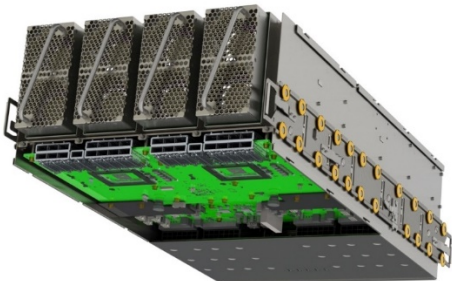
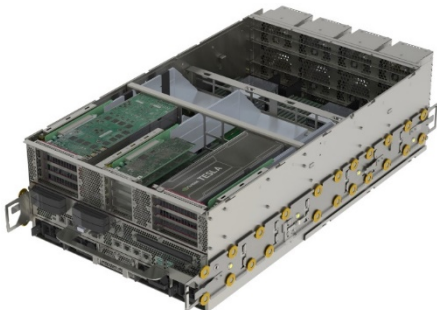


Overview

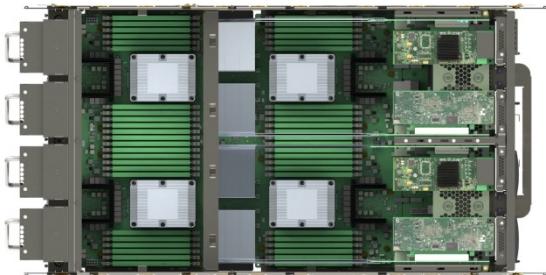
HPE Superdome Flex



Chassis front and bottom



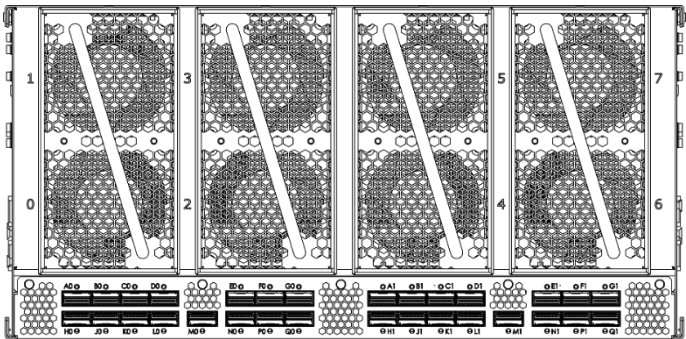
Chassis back and top



Chassis top view



Full Rack

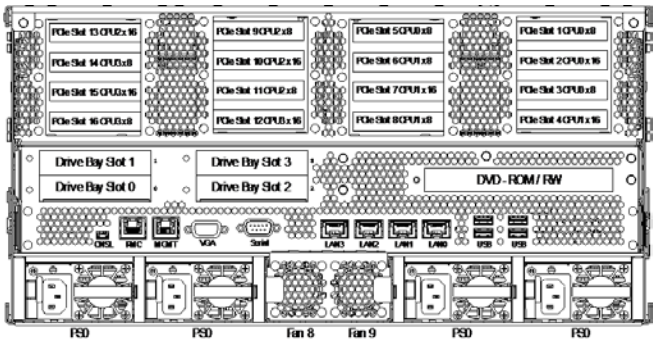


Chassis front view

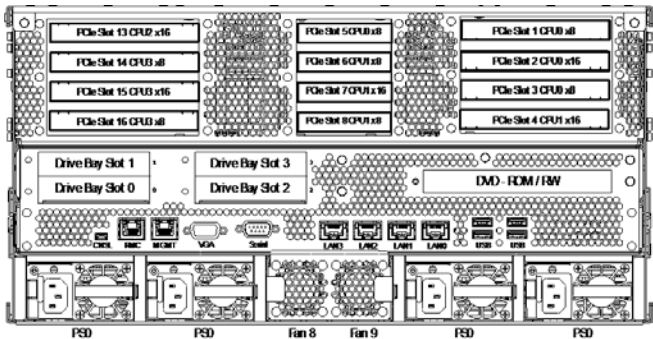
0 – 7 8x Superdome Flex fans

A0 – Q1 30x Superdome Flex ports

Overview



Base Chassis rear view (16-slot)



Base Chassis rear view (12-slot)

- 16x LP PCIe IO slots
- 4x HDD/SSD bays
- 1x DVD-R/DVD-RW bay
- 4x Ethernet ports
- 4x Power supplies
- 2x Superdome Flex ASIC fans

- 12x FH/LP PCIe IO slots
- 4x HDD/SSD bays
- 1x DVD-R/DVD-RW bay
- 4x Ethernet ports
- 4x Power supplies
- 2x Superdome Flex ASIC fans

Superdome Flex: The Ultimate x86 based Mission-critical Platform

HPE Superdome Flex Server is a compute breakthrough to power critical applications, enable real-time analytics and tackle data-intensive high performance computing (HPC) workloads. Its in-memory design and unparalleled scale give you the ability to analyze the growing amount of data moving through your business in real time, keeping you a step ahead. And because the infrastructure is modular and cloud-ready, it's the right fit for any business of any size. Keep pace with your evolving demands through a unique modular design. Start small and grow as needed, flexibly scaling up or out. With superior RAS and end-to-end security, the HPE Superdome Flex Server safeguards your vital workloads. Now supporting HPE's unique x86 hard partitioning (HPE nPars) technology, you can isolate workloads and/or consolidate multiple workloads onto a single managed complex, as well as service individual partitions and/or reconfigure while other partitions continue to run undisturbed. The HPE Pointnext Services portfolio, partner ecosystem, and mission-critical expertise help turn your data into insight, so you can turn insight into action and action into success

Key features and benefits

- HPE Superdome Flex offers scalability that surpasses the market, flexibility, modularity, and mission-critical RAS functionality. In summary
- Support for 4 to 32-sockets of Intel Xeon Scalable processors with up to 28-cores per socket
 - 48 DIMM slots of DDR4 memory per chassis, providing a large memory footprint for the most demanding applications
 - 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

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.
System	The system can support up to eight (8) chassis.
Chassis	Each chassis has the following specifications: <ul style="list-style-type: none">1. Support for four (4) Intel Xeon Scalable processors2. Supports 48 DDR4 DIMM slots (12 DIMMs per processor)3. Supports up to 16 PCIe Gen 3 slots4. 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.

Standard Features

Processors

Each server chassis supports four 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

NOTE: All processors can be used to scale to 32 sockets

Chipset

HPE Superdome Flex ASIC

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

Memory type Registered

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

Memory protection

Error checking and correcting (ECC) on memory and caches; ADDDC and SDDC are supported options.
 Fast Fault Tolerance (custom enhanced ADDDC)

Operating System

- Red Hat Enterprise Linux (RHEL)
 - SUSE Linux Enterprise Server (SLES)
 - Oracle Linux
 - VMware
 - Microsoft Windows Server 2016 Standard and Datacenter
- NOTE:** HPE Foundation Software is required for all Linux O/S environments

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

Standard Features

Product SKU	Superdome Flex IO Support Matrix	Windows	RHEL	SLES	VMWare	Oracle
Infiniband HCA						
872726-B21	HPE InfiniBand EDR/Ethernet 100Gb 2-port 842QSFP28 Adapter		X	X		
829335-B21	HPE 100Gb 1p OP101 QSFP28 x16 OPA Adapter		X	X		
Network Controllers						
817753-B21	HPE Ethernet 25Gb 2-Port 640SFP28 Adapter		X	X		
817738-B21	HPE Ethernet 10Gb 2P 562T Adapter		X	X	X	X
727055-B21	HPE Ethernet 10Gb 2-port 562SFP+ Adapter	X	X	X	X	X
647594-B21	HPE Ethernet 1Gb 4-port 331T Adapter	X	X	X	X	X
652497-B21	HPE Ethernet 1Gb 2P 361T Adapter	X	X	X		
Storage Controllers (Fibre Channel)						
Q0L14A	HPE SN1200E 16Gb 2p FC HBA	X	X	X	X	X
P9D94A	HPE SN1100Q 16Gb 2p FC HBA	X	X	X	X	X
P9M76A	HPE SN1600Q 32Gb 2p FC HBA	X	X	X	X	X
Q0L12A	HPE SN1600E 32Gb 2p FC HBA	X	X	X	X	X
Storage Controllers (SAS)						
Q2N11A	HPE 9361-4i RAID Controller (internal)	X	X	X	X	X
Q6M15A	HPE 3154-8e RAID Controller (external)	X	X	X	X	X
Workload Accelerator – NVMe AIC						
877825-B21	HPE 1.6TB PCIe x4 MU HH DS Card	X	X	X		
877827-B21	HPE 3.2TB PCIe x4 MU HH DS Card	X	X	X		
877829-B21	HPE 6.4TB PCIe x4 MU HH DS Card	X	X	X		
878038-B21	HPE 750GB PCIe x4 WI HH DS Card	X	X	X		
GPU						
Q0V76A	HPE NVIDIA Quadro P6000 GPU Module		X	X		
Q2N68A	HPE NVIDIA Tesla V100 PCIe 16GB Module		X	X		
Q0E21A	HPE NVIDIA Tesla P100 PCIe 16GB Module		X	X		

NOTE: 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 below 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.

NOTE: 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.

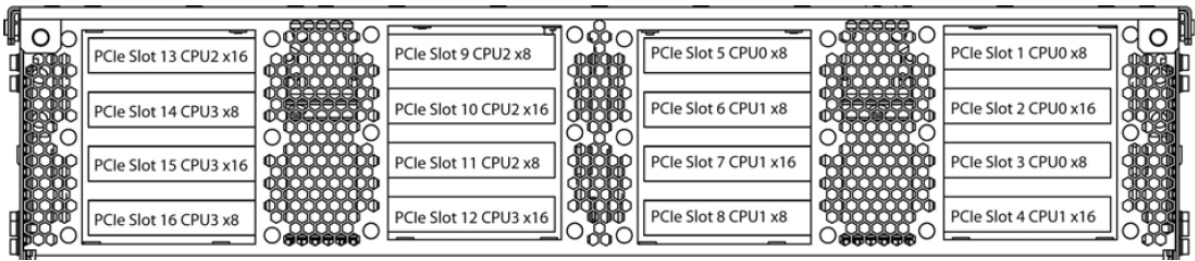
NOTE: For more information on the HPE Certified and Supported Hewlett Packard Enterprise servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: <http://www.hpe.com/info/ossupport>

I/O slots

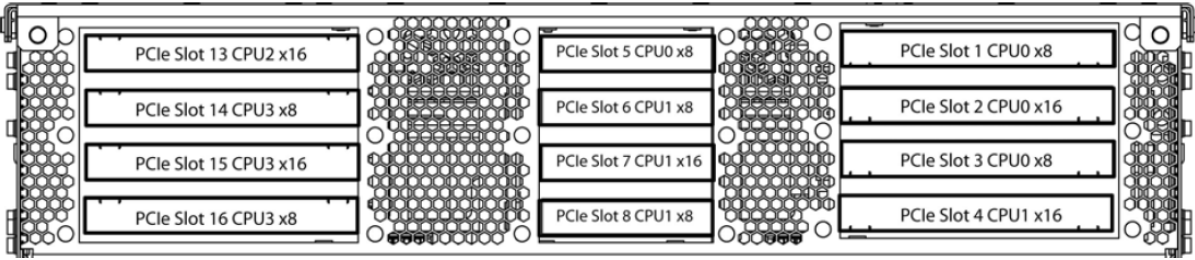
Chassis support either 16 half-height PCIe slots (7 x16 slots and 9 x8 slots); 12 slots with eight-full height slots (4 x16 slots and 4 x8 slots) + 4 half-height slots (1 x16 slot and 3 x8 slots); or a compute-only configuration (no PCIe slots). The compute-only configuration is only supported with the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

16-slot configuration

Standard Features

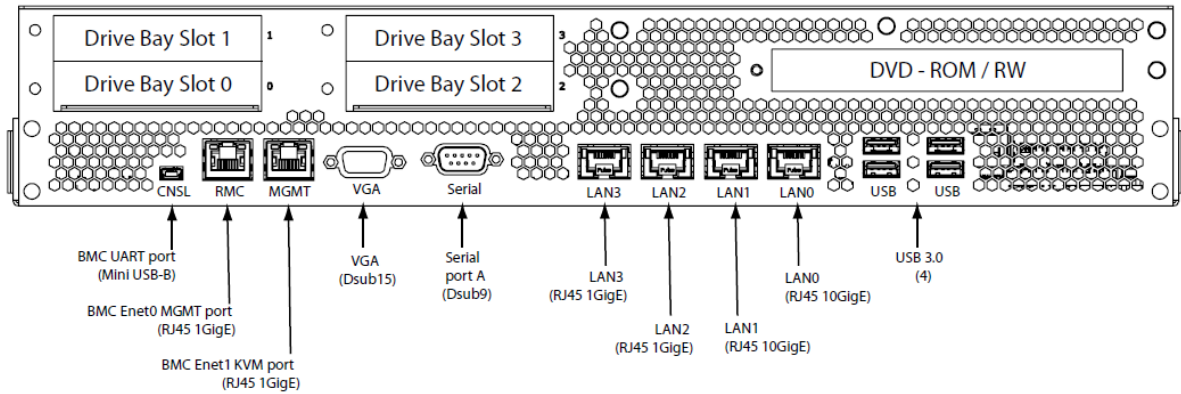


12-slot configuration

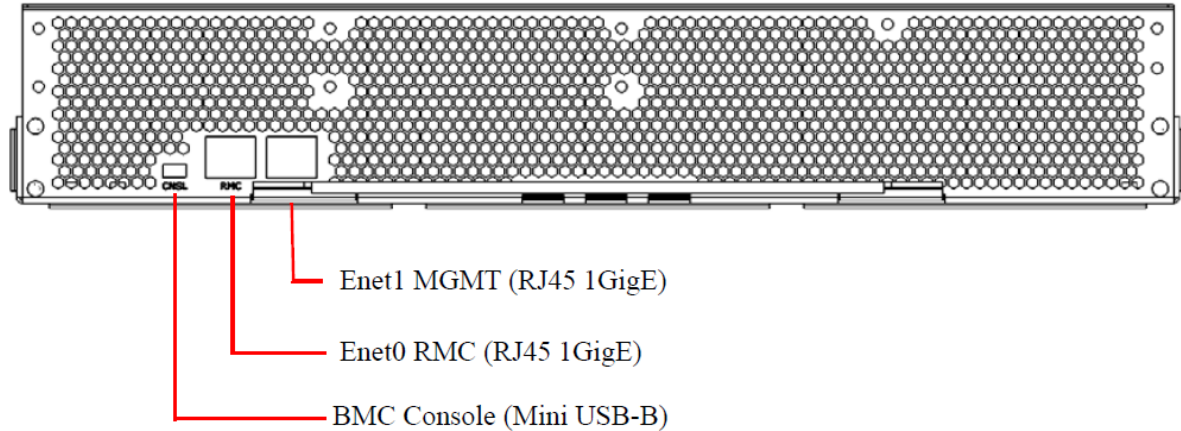


Base I/O

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.



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 FC
- Internal and External SAS controllers
- InfiniBand EDR/Ethernet 100Gb

Standard Features

Partitioning	<p>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.</p> <p>All processors and Memory must be the same within a Partition.</p> <p>DVD is required per chassis to allow for repartitioning if applicable.</p> <p>No recabling is required to do repartitioning.</p>
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Standard Features

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							
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
28	8s		8s				8s	
29	12s				4s		4s	4s
30	12s				4s		8s	
31	12s				4s		12s	
32	16s						4s	4s
33	16s						8s	

Standard Features

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

Form Factor

5U Base Chassis or Expansion Chassis

1U external Rack Management Controller (RMC)

NOTE: 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.

NOTE: 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

N+1 fans (or greater depending on the load)

Online, replaceable, and redundant fans, power supplies

Fault Tolerant Fabric built on dynamic multi-pathing and end-to-end retry technology

Enhanced MCA Gen2 recovery

ADDDC and SDDC 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,

Standard Features

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>

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 24x7 monitoring, 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.

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.

NOTE: 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.

Other related Services

HPE Server Hardware Installation

Service and Support

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>

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.

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.

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:	
<div><div>1. Boot devices should be in slot 5</div><div>2. Alternate boot devices should be in slot 3</div></div>	

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.

Physical and Environmental Information

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 800x1075mm Adv G2 Shock Rack
 HPE 42U 800x1200mm Adv G2 Kit Shock 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.

The supported configuration is a single rack for the system at the bottom of the rack leaving space above for other peripherals or 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>**

Power Distribution Options

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

HPE G2 Basic Mdlr 14.4kVA/C19 INTL PDU
 HPE 17.3KVA 48A 3-phase NA/JP PDU
 HPE 22kVA 32A 3-Phase INTL PDU
 HPE 4.9kVA 24A NA/JP PDU
 Two C13 PDU Power Bar Kit
 HPE D-Rack 21 x 3-Phase 240V NA PDU

Physical and Environmental Information

HPE D-Rack 21 x 3-Phase 400V INTL PDU
 HPE D-Rack 8 x Single-Phase 240V NA PDU
 HPE D-Rack 8 x Single-Phase 240V INTL PDU
 HPE D-Rack 8 x Single-Phase 240V AU PDU
 HPE G2 Basic 4.9kVA/(20) C13 NA/JP PDU
 HPE G2 Basic 7.3kVA/(20) C13 INTL PDU
 HPE G2 Basic 11kVA/C13 C19 INTL PDU
 HPE G2 Basic 3Ph 17.3kVA/C13 NA/JP PDU
 HPE G2 Basic 3Ph 17.3kVA/C19 NA/JP PDU
 HPE G2 Basic 3PH 22Kk VA/C13 INTL PDU

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 - 230V	48A	9 x 20A	IE 60309	12'	21 x IEC320 C13	32.5"H x 2.5"W x 6.25"D
H7C29A	INTL	Three	380 - 420V	60A	9 x 20A	IEC60309	12'	21 x IEC320 C13	32.5"H x 2.5"W x 6.25"D
H7C30A	NA/JP	Single	200 - 240V	24A	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	IEC60309	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

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

Dimensions for a single 24-inch wide 42U rack

Height: 78.75 in. (200 cm)
 Width: 24.0 in. (60.9 cm)
 Depth: 46.0 in. (116.8 cm)

Shipping dimensions (single rack)

Height: 88.88 in. (225.8 cm)
 Width: 44.0 in. (111.8 cm)
 Depth: 62.75 in. (159.4 cm)

Physical and Environmental Information

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/?Page=Index>

Processor Support Superdome Flex systems support Intel® Xeon® 81XX and 61XX processors as specified in the following table. Support for the various speed bins is as follows:

Processor

Supported Processor Matrix

Intel® Xeon® Scalable Processor Family				
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

Physical and Environmental Information

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

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

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 on the chassis:

- 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

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.

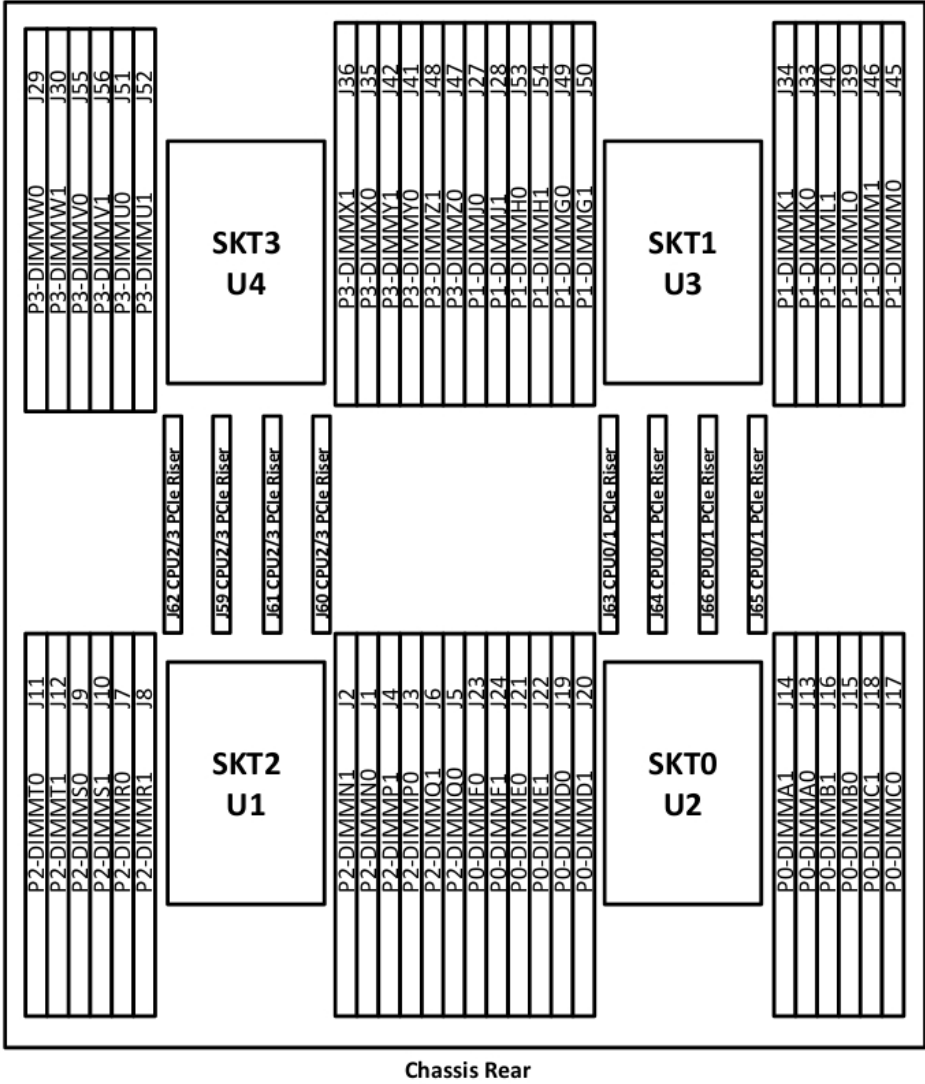
General memory configuration rules:

- 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.

Physical and Environmental Information

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

Loading Rules



Superdome Flex DIMM Arrangement

Half populated: J13-J14, J15-J16, J17-J18, J49-50, J53-J54, J27-J28, J1-J2, J3-J4, J5-J6, J51-J52, J55-J56, J29-J30

Fully populated add: J19-J20, J21-J22, J23-J24, J33-J34, J39-J40, J45-J46, J7-J8, J9-J10, J11-J12, J35-J36, J41-J42, J47-J48

Physical and Environmental Information

DIMMs Numbering The following table shows the supported configurations as shipped from the factory.

NOTE: 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

Superdome Flex Storage Support

For HPE Storage solutions, please see:
<https://www.hpe.com/storage/spock>

Networking

HPE Ethernet 10/25Gb 2-Port 640SFP28 Adapter (requires transceivers or DAC)
HPE Ethernet 10Gb 2P 561T Adapter
HPE Ethernet 10Gb 2P 562T Adapter
HPE Ethernet 10Gb 2-port 562SFP+ Adapter (requires transceivers or DAC)
HPE Ethernet 1Gb 4-port 331T Adapter
HPE Ethernet 1Gb 2P 361T Adapter

Storage and boot support

HPE SN1200E 16Gb 2p FC HBA (Emulex)
HPE SN1100Q 16Gb 2p FC HBA (Qlogic)
HPE SN1600E 32Gb 2p FC HBA (Emulex)
HPE SN1600Q 32Gb 2p FC HBA (Qlogic)
HPE 9361-4i RAID Controller (internal)
HPE 3154-8e RAID Controller (external)

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. 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

Physical and Environmental Information

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. SATA drives are not supported.

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.

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

NOTE: Superdome Flex is supported starting with HPE OneView release v4.1.

Ordering and Configuration

NOTE: 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.

Configure-to-order servers must start with a CTO Chassis

NOTE: FIO indicates that this option is a Factory Installable Option.

Configuring Superdome Flex

Rack choice	If No Rack Option is selected then a Virtual Rack should be selected HPE Virtual Rack	M0S66A
Base Chassis	HPE Superdome Flex 4-socket Base Chassis NOTE: Every Superdome Flex system must have min 1/max 1 Base Chassis NOTE: Adding Option code "#OD1" to the chassis will integrate the chassis into the rack (which must be on the same order) HPE Superdome Flex for SAP HANA TDI/Base Configuration 4-socket Base Chassis NOTE: Use the HPE SD Flex SAP HANA 4s Base Chassis for SAP HANA workloads NOTE: Every Superdome Flex system must have min 1/max 1 Base Chassis NOTE: Adding Option code "#OD1" to the chassis will integrate the chassis into the rack (which must be on the same order)	Q2N05A Q7G51A
Expansion Chassis options	HPE Superdome Flex 4-socket Expansion Chassis NOTE: Adding Option code "#OD1" to the chassis will integrate the chassis into the rack (which must be on the same order) HPE Superdome Flex for SAP HANA TDI/Base Configuration 4-socket Expansion Chassis NOTE: Adding Option code "#OD1" 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 NOTE: Adding Option code "#OD1" to the chassis will integrate the chassis into the rack (which must be on the same order) HPE Superdome Flex for SAP HANA TDI/Base Configuration 4-socket Partition Expansion Chassis NOTE: Adding Option code "#OD1" to the chassis will integrate the chassis into the rack (which must be on the same order) NOTE: Mixing of standard and partition expansion chassis within a single complex/system is not supported	Q2N06A Q7G52A Q6L89A Q7G53A
SAP HANA Tracking	HPE Superdome Flex for SAP HANA Scale-up TDI Tracking HPE Superdome Flex for SAP HANA Scale-out TDI Tracking NOTE: One of the SAP HANA tracking SKUs must be ordered with the SAP HANA chassis	Q7G37A Q7G38A
Management	Management HPE Superdome Flex Rack Management Controller NOTE: 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.	Q2N07A
Scale Activation Kits	Scale Activation Kits HPE Superdome Flex 8-socket Interconnect and Scale Activation Kit	Q2N14A

Ordering and Configuration

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

NOTE: The Superdome Flex scale activation kits are required for configurations above 4-sockets (1-chassis).

Processors

Processors

NOTE: Each chassis requires exactly four (4) processors

HPE Superdome Flex Intel Xeon-Platinum 8180M (2.5GHz/28-core/205W) Processor Kit	Q2N27A
HPE Superdome Flex Intel Xeon-Platinum 8180 (2.5GHz/28-core/205W) Processor Kit	Q6L90A
HPE Superdome Flex Intel Xeon-Platinum 8176M (2.1GHz/28-core/165W) Processor Kit	Q2N28A
HPE Superdome Flex Intel Xeon-Platinum 8176 (2.1GHz/28-core/165W) Processor Kit	Q6L91A
HPE Superdome Flex Intel Xeon-Platinum 8160M (2.1GHz/24-core/150W) Processor Kit	Q2N31A
HPE Superdome Flex Intel Xeon-Platinum 8160 (2.1GHz/24-core/150W) Processor Kit	Q6L92A
HPE Superdome Flex Intel Xeon-Platinum 8158 (3.0GHz/12-core/150W) Processor Kit	Q2N30A
HPE Superdome Flex Intel Xeon-Platinum 8156 (3.6GHz/4-core/105W) Processor Kit	Q2N29A
HPE Superdome Flex Intel Xeon-Gold 6154 (3.0GHz/18-core/200W) Processor Kit	Q2N32A
HPE Superdome Flex Intel Xeon-Gold 6146 (3.2GHz/12-core/165W) Processor Kit	Q9R29A
HPE Superdome Flex Intel Xeon-Gold 6144 (3.5GHz/8-core/150W) Processor Kit	Q9R28A
HPE Superdome Flex Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) Processor Kit	Q6L94A
HPE Superdome Flex Intel Xeon-Gold 6130 (2.1GHz/16-core/125W) Processor Kit	Q2N35A
HPE Superdome Flex Intel Xeon-Platinum 8170 (2.1GHz/26-core/165W) Processor Kit	Q9V69A
HPE Superdome Flex Intel Xeon-Platinum 8170M (2.1GHz/26-core/165W) Processor Kit	Q9V70A
HPE Superdome Flex Intel Xeon-Platinum 8168 (2.7GHz/24-core/205W) Processor Kit	Q9V71A
HPE Superdome Flex Intel Xeon-Gold 6150 (2.7GHz/18-core/165W) Processor Kit	Q9V72A
HPE Superdome Flex Intel Xeon-Gold 6142 (2.6GHz/16-core/150W) Processor Kit	Q9V73A
HPE Superdome Flex Intel Xeon-Gold 6142M (2.6GHz/16-core/150W) Processor Kit	Q9V74A
HPE Superdome Flex Intel Xeon-Gold 6140 (2.3GHz/18-core/140W) Processor Kit	Q6L93A
HPE Superdome Flex Intel Xeon-Gold 6140M (2.3GHz/18-core/140W) Processor Kit	Q2N33A
HPE Superdome Flex Intel Xeon-Gold 6138 (2.0GHz/20-core/125W) Processor Kit	Q9V75A
HPE Superdome Flex Intel Xeon-Gold 6152 (2.1GHz/22-core/140W) Processor Kit	Q2N34A

NOTE: No mixing of processors types within a single chassis, system or partition

Memory

Memory

NOTE: Each chassis requires six (6) or twelve (12) memory kits

Ordering and Configuration

HPE Superdome Flex 128GB (4x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Memory Kit Q2N38A

HPE Superdome Flex 256GB (4x64GB) Quad Rank x4 DDR4-2666 CAS-19-19-19 Load Reduced Memory Kit Q2N39A

HPE Superdome Flex 512GB (4x128GB) Octal Rank x4 DDR4-2666 CAS-19-19-19 3DS Load Reduced Memory Kit Q2N40A

NOTE: No mixing of memory types within a single chassis, system or partition

Optical Drives

Optical Drives

NOTE: The Base Chassis requires one (1) DVD drive

HPE Superdome Flex DVD-RW Drive Q2N41A

HPE Superdome Flex DVD-R Drive Q2N42A

Internal SATA Solid State Drives

Internal SATA Solid State Drives

NOTE: A total of 0, 2, or 4 internal drives supported per Base Chassis

NOTE: SATA SSDs use the embedded controller

NOTE: RAID 1 is configured by default

HPE 480GB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q2N43A

HPE 960GB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q2N44A

HPE 1.92TB SATA 6G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q6L95A

NOTE: No mixing of drive types or capacities

Internal SAS Hard Disk Drives

Internal SAS Hard Disk Drives

NOTE: A total of 0, 2, or 4 internal drives supported per Base Chassis

NOTE: SAS SSDs require one (1) HPE 9361-4i RAID Controller (Q2N11A)

NOTE: RAID 1 is configured by default

HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) RW 3yr Wty Digitally Signed Firmware HDD Q6L99A

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

NOTE: No mixing of drive types or capacities

Internal SAS Solid State Drives

Internal SAS Solid State Drives

NOTE: A total of 0, 2, or 4 internal drives supported per Base Chassis

NOTE: SAS HDDs require one (1) HPE 9361-4i RAID Controller (Q2N11A)

NOTE: RAID 1 is configured by default

HPE 400GB SAS 12G Write Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q6L96A

HPE 800GB SAS 12G Write Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q6L97A

HPE 1.6TB SAS 12G Write Intensive SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q6L98A

HPE 400GB SAS 12G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q6M06A

HPE 800GB SAS 12G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q6M07A

HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD Q6M13A

Ordering and Configuration

	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) RW 3yr Wty Digitally Signed Firmware SSD	Q6M14A
	NOTE: No mixing of drive types or capacities	
PCIe Infrastructure	PCIe Infrastructure	
	NOTE: Each chassis requires exactly one (1) PCIe option below	
	NOTE: The Base 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
	NOTE: Required when SAS drives are ordered	
	NOTE: Max one (1) per Base Chassis	
	NOTE: Occupies (2) PCIe slots; (1) for the card, (1) for the SuperCap	
	HPE 3154-8e 8-port External RAID Controller	Q6M15A
	NOTE: Max two (2) per Base Chassis; Max one (1) per Base Chassis if Internal RAID controller is also configured	
	NOTE: Occupies (2) PCIe slots; (1) for the card, (1) for the SuperCap	
Fibre Channel HBAs	Fibre Channel HBAs	
	HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A
	HPE StoreFabric SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A
	HPE StoreFabric SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A
	HPE StoreFabric SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	P9M76A
	NOTE: Max eight (8) per chassis/ Max 16 per system/partition	
Networking cards	Networking cards	
	HPE Ethernet 10/25Gb 2-port 640SFP28 Adapter	817753-B21
	HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HPE Ethernet 10Gb 2-port 562T Adapter	817738-B21
	HPE Ethernet 10Gb 2-port 562SFP+ Adapter	727055-B21
	Networking cards	
	HPE Ethernet 10Gb 2-port 561T Adapter	716591-B21
	HPE Ethernet 1Gb 2-port 361T Adapter	652497-B21
	NOTE: Max eight (8) per chassis/Max 16 per system/partition	
	NOTE: The 640SFP28 Adapter (817753-B21) and 562SFP+ Adapter (727055-B21) require transceivers or direct attached copper (DAC) cables (min 1/max2)	
InfiniBand cards	InfiniBand cards	
	HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter	829335-B21
	HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter	872726-B21
	NOTE: Max two (2) 829335-B21 per chassis/Max 4 per system/partition.	
	NOTE: 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	
	NOTE: Max two (2) 872726-B21 per chassis/Max 16 per system/ Max 8 per partition	

Ordering and Configuration

NOTE: No mixing of InfiniBand card types in the same system

GPU Controllers

GPU Controllers

HPE NVIDIA Tesla P100 PCIe 16GB Computational Accelerator	Q0E21A
HPE NVIDIA Tesla V100 PCIe 16GB Computational Accelerator	Q2N68A
HPE NVIDIA Quadro P6000 Graphics Accelerator	Q0V76A
HPE Superdome Flex P100/V100 Cable and Bracket Enablement Kit	Q6M17A
HPE Superdome Flex P6000 Cable and Bracket Enablement Kit	Q6M16A

NOTE: Max four (4) per chassis/Max 16 Tesla per system /partition; Max 8 Quadro per system/partition

NOTE: No mixing of GPU controller types in the same chassis

NOTE: GPU Controllers require the Q2N08A (12-slot PCIe riser) to be in the same Chassis

NOTE: GPU Controllers are 'double-wide' and therefore utilize two adjacent PCIe slots

NOTE: Each P100/V100 GPU Accelerator requires one Q6M17A (P100/V100 cable/bracket kit)

NOTE: Each P6000 GPU Accelerator requires one Q6M16A (P100/V100 cable/bracket kit)

NOTE: Inner node peer-to-peer communication is not supported with Superdome Flex

NVMe storage cards

NVMe storage cards

HPE 750GB PCIe x4 Lanes Write Intensive HHHL 3yr Wty Digitally Signed Firmware Card	878038-B21
HPE 1.6TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877825-B21

NVMe storage cards

HPE 3.2TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877827-B21
HPE 6.4TB PCIe x8 Lanes Mixed Use HHHL 3yr Wty Digitally Signed Firmware Card	877829-B21

NOTE: Max eight (8) per chassis/Max 16 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

NOTE: Exactly one (1) RTU is required per system with a Linux O/S distribution

NOTE: Minimum one (1) Foundation SW FIO or Media is required per system with a Linux O/S distribution

NOTE: Selected RTU must match selected FIO and/or Media option

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.

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

Ordering and Configuration

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
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

Ordering and Configuration

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

Technical Specifications

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

Physical Information

	Superdome Flex chassis
Site planning and installation included	Yes
Maximum Heat dissipation (fully populated system)	17.40 kBTU/hr
Depth	826 mm / 32.5"
Width	445 mm / 17.5"
Height	220 mm / 8.64" (5U)
Weight - Maximum (fully populated)	50 kg / 110 lb
Electrical Characteristics:	
Single phase (200/240)	4 IE320-C13
Maximum Input Power total	5.27 KVA
Environmental Characteristics:	
Cooling airflow	639 CFM typical; 1176 CFM max
Acoustics	82 dBA (maximum) 73 dBA (typical)
Temperature - Recommended Operating Range ^{1,2}	+18°C to +27°C
Temperature - Allowable Operating Range ^{1,2}	+5°C to +35°C
Maximum rate of temperature change	10°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	+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

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 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.

Physical Information

	External Rack Management Controller (RMC)
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 Range ^{1,2}	+18°C to +27°C
Temperature - Allowable Operating Range ^{1,2}	+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), 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
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-B21.
		Removed	SKUS deleted: Q6M00A, Q6M01A.
02-Jul-2018	Version 7	Changed	QuickSpecs was updated.
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-B21, 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-B21, 877825-B21, 877827-B21, 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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Summary of Changes