes:

– All processors can be used to scale to 32 sockets
– All processors must be identical within a partition, system and chassis. No mixing is allowed between Intel Xeon® Scalable processor families

Standard Features

Chipset
HPE Superdome Flex ASIC

Upgradability and scalability
Scalable from 4-socket configurations to 32-socket configurations in 4-socket increments

Memory type Registered
For Intel Xeon® Scalable 61XX and 81XX processor family:
- 32GB 2Rx4 DDR4-2666 CAS-19-19-19 Registered DIMM
- 64GB 4Rx4 DDR4-2666 CAS-19-19-19 Load Reduced DIMM
- 128GB Octal Rank x4 DDR4-2666 CAS-22-19-19 3DS Load Reduced DIMM

For Intel Xeon® Scalable 62XX and 82XX processor family:
- 32GB (1x32GB) Dual Rank x4 DDR4-2933 Registered Memory Kit
- 64GB (1x64GB) Quad Rank x4 DDR4-2933 Load Reduced Memory Kit
- 128GB (1x128GB) Quad Rank x4 DDR4-2933 Load Reduced Memory Kit

Memory protection
Error checking and correcting (ECC) on memory and caches; ADDDC is supported.
Fast Fault Tolerance (custom enhanced ADDDC)

Operating System
- Red Hat Enterprise Linux (RHEL)
- SUSE Linux Enterprise Server (SLES)
- Oracle Linux/Oracle UEK
- Oracle VM
- VMware
- Microsoft Windows Server 2016 Standard and Datacenter (for all processor families)
- Microsoft Windows Server 2019 Standard and Datacenter (for 62XX and 82XX processors)

Notes:
- HPE Foundation Software is required for all Linux O/S environments
- SLES, RHEL, and Oracle Linux certifications include KVM certification
- Minimum OS levels may be required for certain features and hardware options
- HPE Superdome Flex I/O VMware Support: I/O configurations with VMware must adhere to the "vSphere Configuration Maximums" as documented by VMware per controller type and manufacturer.
- 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**

Standard Features

For I/O support by Operating System see below table:

Superdome Flex IO Support Matrix		Windows 2016	Windows 2019	RHEL 7	RHEL 8	SLES 12	SLES 15	VMware	Oracle/UEK	Oracle OVM
Product SKU	**Description**									
Infiniband HCA										
872726-H21	HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter	X	X	X	X	X	X			
P06250-H21	HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe3 x16 MCX653105A-ECAT Adapter			X	X	X	X			
P06251-H21	HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe3 x16 MCX653106A-ECAT Adapter			X	X	X	X			
P06154-H21	HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe3 x16 MCX653105A-HDAT Adapter			X	X	X	X			
829335-B21	HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter			X	X	X	X			
Network Controllers										
817753-B21	HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adptr	X	X	X	X	X	X	X		
817738-B21	HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter	X	X	X	X	X	X	X	X	X
727055-B21	HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	X	X	X	X	X	X	X	X	X
647594-B21	HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter	X	X	X	X	X	X	X	X	X
652497-B21	HPE Ethernet 1Gb 2-port BASE-T I350-T2V2 Adapter	X	X	X	X	X	X	X		
817718-B21	HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adptr	X	X	X	X	X	X	X	X	X
874253-B21	HPE Ethernet 100Gb 1-port QSFP28 MCX515A-CCAT Adapter	X	X	X	X	X	X	X		
867328-B21	HPE Ethernet 10/25Gb 2-port SFP28 QL41401-A2G Adapter	X	X	X	X	X	X	X	X	X
Storage Controllers (Fibre Channel)										
P9D94A	HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	X	X	X	X	X	X	X	X	X
Q0L14A	HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	X	X	X	X	X	X	X	X	X
Q0L12A	HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	X	X	X	X	X	X	X	X	X
P9M76A	HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	X	X	X	X	X	X	X	X	X
R2J63A	HPE SN1610E 32Gb Dual Port Fibre Channel Host Bus Adapter	X	X	X	X	X	X	X	X	X
R2E09A	HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter	X	X	X	X	X	X	X	X	X
Storage Controllers (SAS)										
Q2N11A	HPE 9361-4i RAID Controller (internal)	X	X	X	X	X	X	X	X	X
Q6M15A	HPE 3154-8e RAID Controller (external)	X	X	X	X	X	X	X	X	X
R0Y99A	HPE 3162-8i Encryption RAID Cntlr (internal encryption)	X	X	X	X	X	X	X	X	X
H7B70A	HPE 9300-8e 12Gb 8p Ext SAS Controller		X	X	X	X	X	X	X	X

Standard Features

Product SKU	Description	Windows 2016	Windows 2019	RHEL 7	RHEL 8	SLES 12	SLES 15	VMWare	Oracle/UEK	Oracle OVM
Workload Accelerator – NVMe AIC										
P26934-H21	HPE 1.6TB PCIe x8 MU HH DS Card	X	X	X	X	X	X	X		
P26936-H21	HPE 3.2TB PCIe x8 MU HH DS Card	X	X	X	X	X	X	X		
P26938-H21	HPE 6.4TB PCIe x8 MU HH DS Card	X	X	X	X	X	X	X		
878038-H21	HPE 750GB PCIe x4 WI HH DS Card	X	X	X	X	X	X	X		
GPU										
R0Z45A	NVIDIA Quadro RTX 6000 Graphics Accel for HPE	X		X	X	X	X			
R1F97A	NVIDIA Quadro RTX 8000 Graphics Accel for HPE	X		X	X	X	X			
R4D73A	NVIDIA V100S PCIe 32GB Computational Accel for HPE		X	X	X	X	X			
R0W29A	NVIDIA T4 16GB Computational Accel for HPE	X	X	X	X	X	X			

Notes:

− **X** = Supported

− Minimum OS levels are required for support of some processors and options

− HPE Superdome Flex I/O Oracle Linux Support: Hewlett Packard Enterprise only supports the use of in distribution drivers with Oracle Linux, Oracle VM and UEK update releases. All controllers tested above used the driver located on the source media for their respective Oracle product. Out of distribution drivers are not supported with Oracle Linux, Oracle VM or UEK.

Partitioning

Multiple 4, 8, 12 or 16-socket electrically isolated HPE nPartitions (HPE nPars) supported per rack. Please refer to the table below for HPE nPars Partition Options.

All Processors and Memory must be the same within a Partition.

DVD is required per Base Chassis and per Partition Expansion Chassis

Repartitioning does not require recabling

Solution ID	48 partitioning combinations			
1 Chassis (4s)				
1	4s			
2 Chassis (8s)				
2	4s	4s		
3	8s			
3 Chassis (12s)				
4	4s	4s	4s	
5	8s	4s		
6	12s			
4 Chassis (16s)				
7	4s	4s	4s	4s
8	8s	4s	4s	
9	8s	8s		
10	12s		4s	
11	16s			

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Standard Features

5 Chassis (20s)

#								
12	4s	4s	4s	4s	4s			
13	8s		4s	4s	4s			
14	8s		8s		4s			
15	12s			4s	4s			
16	16s				4s			

6 Chassis (24s)

#								
17	4s	4s	4s	4s	4s	4s		
18	8s		4s	4s	4s	4s		
19	8s		8s		4s	4s		
20	8s		8s		8s			
21	12s			4s	4s	4s		
22	12s			4s	8s			
23	16s				4s	4s		
24	16s				8s			

7 Chassis (28s)

#								
25	4s	4s	4s	4s	4s	4s	4s	
26	8s		4s	4s	4s	4s	4s	
27	8s		8s		4s	4s	4s	
28	8s		8s		8s		4s	
29	12s			4s	4s	4s	4s	
30	12s			4s	8s		4s	
31	12s			4s	12s			
32	16s				4s	4s	4s	
33	16s				8s		4s	
34	16s				12s			

8 Chassis (32s)

#								
35	4s	4s	4s	4s	4s	4s	4s	4s
36	8s		4s	4s	4s	4s	4s	4s
37	8s		8s		4s	4s	4s	4s
38	8s		8s		8s		4s	4s
39	8s		8s		8s		8s	
40	12s			4s	4s	4s	4s	4s
41	12s			4s	8s		4s	4s
42	12s			4s	8s		8s	
43	12s			4s	12s			4s
44	16s				4s	4s	4s	4s
45	16s				8s		4s	4s
46	16s				8s		8s	
47	16s				12s			4s
48	16s				16s			

Notes:

– No partitions over 16-sockets
– No partitions to span bottom half and top half of rack

Standard Features

Form Factor
- 5U Base Chassis or Expansion Chassis
- 1U external Rack Management Controller (RMC)

Notes:
— An embedded RMC (eRMC) option is available for 4s and 8s systems which means the 1U RMC is not required when the embedded RMC is used. It is recommended to configure 4s or 8s systems with the 1U external RMC if customers might scale to greater than 8s at a later date.
— The 1U RMC is required for Partitioned systems regardless of socket count

High availability-standard server features
2N (N+N) redundant (1600W) power supplies reduced to N+1 when GPUs are included
Notes: When using the 2130W Premium power supply N+N with GPU is available
- N+1 fans (or greater depending on the load)
- Hot-Swappable and redundant fans, power supplies
- Fault Tolerant Fabric built on dynamic multi-pathing and end-to-end retry technology
- Enhanced MCA Gen2 recovery
- ADDDC memory options
- SATA RAID 5 support
- ECC, re-tries, and Link Width Reduction on data paths
- Automatic de-configuration of DIMMs. Processor de-configuration in subsequent releases
- I/O Advanced Error Recovery, and Live Error Recovery
- Redundant network paths
- Redundant Fibre Channel paths

For complete RAS Feature discussion: **https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=a00036491enw**

Standard Warranty
Three-year parts, 3 Year Labor and 3 Year on-site limited global warranty.

Protected by HPE Pointnext operational services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners.

Hewlett Packard Enterprise branded hardware and options qualified for the HPE Superdome Flex Server are covered by a global limited warranty and supported by HPE Pointnext and a worldwide network of HPE Authorized Channel Partners. The HPE 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**

Physical and Environmental Information
Systems are comprised of the following components: Base chassis plus Expansion/Partition chassis.

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. Field racking requires the use of an appropriate material lift capable of lifting 80+ lbs.

Systems are supported in the HPE 600mm wide and 800mm wide racks, and the HPE D-rack. Rack availability is dependent on size of system complex.

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

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

Standard Features

Hardware Configuration	
Number of chassis (min/max) per compute system	1/8
Number of processor modules per compute system (min/max)	4/32
Number of DIMMs (increments of 24 DIMMs per chassis - min/max)	24 or 48 per chassis
Number of Grid cables (non-partitioned)	22 (2-chassis)/112 (8-chassis)
Number of I/O slots	16 half-height per chassis Or 8 full-height and 4 half-height per chassis Or Compute only 0-slot (Expansion Chassis only)
Number of RMCs	0/1
Number of Base IO	1
SAS/SATA drives per Base IO	Up to 4
DVD module per Base IO	1
Fans	8 per chassis
Power Supplies (1600W)	2N: 4 per chassis

- The system is supported in the HPE 600mm and 800mm series racks and the HPE D-rack with a standard rack door.
- Each chassis is populated with two Flex ASICs.
- General rules are as follows:
- Boot devices should be in slot 5
- Alternate boot devices should be in slot 3

Configuration Rules

The chassis is the basic building block.

A single system can be supported in 1-Chassis to 8-Chassis configurations. Two options exist for management – an embedded Rack Management Controller (eRMC) or an external Rack Management Controller (RMC). The eRMC is not expandable beyond two chassis. When nPars is required the RMC is also always required regardless of the number of chassis in the complex.

Each system starts with one (1) Base Chassis. Up to seven (7) Expansion Chassis can be added to scale the system.

All chassis are populated with four processor module – same processors within chassis.
A system can have one to eight chassis and one external RMC (optional for 1 and 2 chassis configurations except for partitioned systems)

There are single phase and three phase power distribution options.
Notes: All processors within a system must be of the same processor family (i.e. 61XX, 81XX, 62XX OR 82XX). No mixing is allowed

Standard Features

Racking Choices

Superdome Flex can be racked in many of the HPE G2 Enterprise Series and Advanced Series racks, and the HPE D-Rack. If the Superdome Flex will be configured as 16-sockets (4-chassis) or more the HPE 800mm wide racks or D-Rack are required. Complete ordering rules can be found in the Superdome Flex server menu and in the ordering & configuration tools.

The Superdome Flex can also be rack mounted in 3rd party rack. Specific rules and guidelines for
this are available here:
https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-a00043156en_us&docLocale=en_US

The following racks are supported with Superdome Flex—refer to the server menu for ordering & configuration rules.
- HPE 22U 600x1075mm Adv G2 Shck Rack
- HPE 36U 600x1075mm Adv G2 Kit Shock Rack
- HPE 42U 600x1200mm Adv G2 Kit Shock Rack
- HPE 42U 600x1075mm Adv G2 Kit Shck Rack
- HPE 42U 600x1075 Ent G2 Shock Rack
- HPE 42U 600x1200 Ent G2 Shock Rack
- HPE 42U 800x1075 Ent G2 Shock Rack
- HPE 42U 800x1200 Ent G2 Shock Rack
- HPE 48U 600x1075 Ent G2 Shock Rack
- HPE 48U 600x1200 Ent G2 Shock Rack
- HPE 48U 800x1075 Ent G2 Shock Rack
- HPE 48U 800x1200 Ent G2 Shock Rack
- HPE 42U 610mm x 1156mm D-Rack
- HPE D-Rack 42U 610mm x 1156mm Extended

The default assumption is that chassis are loaded in the rack at the bottom. It is recommended that 1U is left below the bottom of the compute enclosure in the 42U rack to provide PDU and cabling exit space.

Supported configurations have the system located at the bottom of the rack with peripherals located above all chassis

HPE G2 Enterprise Series Racks
QuickSpecs: **https://www.hpe.com/h20195/v2/GetDocument.aspx?docname=a00002907enw**

HPE G2 Advanced Series Racks QuickSpecs: **https://www.hpe.com/h20195/v2/GetDocument.aspx?docname=c05324689**

PDU Model	Region	Power Phase	Input Voltage Range	Input Current	Circuit Breakers	Input Plug Type	Input Cord Length	Outlet	Dimensions
H7C28A	NA/JP	Three	200 - 240V	48A derated	9 x 20A	IEC 60309/ 460P9W	12'	21 x IEC320 C13	32.5"H x 2.5"W x 6.25"D
H7C29A	INTL	Three	380 - 420V	32A	9 x 20A	IEC 60309/ 532C6W	12'	21 x IEC320 C13	32.5"H x 2.5"W x 6.25"D
H7C30A	NA/JP	Single	200 - 240V	24A derated	2 x 20A	NEMA L6-30	12'	8 x IEC320 C13	15"H x 1.75"W x 2.5"D
H7C31A	INTL	Single	200 - 240V	32A	2 x 20A	IEC 60309/ 332C6W	12'	8 x IEC320 C13	15"H x 1.75"W x 2.5"D
H7C32A	AUS	Single	200 - 240V	32A	2 x 20A	56PA332	12'	8 x IEC320 C13	15"H x 1.75"W x 2.5"D

Standard Features

HPE D-Rack
The HPE D-Rack is available for Superdome Flex in two models:
- HPE 42U 610mm x 1156mm D-Rack (H7C27A)
- HPE D-Rack 42U 610mm x 1156mm Extended (Q2T97A) The extended rack includes a 2U extension for a total of 44 rack units (44U)

The following PDUs are supported with the HPE D-Rack
- HPE D-Rack 21 x 3-Phase 240V NA/JP PDU (H7C28A) Order 2 PDUs for 1-4 SD Flex chassis in rack; Order 4 PDUs for 5-8 SD Flex chassis in rack
- HPE D-Rack 21 x 3-Phase 400V INTL PDU (H7C29A) Order 2 PDUs for 1-4 SD Flex chassis in rack; Order 4 PDUs for 5-8 SD Flex chassis in rack
- HPE D-Rack 8 x Single-Phase 240V NA PDU (H7C30A) Order 2 PDUs per chassis for 1-4 SD Flex chassis in rack; Order 1 PDU per chassis for 5-8 SD Flex chassis in rack
- HPE D-Rack 8 x Single-Phase 240V INTL PDU (H7C31A) Order 2 PDUs per chassis for 1-4 SD Flex chassis in rack; Order 1 PDU per chassis for 5-8 SD Flex chassis in rack
- HPE D-Rack 8 x Single-Phase 240V AU PDU (H7C32A) Order 2 PDUs per chassis for 1-4 SD Flex chassis in rack; Order 1 PDU per chassis for 5-8 SD Flex chassis in rack
  Notes: Single Phase solution with more than 4 chassis are non-redundant PDU solutions (1 PDU per chassis

Single 24-inch wide 42U rack	
Dimensions	Height: 78.75 in. (200 cm)
	Width: 24.0 in. (60.9 cm)
	Depth: 46.0 in. (116.8 cm)
Shipping dimensions	Height: 88.88 in. (225.8 cm)
	Width: 44.0 in. (111.8 cm)
	Depth: 62.75 in. (159.4 cm)
Weight (single rack)	386 lb. (175.1 kg)
Shipping weight (single rack)	856 lb. (388.3 kg)
Static load (max)	2400 lb. (1088.6 kg)
Dynamic load (max rolling)	2500 lb. (1134kg)
42U rack access requirements:	Front: 48 in. (121.9 cm)
	Rear: 48 in. (121.9 cm)
	Top: 18 in. (45.7 cm)

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

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

Processor Support
Superdome Flex systems support Intel® Xeon® 1st Generation 81XX and 61XX and 2nd Generation 82XX and 62XX processors as specified in the following table.
Notes: Minimum OS levels are required for support of some processors and options

Support for the various speed bins is as follows:

Standard Features

Supported Processor Matrix

Intel® Xeon® Scalable Processor Family 2nd Generation 62XX and 82XX				
Processor	**# of cores per processor**	**Frequency**	**Cache**	**Power**
Intel® Xeon® Platinum 8280 Processor	28c	2.7 GHz	38.5 MB	205W
Intel® Xeon® Platinum 8280L Processor	28c	2.7 GHz	38.5 MB	205W
Intel® Xeon® Platinum 8276 Processor	28c	2.3 GHz	38.5 MB	165W
Intel® Xeon® Platinum 8276L Processor	28c	2.3 GHz	38.5 MB	165W
Intel® Xeon® Platinum 8270 Processor	26c	2.7 GHz	35.75 MB	205W
Intel® Xeon® Platinum 8268 Processor	24c	2.8 GHz	35.75 MB	205W
Intel® Xeon® Platinum 8260 Processor	24c	2.4 GHz	35.75 MB	165W
Intel® Xeon® Platinum 8260L Processor	24c	2.4 GHz	35.75 MB	165W
Intel® Xeon® Platinum 8256 Processor	4c	3.8 GHz	16.5 MB	105W
Intel® Xeon® Platinum 8253 Processor	16c	2.2 GHz	22. MB	125W
Intel® Xeon® Gold 6254 Processor	18c	3.1 GHz	24.75 MB	200W
Intel® Xeon® Gold 6252 Processor	24c	2.1 GHz	35.75 MB	150W
Intel® Xeon® Gold 6248 Processor	20c	2.6 GHz	27.5 MB	150W
Intel® Xeon® Gold 6246 Processor	12c	3.3 GHz	24.75 MB	165W
Intel® Xeon® Gold 6244 Processor	8c	3.6 GHz	24.75 MB	150W
Intel® Xeon® Gold 6242 Processor	16c	2.8 GHz	22 MB	150W
Intel® Xeon® Gold 6240 Processor	18c	2.6 GHz	24.75 MB	150W
Intel® Xeon® Gold 6240L Processor	18c	2.6 GHz	24.75 MB	150W
Intel® Xeon® Gold 6230 Processor	20c	2.1 GHz	27.5 MB	150W
Intel® Xeon® Gold 6226 Processor	12c	2.7 GHz	19.25 MB	125W

Intel® Xeon® Scalable Processor Family 1st Generation 61XX and 81XX)				
Processor	**# of cores per processor**	**Frequency**	**Cache**	**Power**
Intel® Xeon® Platinum 8180 Processor	28c	2.5 GHz	38.5 MB	205W
Intel® Xeon® Platinum 8180M Processor	28c	2.5 GHz	38.5 MB	205W
Intel® Xeon® Platinum 8176 Processor	28c	2.1 GHz	38.5 MB	165W
Intel® Xeon® Platinum 8176M Processor	28c	2.1 GHz	38.5 MB	165W
Intel® Xeon® Platinum 8170 Processor	26c	2.1 GHz	35.5 MB	165W
Intel® Xeon® Platinum 8170M Processor	26c	2.1 GHz	35.5 MB	165W
Intel® Xeon® Platinum 8168 Processor	24c	2.7 GHz	33 MB	205W
Intel® Xeon® Platinum 8160 Processor	24c	2.1 GHz	33 MB	150W
Intel® Xeon® Platinum 8160M Processor	24c	2.1 GHz	33 MB	150W
Intel® Xeon® Platinum 8158 Processor	12c	3.0 GHz	24.75 MB	150W
Intel® Xeon® Platinum 8156 Processor	4c	3.6 GHz	16.5 MB	105W
Intel® Xeon® Gold 6154 Processor	18c	3.0 GHz	24.75 MB	200W
Intel® Xeon® Gold 6152 Processor	22c	2.1 GHz	30.25 MB	140W
Intel® Xeon® Gold 6150 Processor	18c	2.7 GHz	24.75 MB	165W
Intel® Xeon® Gold 6146 Processor	12c	3.2 GHz	24.75 MB	165W
Intel® Xeon® Gold 6144 Processor	8c	3.5 GHz	24.75 MB	150W
Intel® Xeon® Gold 6142 Processor	16c	2.6 GHz	22 MB	150W
Intel® Xeon® Gold 6142M Processor	16c	2.6 GHz	22 MB	150W
Intel® Xeon® Gold 6140 Processor	18c	2.3 GHz	24.75 MB	140W
Intel® Xeon® Gold 6140M Processor	18c	2.3 GHz	24.75 MB	140W
Intel® Xeon® Gold 6138 Processor	20c	2.0 GHz	27.5 MB	125W
Intel® Xeon® Gold 6132 Processor	14c	2.6 GHz	19.25 MB	140W
Intel® Xeon® Gold 6130 Processor	16c	2.1 GHz	22 MB	125W

Standard Features

Processor Mixing Support
Governing rules for mixing processors are as follows:
- No mixing of processor types within the same chassis or HPE nPar
- No support for processors running at different frequencies or different cache sizes within the same chassis or HPE nPar
- Processor modules on a chassis must be the same revision, frequency, & cache size
  Notes: It is highly recommended that all processors within all nPars within a complex be identical in order to maximize repartitioning options

DDR4 Memory Support
Systems will use DDR4 DIMM technology. The technology must not be mixed in a chassis or within a HPE nPar.

The following DIMMs are supported in the chassis for systems with 61XX and 81XX processors::
- 32GB 2Rx4 DDR4-2666 CAS-19-19-19 Registered DIMM
- 64GB 4Rx4 DDR4-2666 CAS-19-19-19 Load Reduced DIMM
- 128GB Octal Rank x4 DDR4-2666 CAS-22-19-19 3DS Load Reduced DIMM

The following DIMMs are supported in the chassis for systems with 62XX and 82XX processors::
- 32GB (1x32GB) Dual Rank x4 DDR4-2933 Registered Memory Kit
- 64GB (1x64GB) Quad Rank x4 DDR4-2933 Load Reduced Memory Kit
- 128GB (1x128GB) Quad Rank x4 DDR4-2933 Load Reduced Memory Kit

Only DIMMs that Hewlett Packard Enterprise has qualified are supported.
Each chassis supports up to 48 DIMMs. This breaks down to twelve DIMMs per socket.
General memory configuration rules:
- For best performance, the amount of memory on each chassis within the partition should be the same.
- Use the same amount of memory on each processor module within a partition.
- Either a full chassis of 48 DIMMs or a half populated chassis with 24 DIMMs is supported.

Persistent Memory Support
HPE Persistent Memory support is available only on systems that have Intel Xeon 2nd Generation 62XX and 82XX processors

The following HPE Persistent Memory DIMMs are supported::
- HPE 128GB 2666 Persistent Memory Kit featuring Intel® Optane™ DC persistent memory
- HPE 256GB 2666 Persistent Memory Kit featuring Intel® Optane™ DC persistent memory
- HPE 512GB 2666 Persistent Memory Kit featuring Intel® Optane™ DC persistent memory

Notes:
– Chassis must be ½ populated with DDR4 DIMMs before HPE Persistent Memory can be added
– No mixing of DDR4 memory sizes is supported when HPE Persistent Memory is utilized
– HPE Persistent Memory quantity and type must be consistent across system complex or partitions. If partitions have different memory configurations, repartitioning is not supported
– HPE Persistent Memory DIMMS must be equally populated across each socket as either 1, 2 or 6 per socket.
– HPE Persistent Memory may only be used in a system/complex of 16 sockets or less.
– Minimum OS levels are required for support of HPE Persistent Memory
– Superdome Flex supports only App-direct Mode on HPE Persistent Memory

Superdome Flex Storage Support
For HPE Storage solutions, please see:
https://www.hpe.com/storage/spock

Standard Features

Networking
- HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter (requires transceivers or DAC)
- HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter
- HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter (requires transceivers or DAC)
- HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter
- HPE Ethernet 1Gb 2-port BASE-T I350-T2V2 Adapter
- HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter
- HPE Ethernet 100Gb 1-port QSFP28 MCX515A-CCAT Adapter (requires transceivers or DAC)
- HPE Ethernet 10/25Gb 2-port SFP28 QL41401-A2G Adapter (requires transceivers or DAC)

Notes: Server networking transceiver and cable compatibility matrix can be found **HERE**

Storage and boot support
- HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1610E 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE 9361-4i RAID Controller (internal)
- HPE 3154-8e RAID Controller (external)
- HPE 3162-8i Encryption RAID Cntlr (internal encryption)
- HPE 9300-8e 12Gb 8p Ext SAS Controller

RAID Options

Embedded Base IO
The Base IO includes the embedded Intel RSTe SATA controller with 6Gb SATA support for two (2) or four (4) 2.5" SATA solid state drives (SSDs). The RSTe SATA controller is directly connected to the internal drive carriers located in the rear of the Superdome Flex Base Chassis.

The internal drive backplane can support either SAS HDDs/SSDs (when connected to the optional HPE 9361-4i RAID controller) or SATA SSDs (when connected to the embedded Intel RSTe SATA controller).

The drives can be used as physical disks (HBA mode) or can be configured as RAID 0, 1, 10, 5 using SW RAID; RAID 1 is the default setting from the factory. Boot support is available for both physical/HBA mode and RAID mode. The internal SATA BIOS assisted RAID mirroring is not supported with VMware.

HPE 9361-4i RAID Controller
The HPE 9361-4i RAID controller is required when Superdome Flex is configured with two (2) or four (4) 2.5" SAS solid state drives (SSDs) or hard disk drives (HDDs). The HPE 9361-4i provides 12Gb SAS connectivity directly to the internal drive carriers located in the rear of the Superdome Flex Base Chassis. Supports hardware RAID 0, 1, 10, 5, 6; RAID 1 is the default setting from the factory. The HPE 9361-4i provides boot support. The HPE 9361-4i consumes two (2) PCIe slots; one (1) for the RAID controller and one (1) for the SuperCap.

HPE 3154-8e RAID Controller
The HPE 3154-8e provides 12Gb SAS connectivity to external SAS devices like the HPE D3000 Disk Enclosures. The drives can be used as physical disks (HBA mode) or hardware RAID 0, 1, 10, 5, 50, 6, 60. The HPE 3154-8e provides boot support for both physical/HBA mode and RAID mode. The HPE 3154-8e consumes two (2) PCIe slots; one (1) for the RAID controller and one (1) for the SuperCap.

Standard Features

Platform Management

The HPE Superdome Flex delivers system administration, control, and platform management both via a programmable Redfish API and also in a comprehensive and concise command-line interface. The Redfish® API can be used in many ways including:

- Directly in simple scripts to obtain inventory and monitoring information
- With HPE OneView* for a graphical user interface, as well as to manage many HPE systems in the datacenter at once
- With Openstack Ironic for Provisioning the OS

The Rack Management Controller (RMC) in Superdome Flex is available either in a standalone, 1U rack-mount component or as an embedded option (the "eRMC") running within the Base Chassis. The standalone RMC is capable of managing a Superdome Flex system from one chassis up to the maximum supported configuration available for Superdome Flex. The embedded version, eRMC, is capable of managing a Superdome Flex system of one or two chassis (4 or 8 processor sockets). The 1U RMC is required for Partitioned systems regardless of socket/chassis count.

The HPE Superdome Flex has a built-in and always available platform management system. By integrating the management into the server platform, Hewlett Packard Enterprise ensures that every Superdome Flex comes with the full set of management features, and simplifies the task of integrating Superdome Flex into the data center. The purpose of the HPE Superdome Flex 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 the system (inventory, start, stop, connect console, and so on)

The HPE Superdome Flex manageability system provides a very powerful control point for the system, and the RMC makes managing the HPE Superdome Flex much easier by centralizing the control and building the management into the hardware and firmware of the system. It provides the following features:

- CLI for easy access to all RMC functions, providing potential scripting and power user convenience
- Console, and console logs
- Available remotely connected virtual media or virtual KVM
- 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 Flex RMC will interface directly with the HPE Remote Support software for data center wide fault management visibility and tie-in to HPE support services, such as the Insight Online portal

For additional details on system management refer to the **HPE Superdome Flex Server Manageability Whitepaper**
Notes:. Superdome Flex is supported starting with HPE OneView release v4.1.

Security

- Firmware update protected by RMC Admin
- Air-Gapped Manageability
- Secure Out-of-Box
- Secure Protocols
- UEFI Secure Boot
- Directory access control (LDAP/Active Directory)
- Alternatives to PXE (Directed LAN Boot, HTTP Boot)
- Tamper-free updates – components digitally signed and verified
- Multiple local accounts
- Ability to rollback firmware

Service and Support

HPE Pointnext Services and Support

Protect your business beyond warranty with HPE Support Services

HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution.   Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. Hewlett Packard Enterprise is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

Connect your devices:

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%[1] reduction in down time, near 100%[2] diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to Hewlett Packard Enterprise support.

Notes:

–   [1]IDC
–   [2]HP CSC reports 2014 – 2015

Learn more about getting connected at **http://www.hpe.com/services/getconnected**

Support Services available for Superdome Flex

HPE Proactive Care Advanced

This is the recommended support for Mission Critical and SAP HANA environments. It builds on HPE Proactive Care, providing additional benefits such as the assignment of a dedicated, local account support manager (ASM) for collaboration and best practices and critical event management that provides 24x7 response and IT service restoration with incident follow-up to prevent a repeat. All of this is designed to give you an incredibly personalized, high-touch support experience that keeps your system fully available and running at peak performance.

HPE Proactive Care

HPE Proactive Care begins with providing all of the benefits of proactive monitoring and reporting to put in place the fundamentals needed for stability and availability of the IT environment. Proactive Care helps in problem prevention, with predictive analytics, personalized analysis with recommendations and advice paired with rapid access to technical experts to help rapidly resolve any problem. You receive an enhanced call experience and a single point of contact for the support of all covered components. Customers can customize their Proactive Care reactive support level by selecting either 6-hour call-to-repair, 24x7 with 4-hour onsite response, or next-business day onsite response.

Notes: HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to make the most of these services and receive all the deliverables.

HPE Foundation Care

Provides flexibility to customize your reactive support level by selecting either 6-hour call-to-repair, 24x7 with 4-hour onsite response, or Next Business Day onsite response. The HPE Foundation Care with 6-hour call-to-repair is the highest level commitment to repair hardware within six hours after the initial hardware service request has been received and respond to software questions within two hours.

Service and Support

Other related Services

HPE Server Hardware Installation
Provides for the basic hardware installation of Hewlett Packard Enterprise branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

HPE Installation and Startup of HPE Servers
Provides for the installation of your new server and operating system. This service will assist in bringing your new HPE server and operating system into operation in a timely and professional manner. This service provides a trained Hewlett Packard Enterprise service specialist to perform an installation that meets Hewlett Packard Enterprise quality standards. The service highlights include: planning, deployment on site, Installation verification tests, and customer orientation session.

HPE Datacenter Care service
HPE Datacenter Care helps improve IT stability and security, increase the value of IT, and enable agility and innovation. It is a structured framework of repeatable, tested, and globally available services "building blocks." You can deploy, operate, and evolve your datacenter wherever you are on your IT journey. With HPE Datacenter Care, you benefit from a personalized relationship with Hewlett Packard Enterprise via a single point of accountability for HPE and others' products.

HPE Flexible Capacity
With Flexible Capacity, you get the speed, scalability, and economics of the public cloud in the privacy of your data center. Gain the advantages of the public cloud—consumption-based payment, rapid scalability without worrying about capacity constraints. Reduce the "heavy lifting" needed to operate a data center. And retain the advantages that IT provides the business (i.e., control, security). Deliver the right user experience, choose the right technology for the business, manage privacy and compliance, and manage the cost of IT. And, you have the option to use the public cloud when needed.

HPE Support Credits
Offer flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic business.

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.

For more information: **http://www.hpe.com/services**

Configuration Information

Ordering and Configuration

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.

Notes:

- Configure-to-order servers must start with a CTO Chassis
- FIO indicates that this option is a Factory Installable Option.
- The Partition Expansion chassis are required for nPar support

Additional Technical documentation may be found at: **https://psnow.ext.hpe.com/doc/a00066732enw**

Rack choice

Some options below are specific to the processor family you are choosing. Options are noted or titled accordingly.

If No Rack Option is selected then a Virtual Rack should be selected

HPE Virtual Rack   M0S66A

All Superdome Flex Systems

Management

HPE Superdome Flex Rack Management Controller   Q2N07A

Notes: The rack management controller (RMC) is optional for configurations up to 8-sockets (2-chassis). Systems 12-sockets (3-chassis) and greater require Min 1/Max 1 RMC. RMC is mandatory for any size Partitioned system

Scale Activation Kits

HPE Superdome Flex 4-socket Activation Kit	R0X10A
HPE Superdome Flex 8-socket Interconnect and Scale Activation Kit	Q2N14A
HPE Superdome Flex 12-socket Interconnect and Scale Activation Kit	Q2N15A
HPE Superdome Flex 16-socket Interconnect and Scale Activation Kit	Q2N16A
HPE Superdome Flex 20-socket Interconnect and Scale Activation Kit	Q2N17A
HPE Superdome Flex 24-socket Interconnect and Scale Activation Kit	Q2N18A
HPE Superdome Flex 28-socket Interconnect and Scale Activation Kit	Q2N19A
HPE Superdome Flex 32-socket Interconnect and Scale Activation Kit	Q2N20A
HPE Superdome Flex 8-socket Interconnect and Partition Activation Kit	Q9Z03A
HPE Superdome Flex 12-socket Interconnect and Partition Activation Kit	Q9Z04A
HPE Superdome Flex 16-socket Interconnect and Partition Activation Kit	Q9Z05A
HPE Superdome Flex 20-socket Interconnect and Partition Activation Kit	Q9Z06A
HPE Superdome Flex 24-socket Interconnect and Partition Activation Kit	Q9Z07A
HPE Superdome Flex 28-socket Interconnect and Partition Activation Kit	Q9Z08A
HPE Superdome Flex 32-socket Interconnect and Partition Activation Kit	Q9Z09A

Notes: The Superdome Flex scale activation kits are required for configurations all systemsa System/Complex size (i.e. number of sockets) will determine which kit is required.

Configuration Information

Optical Drives

HPE Superdome Flex DVD-RW Drive	Q2N41A
HPE Superdome Flex DVD-R Drive	Q2N42A

Notes: The Base Chassis and Partition Expansion Chassis requires one (1) DVD drive

Internal SATA Solid State Drives

Notes:
— A total of 0, 2, or 4 internal drives supported per Base Chassis or Partition Expansion Chassis
— SATA SSDs use the embedded controller
— RAID 1 is configured by default
— No mixing of drive types or capacities

HPE 480GB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y68A
HPE 960GB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y69A
HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y70A
HPE 3.84TB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R6A24A

Internal SATA Hard Disk Drives

Notes:
— A total of 0, 2, or 4 internal drives supported per Base Chassis or Partition Expansion Chassis
— SATA HDDs use the embedded controller
— RAID 1 is configured by default
— No mixing of drive types or capacities

HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) RW 1yr Wty Digitally Signed Firmware HDD	R3K79A
HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) RW 1yr Wty 512e Digitally Signed Firmware HDD	R3K80A

Internal SAS Hard Disk Drives

Notes:
— A total of 0, 2, or 4 internal drives supported per Base Chassis or Partition Expansion Chassis
— SAS SSDs require one (1) HPE 9361-4i RAID Controller (Q2N11A)
— RAID 1 is configured by default
— No mixing of drive types or capacities

HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) RW 3yr Wty Digitally Signed Firmware HDD	Q6L99A
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) RW 3yr Wty Digitally Signed Firmware HDD	R0Z00A
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) RW 3yr Wty Digitally Signed Firmware HDD	R0Z01A
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) RW 3yr Wty Digitally Signed Firmware HDD	Q6M02A
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) RW 3yr Wty Digitally Signed Firmware HDD	Q6M03A
HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) RW 3yr Wty Digitally Signed Firmware HDD	Q6M04A
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) RW 3yr Wty 521e Digitally Signed Firmware HDD	Q6M05A
HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) RW 3yr Wty Digitally Signed Firmware HDD	Q9R86A

Configuration Information

Internal SAS Solid State Drives

Notes:
- A total of 0, 2, or 4 internal drives supported per Base Chassis or Partition Expansion Chassis
- SAS HDDs require one (1) HPE 9361-4i RAID Controller (Q2N11A)
- RAID 1 is configured by default
- No mixing of drive types or capacities

HPE 400GB SAS 12G Write Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y65A
HPE 800GB SAS 12G Write Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y66A
HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y67A
HPE 800GB SAS 12G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y61A
HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y62A
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y63A
HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	R5Y64A
HPE Superdome Flex 800GB SAS 24G Mixed Use SFF RW PM6 SSD	R7C18A
HPE Superdome Flex 1.6TB SAS 24G Mixed Use SFF RW PM6 SSD	R7C19A
HPE Superdome Flex 3.2TB SAS 24G Mixed Use SFF RW PM6 SSD	R7C20A
HPE Superdome Flex 6.4TB SAS 24G Mixed Use SFF RW PM6 SSD	R7C21A
HPE Superdome Flex 12.8TB SAS 24G Mixed Use SFF RW PM6 SSD	R7C22A
HPE Superdome Flex 400GB SAS 24G Write Intensive SFF RW PM6 SSD	R7C23A
HPE Superdome Flex 800GB SAS 24G Write Intensive SFF RW PM6 SSD	R7C24A
HPE Superdome Flex 1.6TB SAS 24G Write Intensive SFF RW PM6 SSD	R7C25A
HPE Superdome Flex 3.2TB SAS 24G Write Intensive SFF RW PM6 SSD	R7C26A

PCIe Infrastructure

Notes:
- Each chassis requires exactly one (1) PCIe option below
- The Base Chassis and Partition Expansion Chassis requires either Q2N08A or Q2N09A

HPE Superdome Flex PCIe Full Height 12-slot 3 Riser Configuration Kit	Q2N08A
HPE Superdome Flex PCIe Low Profile 16-slot 4 Riser Configuration Kit	Q2N09A
HPE Superdome Flex PCIe 0-slot Compute Only Configuration Kit	Q2N10A

RAID Controllers

HPE Superdome Flex 9361-4i Internal RAID Controller	Q2N11A

Notes:
- Required when SAS drives are ordered
- Max one (1) per Base Chassis
- Occupies (2) PCIe slots; (1) for the card, (1) for the SuperCap

HPE 3154-8e 8-port External RAID Controller	Q6M15A

Notes:
- Max two (2) per Base Chassis; Max one (1) per Base Chassis if Internal RAID controller is also configured
- Occupies (2) PCIe slots; (1) for the card, (1) for the SuperCap
- Q6M15A is equivalent to HPE P408e-p (804405-B21)

HPE 3162-8i Encryption Option 8-port RAID Controller	R0Y99A
HPE 9300-8e 12Gb 8-port External SAS Controller	H7B70A

Configuration Information

Fibre Channel HBAs

HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A
HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	P9M76A
HPE SN1610E 32Gb 2-port Fibre Channel Host Bus Adapter	R2J63A
HPE SN1610Q 32Gb 2-port Fibre Channel Host Bus Adapter	R2E09A

Notes: Max eight (8) per chassis/ Max 16 per system/partition

Networking cards

HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter	817753-B21
HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter	647594-B21
HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter	817738-B21
HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	727055-B21
HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter	817718-B21
HPE Ethernet 1Gb 2-port BASE-T I350-T2V2 Adapter	652497-B21
HPE Ethernet 100Gb 1-port QSFP28 MCX515A-CCAT Adapter	874253-B21
HPE Ethernet 10/25Gb 2-port SFP28 QL41401-A2G Adapter	867328-B21

Notes:
— Max eight (8) per chassis/Max 16 per system/partition, see exceptions below:
  o The 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter (817753-B21) and 10Gb 2-port SFP+ X710-DA2 Adapter (727055-B21) require transceivers or direct attached copper (DAC) cables (min 1/max2)
  o The 100Gb 1-port QSFP28 MCX515A-CCAT Adapter (874253-B21)/Max two (2) per chassis/Max 16 per system/partition
— Server networking transceiver and cable compatibility matrix can be found **HERE**

InfiniBand cards

HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21

Notes: Max two (2) 829335-B21 per chassis/Max 4 per system/partition.

HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter	872726-H21

Notes: Max two (2) 872726-H21 per chassis/Max 16 per system/ Max 8 per partition

HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe3 x16 MCX653105A-HDAT Adapter	P06154-H21

Notes:
— Max one (1) P06154-H21 per chassis/Max 8 per system / Max 4 per partition
  o An P06154-H23 Extender card is required with P06154-H21 and will automatically be added to configuration

HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe3 x16 MCX653105A-ECAT Adapter	P06250-H21
HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe3 x16 MCX653106A-ECAT Adapter	P06251-H21

Notes:
— No mixing of InfiniBand card types in the same system
— Intel's MPI stack allows only 4 cards so if repartitioning creates more than 4 cards per partition, the additional cards will need to be removed

Configuration Information

GPU Controllers

NVIDIA V100S 32GB Computational Accelerator for HPE	R4D73A
HPE Superdome Flex 8 Pin GPU Cable Kit	Q6M17A
HPE Superdome Flex 6+2 Pin GPU Cable Kit	Q6M16A
NVIDIA T4 16GB Computational Accelerator for HPE	R0W29A
NVIDIA Quadro RTX 6000 Graphics Accelerator for HPE	R0Z45A
NVIDIA Quadro RTX 8000 Graphics Accelerator for HPE	R1F97A

Notes:
— Max four (4) per chassis/Max 16 Tesla per system /partition; Max 8 Quadro per system/partition. T4 may be up to a max of 7 per chassis/max 16 per system/partition.
— No mixing of GPU controller types in the same system or partition
— GPU Controllers require the Q2N08A (12-slot PCIe riser) to be in the same Chassis
— GPU Controllers are 'double-wide' and therefore utilize two adjacent PCIe slots (eg. Slots 1/2; Slots ¾, Slots 13/14; Slots 15/16). T4 is an exception. It is a single-wide x16 card
— Each V100S GPU Accelerator requires one Q6M17A
— Tesla T4 does NOT require additional power cable kit
— Inner node peer-to-peer communication is not supported with Superdome Flex

NVMe storage cards

HPE 750GB NVMe Gen3 x4 High Performance Low Latency Write Intensive AIC HHHL P4800X SSD	878038-H21
HPE 1.6TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHL PM1735 SSD	P26934-H21
HPE 3.2TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHL PM1735 SSD	P26936-H21
HPE 6.4TB NVMe Gen4 x8 High Performance Mixed Use AIC HHHL PM1735 SSD	P26938-H21

Notes: Max twelve (12) per chassis/Max 24 per system/partition

Foundation Software

HPE Foundation Software 2 for Red Hat Enterprise Linux Media FIO LTU	Q7N13A
HPE Foundation Software 2 for SUSE Linux Enterprise Server Media FIO LTU	Q7N14A
HPE Foundation Software 2 for Red Hat Enterprise Linux Media	Q7Y82A
HPE Foundation Software 2 for SUSE Linux Enterprise Server Media	Q7Y83A
HPE Foundation Software 2 for Oracle Linux Media	Q7Y84A
HPE Foundation Software 2 for Red Hat Enterprise Linux Media License RTU	Q7N11A
HPE Foundation Software 2 for SUSE Linux Enterprise Server Media License RTU	Q7N12A
HPE Foundation Software 2 for Oracle License RTU	Q7N16A

Notes:
— Exactly one (1) RTU is required per system with a Linux O/S distribution
— Minimum one (1) Foundation SW FIO or Media is required per system with a Linux O/S distribution
— Selected RTU must match selected FIO and/or Media option

Configuration Information

System Expansion and Upgrades

System Expansion Kits are utilized when scaling up a Superdome Flex. When adding either Expansion chassis or additional Partition chassis, select the appropriate beginning and ending size of your system. (all Superdome Flex Systems)

HPE Superdome Flex 4s-8s Upgrade Interconnect and Scale Activation Kit	Q2N57A #001
HPE Superdome Flex 4s-12s Upgrade Interconnect and Scale Activation Kit	Q2N57A #002
HPE Superdome Flex 4s-16s Upgrade Interconnect and Scale Activation Kit	Q2N57A #003
HPE Superdome Flex 4s-20s Upgrade Interconnect and Scale Activation Kit	Q2N57A #004
HPE Superdome Flex 4s-24s Upgrade Interconnect and Scale Activation Kit	Q2N57A #005
HPE Superdome Flex 4s-28s Upgrade Interconnect and Scale Activation Kit	Q2N57A #006
HPE Superdome Flex 4s-32s Upgrade Interconnect and Scale Activation Kit	Q2N57A #007
HPE Superdome Flex 8s-12s Upgrade Interconnect and Scale Activation Kit	Q2N57A #008
HPE Superdome Flex 8s-16s Upgrade Interconnect and Scale Activation Kit	Q2N57A #009
HPE Superdome Flex 8s-20s Upgrade Interconnect and Scale Activation Kit	Q2N57A #010
HPE Superdome Flex 8s-24s Upgrade Interconnect and Scale Activation Kit	Q2N57A #011
HPE Superdome Flex 8s-28s Upgrade Interconnect and Scale Activation Kit	Q2N57A #012
HPE Superdome Flex 8s-32s Upgrade Interconnect and Scale Activation Kit	Q2N57A #013
HPE Superdome Flex 12s-16s Upgrade Interconnect and Scale Activation Kit	Q2N57A #014
HPE Superdome Flex 12s-20s Upgrade Interconnect and Scale Activation Kit	Q2N57A #015
HPE Superdome Flex 12s-24s Upgrade Interconnect and Scale Activation Kit	Q2N57A #016
HPE Superdome Flex 12s-28s Upgrade Interconnect and Scale Activation Kit	Q2N57A #017
HPE Superdome Flex 12s-32s Upgrade Interconnect and Scale Activation Kit	Q2N57A #018
HPE Superdome Flex 16s-20s Upgrade Interconnect and Scale Activation Kit	Q2N57A #019
HPE Superdome Flex 16s-24s Upgrade Interconnect and Scale Activation Kit	Q2N57A #020
HPE Superdome Flex 16s-28s Upgrade Interconnect and Scale Activation Kit	Q2N57A #021
HPE Superdome Flex 16s-32s Upgrade Interconnect and Scale Activation Kit	Q2N57A #022
HPE Superdome Flex 20s-24s Upgrade Interconnect and Scale Activation Kit	Q2N57A #023
HPE Superdome Flex 20s-28s Upgrade Interconnect and Scale Activation Kit	Q2N57A #024
HPE Superdome Flex 20s-32s Upgrade Interconnect and Scale Activation Kit	Q2N57A #025
HPE Superdome Flex 24s-28s Upgrade Interconnect and Scale Activation Kit	Q2N57A #026
HPE Superdome Flex 24s-32s Upgrade Interconnect and Scale Activation Kit	Q2N57A #027
HPE Superdome Flex 28s-32s Upgrade Interconnect and Scale Activation Kit	Q2N57A #028
HPE Superdome Flex 4s-8s Upgrade Interconnect and Partition Activation Kit	Q2N57A #101
HPE Superdome Flex 4s-12s Upgrade Interconnect and Partition Activation Kit	Q2N57A #102
HPE Superdome Flex 4s-16s Upgrade Interconnect and Partition Activation Kit	Q2N57A #103
HPE Superdome Flex 4s-20s Upgrade Interconnect and Partition Activation Kit	Q2N57A #104
HPE Superdome Flex 4s-24s Upgrade Interconnect and Partition Activation Kit	Q2N57A #105
HPE Superdome Flex 4s-28s Upgrade Interconnect and Partition Activation Kit	Q2N57A #106
HPE Superdome Flex 4s-32s Upgrade Interconnect and Partition Activation Kit	Q2N57A #107
HPE Superdome Flex 8s-12s Upgrade Interconnect and Partition Activation Kit	Q2N57A #108
HPE Superdome Flex 8s-16s Upgrade Interconnect and Partition Activation Kit	Q2N57A #109
HPE Superdome Flex 8s-20s Upgrade Interconnect and Partition Activation Kit	Q2N57A #110
HPE Superdome Flex 8s-24s Upgrade Interconnect and Partition Activation Kit	Q2N57A #111
HPE Superdome Flex 8s-28s Upgrade Interconnect and Partition Activation Kit	Q2N57A #112
HPE Superdome Flex 8s-32s Upgrade Interconnect and Partition Activation Kit	Q2N57A #113

Configuration Information

HPE Superdome Flex 12s-16s Upgrade Interconnect and Partition Activation Kit	Q2N57A #114
HPE Superdome Flex 12s-20s Upgrade Interconnect and Partition Activation Kit	Q2N57A #115
HPE Superdome Flex 12s-24s Upgrade Interconnect and Partition Activation Kit	Q2N57A #116
HPE Superdome Flex 12s-28s Upgrade Interconnect and Partition Activation Kit	Q2N57A #117
HPE Superdome Flex 12s-32s Upgrade Interconnect and Partition Activation Kit	Q2N57A #118
HPE Superdome Flex 16s-20s Upgrade Interconnect and Partition Activation Kit	Q2N57A #119
HPE Superdome Flex 16s-24s Upgrade Interconnect and Partition Activation Kit	Q2N57A #120
HPE Superdome Flex 16s-28s Upgrade Interconnect and Partition Activation Kit	Q2N57A #121
HPE Superdome Flex 16s-32s Upgrade Interconnect and Partition Activation Kit	Q2N57A #122
HPE Superdome Flex 20s-24s Upgrade Interconnect and Partition Activation Kit	Q2N57A #123
HPE Superdome Flex 20s-28s Upgrade Interconnect and Partition Activation Kit	Q2N57A #124
HPE Superdome Flex 20s-32s Upgrade Interconnect and Partition Activation Kit	Q2N57A #125
HPE Superdome Flex 24s-28s Upgrade Interconnect and Partition Activation Kit	Q2N57A #126
HPE Superdome Flex 24s-32s Upgrade Interconnect and Partition Activation Kit	Q2N57A #127
HPE Superdome Flex 28s-32s Upgrade Interconnect and Partition Activation Kit	Q2N57A #128

62XX and 82XX processors

Base Chassis

For Intel Xeon 62XX and 82XX processors

HPE Superdome Flex 4-socket Base Chassis	Q2N05B

Notes:
- Every Superdome Flex system must have min 1/max 1 Base Chassis
- Adding Option code "#0D1" to the chassis will integrate the chassis into the rack (which must be on the same order)

HPE Solutions with Superdome Flex 4-socket Base Chassis	Q7G51B

Notes:
- Use the HPE SD Flex SAP HANA 4s Base Chassis for SAP HANA workloads
- Every Superdome Flex system must have min 1/max 1 Base Chassis
- Adding Option code "#0D1" to the chassis will integrate the chassis into the rack (which must be on the same order)

Expansion Chassis Options

HPE Superdome Flex 4-socket Expansion Chassis	Q2N06B

Notes: Adding Option code "#0D1" to the chassis will integrate the chassis into the rack (which must be on the same order)

HPE Solutions with Superdome Flex 4-socket Expansion Chassis	Q7G52B

Notes: Adding Option code "#0D1" to the chassis will integrate the chassis into the rack (which must be on the same order)

HPE Superdome Flex 4-socket Partition Expansion Chassis	Q6L89B

Notes: Adding Option code "#0D1" to the chassis will integrate the chassis into the rack (which must be on the same order)

Configuration Information

HPE Solutions with Superdome Flex 4-socket Partition Expansion Chassis	Q7G53B

Notes:
— Adding Option code "#0D1" to the chassis will integrate the chassis into the rack (which must be on the same order)
— Mixing of standard and partition expansion chassis within a single complex/system is not supported

SAP HANA Tracking

HPE Superdome Flex for SAP HANA Scale-up Solution Tracking	R1C96A
HPE Superdome Flex for SAP HANA Scale-out Solution Tracking	R1C97A

Notes: One of the SAP HANA tracking SKUs must be ordered with the SAP HANA chassis

Processors

Notes : Each chassis requires exactly four (4) processors

Intel Xeon-Platinum 8280L (2.7GHz/28-core/205W) Processor Kit for HPE Superdome Flex.	R0X01A
Intel Xeon-Platinum 8280 (2.7GHz/28-core/205W) Processor Kit for HPE Superdome Flex.	R0W99A
Intel Xeon-Platinum 8276L (2.2GHz/28-core/165W) Processor Kit for HPE Superdome Flex.	R0W98A
Intel Xeon-Platinum 8276 (2.2GHz/28-core/165W) Processor Kit for HPE Superdome Flex.	R0W96A
Intel Xeon-Platinum 8270 (2.7GHz/26-core/205W) Processor Kit for HPE Superdome Flex.	R0W95A
Intel Xeon-Platinum 8268 (2.9GHz/24-core/205W) Processor Kit for HPE Superdome Flex.	R0W94A
Intel Xeon-Platinum 8260L (2.4GHz/24-core/165W) Processor Kit for HPE Superdome Flex.	R0W93A
Intel Xeon-Platinum 8260 (2.4GHz/24-core/165W) Processor Kit for HPE Superdome Flex.	R0W91A
Intel Xeon-Platinum 8256 (3.8GHz/4-core/105W) Processor Kit for HPE Superdome Flex.	R0W88A
Intel Xeon-Platinum 8253 (2.2GHz/16-core/125W) Processor Kit for HPE Superdome Flex.	R0W89A
Intel Xeon-Gold 6254 (3.1GHz/18-core/200W) Processor Kit for HPE Superdome Flex.	R0W87A
Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) Processor Kit for HPE Superdome Flex.	R0W86A
Intel Xeon-Gold 6248 (2.5GHz/20-core/150W) Processor Kit for HPE Superdome Flex.	R0W85A
Intel Xeon-Gold 6246 (3.3GHz/12-core/165W) Processor Kit for HPE Superdome Flex.	R3T68A
Intel Xeon-Gold 6244 (3.6GHz/8-core/150W) Processor Kit for HPE Superdome Flex.	R0W84A
Intel Xeon-Gold 6242 (2.8GHz/16-core/150W) Processor Kit for HPE Superdome Flex.	R0W81A
Intel Xeon-Gold 6240 (2.6GHz/18-core/150W) Processor Kit for HPE Superdome Flex.	R0W80A
Intel Xeon-Gold 6240L (2.6GHz/18-core/150W) Processor Kit for HPE Superdome Flex.	R0W83A
Intel Xeon-Gold 6230 (2.1GHz/20-core/125W) Processor Kit for HPE Superdome Flex.	R0W79A
Intel Xeon-Gold 6226 (2.7GHz/12-core/125W) Processor Kit for HPE Superdome Flex.	R0Y98A

Notes: No mixing of processors types within a single chassis or partition

Configuration Information

DDR4 Memory

Intel Xeon

Notes: Each chassis requires twenty-four (24) or forty-eight (48) memory kits

HPE Superdome Flex 32GB (1x32GB) Dual Rank x4 DDR4-2933 Registered Memory Kit	R0X05A
HPE Superdome Flex 64GB (1x64GB) Quad Rank x4 DDR4-2933 Load Reduced Memory Kit	R0X06A
HPE Superdome Flex 128GB (1x128GB) Quad Rank x4 DDR4-2933 Load Reduced Memory Kit	R0X07A

Notes:

− DDR4 Memory Mixing of 64GB DDR4 and 128GB DDR4 is allowed. Populate with ½ each type. See Note on mixing rules when HPE Persistent Memory is utilized.
− Memory kits contain a single DIMM

Persistent Memory

Intel Xeon

Intel Optane 128GB persistent memory 100 Series for HPE	R0X02A
Intel Optane 256GB persistent memory 100 Series for HPE	R0X03A
HPE 512GB 2666 DC Persistent Memory Kit with Intel Optane Technology	R0X04A

Notes:

− Chassis must be ½ populated with DDR4 DIMMs before HPE Persistent Memory can be added
− No mixing of DDR4 memory sizes is supported when HPE Persistent Memory is utilized
− HPE Persistent Memory quantity and type must be consistent across system complex or partitions. If partitions have different memory configurations, repartitioning is not supported
− HPE Persistent Memory DIMMS must be equally populated across each socket as either 1, 2 or 6 per socket
− HPE Persistent Memory may only be used in a system/complex of 16 sockets or less. Future release will increase socket counts
− Minimum OS levels are required for support of HPE Persistent Memory
− Superdome Flex supports only App-direct Mode on HPE Persistent Memory

Additional Options

Power Distribution Options

The following PDUs are supported with Superdome Flex—refer to the server menu for ordering & configuration rules.

|	
HPE G2 Basic Modular 14.4kVA/60309 63A 3-wire 48A/230V Outlets (6) C19/1U Horizontal INTL PDU	P9Q51A
HPE G2 Basic Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (6) C19/1U Horizontal NA/JP PDU	P9Q60A
HPE G2 Basic Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (6) C19/1U Horizontal INTL PDU	P9Q63A
HPE G2 Basic Modular 4.9kVA/L6-30P 24A/208V Outlets (6) IEC C19/1U Horizontal NA/JP PDU	P9Q39A
HPE G2 Basic 7.3kVA/60309 3-wire 32A/230V Outlets (12) C13/1U Horizontal INTL PDU	P9Q44A
HPE G2 IEC C20 Input/(8) C13 Expansion Outlets/PDU Extension Bar Kit	P9Q66A
Notes: Two are required.	
HPE G2 Basic 3Ph 8.6kVA/L21-30P 24A/208V Outlets (24) C13 (3) C19 (3) 5-20R/Vertical NA/JP PDU	P9Q55A
HPE G2 Basic 4.9kVA/L6-30P 24A/208V Outlets (20) C13/Vertical NA/JP PDU	P9Q41A
HPE G2 Basic 7.3kVA/60309 3-wire 32A/230V Outlets (20) C13/Vertical INTL PDU	P9Q45A
HPE G2 Basic 11kVA/60309 63A 3-wire 48A/230V Outlets (30) C13 (6) C19/Vertical INTL PDU	P9Q50A
HPE G2 Basic 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (18) C13 (6) C19/Vertical NA/JP PDU	P9Q61A
HPE G2 Basic 3Ph 17.3kVA/60309 60A 4-wire 48A/208V Outlets (36) C13 (12) C19/Vertical NA/JP PDU	P9Q62A
HPE G2 Basic 3Ph 22kVA/60309 5-wire 32A/230V Outlets (18) C13 (6) C19/Vertical INTL PDU	P9Q64A

HPE Standard Series G2 Basic Power Distribution Units (PDU)
QuickSpecs: **https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=c05324691**

Memory

Superdome Flex DDR4 DIMM loading rules and numbering (top-down view of chassis)

Loading Rules
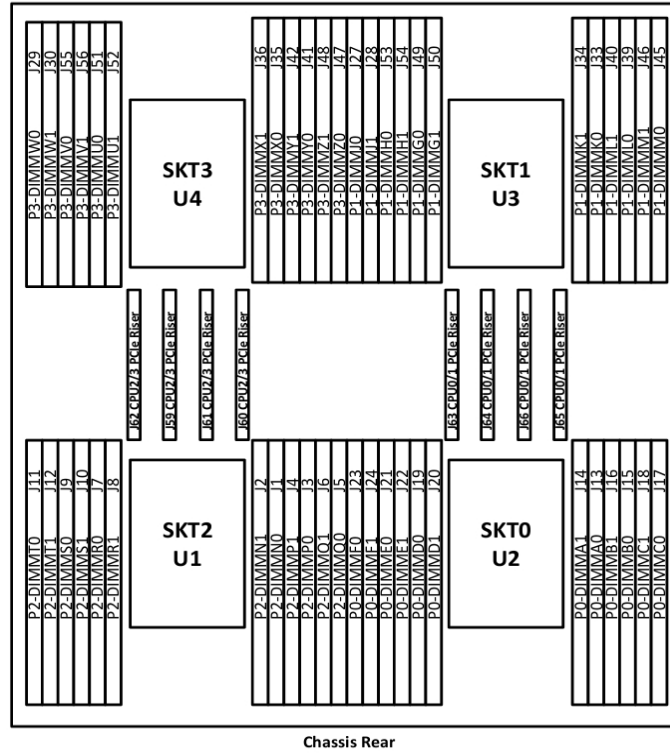
Superdome Flex DIMM Arrangement

- Half populated:
  J13, J49, J1, J51, J19, J33, J7, J35, J15, J53, J3, J55, J21, J39, J9, J41, J17, J27, J5, J29, J23, J45, J11, J47

- Fully populated add:
  J14, J50, J2, J52, J20, J34, J8, J36, J16, J54, J4, J56, J22, J40, J10, J42, J18, J28, J6, J30, J24, J46, J12, J48

DDR4 DIMMs Numbering
The following table shows the supported configurations as shipped from the factory.
Notes: Mixing DIMM sizes within the same chassis or HPE nPar is not supported.

Recommended Configurations per Superdome Flex chassis			
Total Memory per Chassis (GBytes)	**Number of DIMMS**		
	32 GB	**64 GB**	**128 GB**
768 GB	24		
1536 GB	48		
1536 GB		24	
3072 GB		48	
3072 GB			24
6144 GB			48

Superdome Flex DIMM configurations shipped from the factory

Technical Specifications

This section describes the physical and environmental information for a chassis.

Superdome Flex chassis	
Physical Information	
Site planning and installation included	Yes
Maximum Heat dissipation (fully populated system)	17.40 kBTU/hr
Depth (handle to handle)	879.5 mm / 34.63"
Width (not including mounting rails)	445 mm / 17.5"
Height	218.2 mm / 8.59" (5U)
Weight - Maximum (fully populated)	Range between 40.8 kg / 90 lb to 56.7 kg / 125 lb
Electrical Characteristics	
Single phase (200/240)	4 IE320-C13
Maximum Input Power total	5.27 KVA
Environmental Characteristics	
Cooling airflow (front to back)	Without GPUs: 300 CFM typical; 650 CFM max With GPUs: 475 CFM typical; 650 CFM max
Acoustics	82 dBA (maximum) 73 dBA (typical)
Temperature - Recommended Operating Range1,2	+18°C to +27°C
Temperature - Allowable Operating Range1,2	+5°C to +35°C
Maximum rate of temperature change	20°C/hr non-condensing
Non operating temperature (storage)	-40°C to +60°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	-9°C DP to 15°C DP and 60% RH
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) non-pressurized

Notes:

– 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 1524 m is applicable. No direct sunlight allowed. Upper operating limit is 3,048 m (10,000 ft).

Technical Specifications

This section describes the physical and environmental information for an RMC.

External Rack Management Controller (RMC)	
Physical Information	
Site planning and installation included	Yes
Maximum Heat dissipation (fully populated system)	171 BTU/hr
Depth	758 mm / 29.84"
Width	437 mm / 17.2"
Height	44 mm / 1.72" (1U)
Weight - Maximum (fully populated)	9.1 kg / 20 lb
Electrical Characteristics	
Single phase (100/120 VAC)	1 90-132VAC
Single phase (200/240)	1 180-264VAC
Maximum Input Power total	51 VA
Environmental Characteristics	
Cooling airflow	35 CFM typical; 35 CFM max
Acoustics	68 dBA (maximum)
Temperature - Recommended Operating Range1,2	+18°C to +27°C
Temperature - Allowable Operating Range1,2	+5°C to +37°C
Maximum rate of temperature change	20°C/hr
Non-operating temperature (storage)	-40°C to +60°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
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) non-pressurized

Environmental Info
Regulatory model numbers:
- Chassis (Q2N05A, Q2N06A, Q7G51A, Q7G52A, Q6L89A, Q7G53A, Q2N05B, Q2N06B, Q7G51B, Q7G52B, Q6L89B, Q7G53B), RMN: CHPF-067
- Rack Management Controller (Q2N07A), RMN: RSVLA-02

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
15-Mar-2021	Version 26	Changed	Standard Features, Configuration Information and Technical Specifications sections were updated
01-Feb-2021	Version 25	Changed	Overview, Standard Features, and Configuration Information sections were updated. Some SKUs were added and deleted in Configuration Information section.
07-Dec-2020	Version 24	Changed	Overview, Configuration Information, and Technical Specifications sections were updated
05-Oct-2020	Version 23	Changed	Standard Features section was updated.
08-Sep-2020	Version 22	Changed	Overview, Standard Features, Configuration Information, and Additional Options sections were updated.
10-Aug-2020	Version 21	Changed	Configuration Information section was updated.
06-Jul-2020	Version 20	Changed	Overview, Standard Features, Configuration Information, and Additional Options sections were updated.
20-Apr-2020	Version 19	Changed	Overview, Standard Features, Configuration Information, and Additional Options sections were updated.
06-Jan-2020	Version 18	Changed	Overview, Configuration Information and Technical Specifications sections were updated.
02-Dec-2019	Version 17	Changed	QuickSpecs was updated.
04-Nov-2019	Version 16	Changed	Standard Features and Configuration Information sections were updated.
		Added	SKUs added in Configuration Information section: R0W89A, R0Y98A, Q2N41A, R0W29A, R0Z45A, R1F97A
		Removed	Obsolete SKUs were deleted: Q2N68A, Q0V76A.
07-Oct-2019	Version 15	Changed	Standard Features and Configuration Information sections were updated.
05-Aug-2019	Version 14	Changed	Standard Features, Physical and Environmental Information, and Ordering and Configuration sections were updated.
		Added	SKUs added in Ordering and Configuration section: R3T68A, R0W82A, R0W83A.
		Removed	Obsolete SKU was deleted: Q0E21A
06-May-2019	Version 13	Changed	Overview, Standard Features and Ordering and configuration sections were updated
		Added	SKUS added in Ordering and Configuration section: R0X02A, R0X03A, R0X04A.
02-Apr-2019	Version 12	Changed	Overview, Standard Features, Physical and Environmental Information, and Technical Specifications sections were updated.
		Added	SKUs added in Ordering and Configuration section: Q2N05B, Q7G51B, Q2N06B, Q7G52B, Q6L89B, Q7G53B, R0X10A, R1C96A, R1C97A, R0X01A, R0X00A, R0W99A, R0W98A, R0W97A, R0W96A, R0W95A, R0W94A, R0W93A, R0W92A, R0W91A, R0W88A, R0W87A, R0W86A, R0W85A, R0W84A, R0W81A, R0W80A, R0W79A, R0X05A, R0X06A, R0X07A, R0X02A, R0X03A, R0X04A, R0Z00A, R0Z01A, R0Y99A, H7B70A, 817718-B21, 874253-B21, 867328-B21, Q9U36A, P10264-H21, P10266-H21, P10268-H21.
		Removed	SKUs were deleted: 877825-H21, 877827-H21, 877829-B21.
04-Feb-2019	Version 11	Changed	Standard Features, Physical and Environmental Information, and Ordering and Configuration sections were updated.
		Added	SKUs were added in Ordering and Configuration section: R2A72A, R2A73A, R2A74A, R2A69A, R2A70A, R2A71A, R2A65A, R2A66A, R2A67A, R2A68A.
		Removed	Skus were deleted in Ordering and Configuration section: Q2N43A, Q2N44A, Q6L95A, Q6L96A, Q6L97A, Q6L98A, Q6MO7A, Q6M13A, Q6M14A.
05-Nov-2018	Version 10	Changed	Standard Features, Physical and Environmental Information, Ordering and Configuration, and Technical Specifications sections were updated.
01-Oct-2018	Version 9	Changed	Updates applied in QuickSpecs
06-Aug-2018	Version 8	Changed	Standard Features, Physical and Environmental Information, and Ordering and Configuration sections were updated.
		Added	SKUs added: M0S66A, Q6L93A, Q2N33A, Q0L12A, P9M76A, 878038-H21.
		Removed	SKUS deleted: Q6M00A, Q6M01A.
02-Jul-2018	Version 7	Changed	QuickSpecs was updated.

Summary of Changes

Date	Version History	Action	Description of Change
04-Jun-2018	Version 6	Changed	Overview, Standard Features, Physical and Environmental Information, Ordering and Configuration, and Technical specifications sections were updated.
		Added	SKUs added in Ordering and Configuration section: Q6L89A, Q7G53A, Q2N18A, Q2N19A, Q9Z03A, Q9Z04A, Q9Z05A, Q9Z06A, Q9Z07A, Q9Z08A, Q9Z09A, Q9V69A, Q9V70A, Q9V71A, Q9V72A, Q9V73A, Q9V74A, Q9V75A, Q9R86A, Q0V76A, Q6M16A, Q2N57A#001, Q2N57A#002, Q2N57A#003, Q2N57A#004, Q2N57A#005, Q2N57A#006, Q2N57A#007, Q2N57A#008, Q2N57A#009, Q2N57A#010, Q2N57A#011, Q2N57A#012, Q2N57A#013, Q2N57A#014, Q2N57A#015, Q2N57A#016, Q2N57A#017, Q2N57A#018, Q2N57A#019, Q2N57A#020, Q2N57A#021, Q2N57A#022, Q2N57A#023, Q2N57A#024, Q2N57A#025, Q2N57A#026, Q2N57A#027, Q2N57A#028, Q2N57A#101, Q2N57A#102, Q2N57A#103, Q2N57A#104, Q2N57A#105, Q2N57A#106, Q2N57A#107, Q2N57A#108, Q2N57A#109, Q2N57A#110, Q2N57A#111, Q2N57A#112, Q2N57A#113, Q2N57A#114, Q2N57A#115, Q2N57A#116, Q2N57A#117, Q2N57A#118, Q2N57A#119, Q2N57A#120, Q2N57A#121, Q2N57A#122, Q2N57A#123, Q2N57A#124, Q2N57A#125, Q2N57A#126, Q2N57A#127, Q2N57A#128.
02-Apr-2018	Version 5	Changed	Standard Features and Ordering and Configuration sections were updated.
		Added	SKUS added: 829335-B21, 872726-H21, Q6M17A, 817738-B21, 727055-B21, 647594-B21, Q0L14A, P9D94A, Q2N11A, Q6M15A.
05-Mar-2018	Version 4	Changed	Oracle Linux was added
		Removed	SKUs Q2N18A and Q2N19A were deleted.
05-Feb-2018	Version 3	Changed	Overview, Standard Features, Physical and Environmental Information, Ordering and Configuration, and Technical Specifications sections were updated.
		Added	SKUs added in Ordering and Configuration section: Q2N15A, Q2N16A, Q2N17A, Q2N18A, Q2N19A, Q2N20A, Q2N27A, Q2N28A, Q2N31A, Q6L92A, Q2N34A, Q9R29A, Q9R28A, Q2N35A, Q2N40A, 817738-B21, 829335-B21, 872726-H21, 877825-H21 , 877827-H21, 877829-B21.
04-Dec-2017	Version 2	Changed	Overview, Standard Features, Physical and Environmental Information, Ordering and Configuration, and Technical Specifications sections were updated.
		Removed	SKU deleted in Ordering and Configuration section
06-Nov-2017	Version 1	Created	New QuickSpecs

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