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

Overview

HPE Hyper Converged 380

For customers who are looking for a configurable, scalable, agile and highly available hyper converged virtualization system, the new HPE Hyper Converged 380 (HC 380) delivers a simple solution stack with extended flexibility and manageability. It builds on the powerful, industry standard HPE ProLiant DL 380 Gen9 server platform and is combined with VMware vSphere. Using the new HPE HC 380 Management UI to add full lifecycle management, VM provisioning and updates in a single pane of glass provides a unified, global experience. The HPE Hyper Converged 380 delivers a turn-key virtualization solution for medium-sized businesses, enterprises, and IaaS providers.

Designed from the ground up for the software-defined data center, the HC 380 enables a standardized approach to virtual server deployment, available in three workload configurations: General Virtualization, CloudSystem and a Virtual Desktop Infrastructure (VDI). VDI is offered as a reference architecture. Unlike many hyper converged systems, the HC 380 can be customized at the time of order and will be ready for virtualized workloads in a few simple clicks.

All hardware and software components are pre-installed and pre-integrated by at the factory. A quick customization using the HPE HC 380 Management UI software enables faster time to value unique to the HC 380. After the initial installation, IT administrators manage their virtualized environment within HPE HC 380 Management UI and VMware vCenter Server.

What's New

- Intel® Xeon® E5-2600 v4 Processor (Broadwell) support
- Heterogeneous Processor Support*
- All Flash Storage Blocks
- NVIDIA M60 GPU

NOTE:*Broadwell (v4) processors and Haswell (v3) processors can be mixed at the cluster level, however nodes must remain homogeneous. It is recommended that core count is kept similar if intermixing.

Standard Features

HPE Hyper Converged 380 Product Information

Scalable

- 2-node starter kit (appliance)
- Expandable in 1 node increments up to 16 total nodes
- Flexible pre-integrated Use Case choice points
- HC 380 General Virtualization for development environments, Web/App servers and lightweight applications
- HC 380 with HPE CloudSystem
- HC 380 Virtual Desktop Integration (VDI) Persistent/non-persistent, graphics enabled
- Configurable
- Processor – Choice of Intel Xeon E5 processors (Haswell and Broadwell)
- Memory – 128GB to 1536GB (Per Node)
- Storage – 3.5 TB to 40.2 TB usable (Per Node)
- Graphics – selection by workload
- Network – 10Gb, 1Gb
- Power - Redundancy
- Virtualization Software and Licensing

Compact form factor – A 2-node hyper converged computing system in a 4U form-factor with single 2U node expansions up to 16 total HPE Hyper Converged 380 nodes in a single cluster

Software

- VMware vSphere
- Cloud System 9
- HPE HC 380 Management UI

Easy to Install, use and upgrade

- Pre-integrated virtualization platform powered with VMware vSphere 6
- Data services from HPE StoreVirtual
- HPE HPE HC 380 Management UI for full lifecycle management and monitoring
- VMware vCenter for day to day management

Hardware Availability features

- Cluster expansion without downtime
- Hot-pluggable HDD and SSD
- Redundant power supplies
- Integrated storage controller with battery-backed cache
- HPE ProLiant Integrated Lights-Out (iLO) 4 Remote Management

Services

- HPE Insight Remote Support delivers 24x7 secure remote support
- Product is customer-installable and partner-serviceable*
- 3-year Hyper Converged 380 solution support included for best support experience*

Standard Features

HPE Hyper Converged 380 At-a-Glance			
Use Case	Virtualization	CloudSystem	VDI (Reference Configuration)
Node Size	4U, 2-node Starter Appliance+2U, 1-node expansion		
System Scalability	14 expansion nodes for total of 16 identical nodes per resource pool		
Processors	2x Intel Xeon E5 processors per node, selectable		
Memory	128GB to 1536GB per node	256GB to 1536GB per node	256GB to 1536GB per node
Storage	Up to three storage blocks, each with 3.4 to 13.4 TB usable capacity per block 8 drives either SSD/HDD hybrid, all-HDD, or all- SSD Maximum of 40.2TB per node, usable		
Network Ports	4X 1Gb ports (x 2)	6x 10Gb plus 4x 1Gb ports	2x 10Gb ports plus 4x1Gb ports
Power supplies	See Options in the Power Table Below		2 x 1400Watt Platinum Plus Power Supplies for VDI graphics
Hardware Warranty[1]	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response		
Hardware support	3-year HPE Hyper Converged 380 solution support (required)		

NOTE: [1] Warranty for SSDs is subject to maximum usage limitations. Maximum usage limit is the maximum amount of data that can be written to the drive. Drives that have reached this limit will not be eligible for warranty coverage.

*For the best support experience, HPE TS Installation Services and 24x7x365 support recommended.

Features and Benefits

Scalable Performance

Purchase only what you need today
Avoid up-front cost and potential performance constraints. Purchase only what's needed today, then grow the performance, capacity, and redundancy of your HC 380 online as your requirements evolve. Simplify planning and budgeting processes by purchasing what you need, when you need it.
Scale performance and capacity simultaneously.
Each time a new node is added to an HC 380 environment, the capacity, performance, and redundancy of the entire storage solution increases.
Avoid disruptive upgrades
Add resources to the HC 380 cluster non-disruptively. Applications remain online during maintenance events (adding nodes, updating software or firmware) for best in class availability.

Easy to manage virtualized environment

The new HPE HC 380 Management UI integrates virtual machine management and provisioning, live automated server firmware updates and operations analytics

Easy installation of entire vSphere environment
Full lifecycle management
Day 0 provisioning: Customize the HC 380 to make it fit your environment with just a few mouse clicks: Setup host names, IP address and networking configuration
Unified, single pane of glass system alerts, relationships cluster, infrastructure associations and alerts
Automated Scalability – flex and grow hardware automatically
System level compliance validation and reporting

Standard Features

VMware vCenter for day to day provisioning

Software Overview

Pre-integrated software

VMware vSphere 6

(1) VMware vSphere ESXi 6

(1) VMware vCenter 6 (on HC 380, or use a licensed, existing instance)

(1) HPE Cloud System 9 (Cloud use case only)

(1) HPE HC 380 Management UI

NOTE: CloudSystem requires each of the managed Hyper Converged 380 node(s) to be licensed. The HC 380 node(s) that run the CloudSystem management appliances (HC 380 CloudSystem management nodes) do not require a CloudSystem license.

Virtualization Platform Licenses

VMware vSphere, vCenter; Enterprise+

Valid licenses for the following VMware software components are required:

(2) VMware vSphere licenses per Node

(1) VMware vCenter 6 license (when using the pre-integrated vCenter instance on the HPE Hyper Converged 380)

NOTE: HPE Hyper Converged 380 for VMware vSphere requires valid VMware vSphere Enterprise, and vCenter licenses. VMware licenses can only be removed from the order if it is confirmed that the end-customer has a valid licenses in place (Enterprise License Agreement (ELA), vCloud Air Partner or unused Enterprise Purchasing Program tokens).

Hewlett Packard Enterprise supports vSphere Enterprise Plus and Horizon on the HPE Hyper Converged 380.

Purchasing VMware licenses from Hewlett Packard Enterprise allows Hewlett Packard Enterprise to be the single point of contact for the entire solution inclusive of the virtualization software and is recommended.

Management

HPE HC 380 Management UI, VMware vCenter for day-to-day management, StoreVirtual VSA, CMC

How to Order

Step 1: Base Configuration (choose one of the following configurable models)

One easy part number to order.

Base Appliance Node

HPE HC 380 Cluster Appliance (Node)	P9D74A
HPE HC 380 General Virtualization Software	P9D74A#001
HPE HC 380 VDI Software	P9D74A#002
HPE HC 380 Cloud Software	P9D74A#003

Expansion Node

HPE HC 380 Cluster Appliance (Node)	P9D74A
HPE HC 380 General Virtualization Node Expansion	P9D74A#101
HPE HC 380 VDI Node Expansion	P9D74A#102
HPE HC 380 Cloud Node Expansion	P9D74A#103

Step 2: Software and Licensing

	Use Case				
Software Title	**General Virt.**	**Cloud**	**VDI[1]**	**License Supported**	**Order Number**
HPE HC 380 Base Software	✓	✓	✓	HPE Hyper Converged 380 Base Software Image 6.0 FIO Kit	P9D85A
VMware vSphere 6	✓	✓	✓	VMware vSphere Enterprise or Enterprise Plus	3 year LTU BD715AAE VMware vSphere Enterprise Plus 1 Processor 3yr E-LTU 5-year LTU - BD514AAE VMware vSphere Enterprise Plus 1 Processor 5yr E-LTU
VMware vCenter 6	✓	✓	✓	Purchase or customer can provide own licenses.	P9U41AAE VMw vCenter Server Std for vSph 3y E-LTU P9U42AAE VMw vCenter Server Std for vSph 5y E-LTU
VMware Horizon 6.2			✓	Standard, Advanced, Enterprise	Optional
HPE OneView User Experience (UX)	✓	✓	✓	Included	Included

How to Order

HPE Cloud System 9		✓		Foundation, Enterprise	F9D70BAE Foundation F9D69BAE Enterprise
HPE iLO Advanced	✓	✓	✓	Included, 1 per node	E6U64ABE LTU

✓- Available

[1] Reference Architecture

Step 3: Hardware Options

								Use Case		
Processor Two of the following depending on Use Case	**Model: Haswell**	**CPU Frequency**	**Cores**	**L3 Cache**	**Power Watts**	**QPI**	**DDR4 MHz**	**Gen'l Virt**	**Cloud**	**VDI[1]**
	E5-2699v3	2.3GHz	18	45MB	145W	9.6GT/s	2133	✓	✓	
	E5-2698v3	2.3GHz	16	40MB	135W	9.6GT/s	2133	✓	✓	✓
	E5-2697v3	2.6GHz	14	35MB	145W	9.6GT/s	2133	✓	✓	
	E5-2695v3	2.3GHz	14	35MB	120W	9.6GT/s	2133	✓	✓	✓
	E5-2690v3	2.6GHz	12	30MB	135W	9.6GT/s	2133	✓	✓	✓
	E5-2687Wv3	3.1GHz	12	25MB	160W	9.6GT/s	2133	✓	✓	
	E5-2683v3	2.0GHz	14	35MB	120W	9.6GT/s	2133	✓	✓	✓
	E5-2680v3	2.5GHz	12	30MB	120W	9.6GT/s	2133	✓	✓	✓
	E5-2670v3	2.3GHz	12	30MB	120W	9.6GT/s	2133	✓	✓	✓
	E5-2667v3	3.2GHz	8	20MB	135W	9.6GT/s	2133	✓	✓	
	E5-2660v3	2.6GHz	10	25MB	105W	9.6GT/s	2133	✓	✓	✓
	E5-2650v3	2.3GHz	10	25MB	105W	9.6GT/s	2133	✓	✓	✓
	E5-2650Lv3	1.8GHz	12	30MB	65W	9.6GT/s	2133	✓	✓	✓
	E5-2643v3	3.4GHz	6	20MB	135W	9.6GT/s	2133	✓		
	E5-2640v3	2.6GHz	8	20MB	90W	8.0GT/s	1866	✓	✓	
	E5-2630v3	2.4Ghz	8	20MB	85W	8.0GT/s	1866	✓	✓	
	E5-2630Lv3	1.8GHz	8	20MB	55W	8.0GT/s	1866	✓	✓	
	E5-2620v3	2.4GHz	6	15MB	85W	8.0GT/s	1866	✓		

[1] Reference Architecture

✓ - Available

								Use Case

How to Order

Processor Two of the following depending on Use Case	Model: Broadwell	CPU Frequen	Cores	L3 Cache	Power Watts	QPI	DDR4 MHz	Gen' l	Cloud	VDI
	E5-2699v4	2.2Ghz	22	55MB	145W	9.6 GT/s QPI	2400	✓	✓	
	E5-2698v4	2.2Ghz	20	50MB	135W	9.6 GT/s QPI	2400	✓	✓	✓
	E5-2697Av4	2.6Ghz	16	40MB	145W	9.6 GT/s QPI	2400	✓	✓	
	E5-2697v4	2.3Ghz	18	45MB	145W	9.6 GT/s QPI	2400	✓	✓	
	E5-2695v4	2.1Ghz	18	45MB	120W	9.6 GT/s QPI	2400	✓	✓	✓
	E5-2690v4	2.6Ghz	14	35MB	135W	9.6 GT/s QPI	2400	✓	✓	✓
	E5-2687Wv4	3.0Ghz	12	30MB	160W	9.6 GT/s QPI	2400	✓	✓	
	E5-2683v4	2.1Ghz	16	40MB	120W	9.6 GT/s QPI	2400	✓	✓	✓
	E5-2680v4	2.4Ghz	14	35MB	120W	9.6 GT/s QPI	2400	✓	✓	✓
	E5-2667v4	3.2Ghz	8	25MB	135W	9.6 GT/s QPI	2400	✓	✓	
	E5-2660v4	2.0Ghz	14	35MB	105W	9.6 GT/s QPI	2400	✓	✓	✓
	E5-2650v4	2.2Ghz	12	30MB	105W	9.6 GT/s QPI	2400	✓	✓	✓
	E5-2650Lv4	1.7Ghz	14	35MB	65W	9.6 GT/s QPI	2400	✓	✓	✓
	E5-2643v4	3.4Ghz	6	20MB	135W	9.6 GT/s QPI	2400	✓		
	E5-2640v4	2.4Ghz	10	25MB	90W	8 GT/s QPI	2133	✓	✓	
	E5-2630v4	2.2Ghz	10	25MB	85W	8 GT/s QPI	2133	✓	✓	
	E5-2630Lv4	1.8Ghz	10	25MB	55W	8 GT/s QPI	2133	✓	✓	
	E5-2620v4	2.1Ghz	8	20MB	85W	8 GT/s QPI	2133	✓		
	E5-2609v4	1.7Ghz	8	20MB	85W	6.4 GT/s QPI	1866			

See notes above when mixing processors in a cluster.

Memory	Memory, GB	Module Type	Use Case		
			Virtualization	Cloud	VDI[1]
When one of the three use cases above are selected, the following processor choices are available. Memory ranges from 128GB to 1.5TB maximum per	128	R-DIMMS	✓		
	256	R-DIMMS	✓	✓	✓
	384	R-DIMMS	✓	✓	✓

How to Order

node, depending on use case.	512	R-DIMMS	✓	✓	✓
	768	R-DIMMS	✓	✓	✓
	1024	LR-DIMMS	✓	✓	✓
	1536	LR-DIMMS	✓	✓	✓

✓ - Available

[1] Reference Architecture

Networking When one of the three use cases are selected, the respective network configuration is included.	NIC Port Type	NIC Description	Type	Virt 1Gb RJ45	Virt 10Gb SFP+	Virt 10Gb BaseT	Cloud 10Gb SFP+	Cloud 10Gb BaseT	VDI[1] 10Gb SFP+
	10GbE SFP+	HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	FlexLOM	0	1	0	1	0	1
		HPE Ethernet 10Gb 2-port 560SFP+ Adapter	PCIe	0	0	0	2	0	0
	10GbE Base-T	HPE Ethernet 10Gb 2-port 561FLR-T Adapter	FlexLOM	0	0	1	0	1	0
		HPE Ethernet 10Gb 2-port 561T Adapter	PCIe	0	0	0	0	2	0
	1GbE RJ45	HPE Ethernet 1Gb 4-port 331FLR Adapter	FlexLOM	1	0	0	0	0	0
		HPE Embedded Ethernet 1Gb 4-port 331i Adapter	Embedded	1	1	1	1	1	1
	Total ports			8 x 1Gb	2 x 10Gb 4 x 1Gb	2 x 10Gb 4 x 1Gb	6x 10Gb 4 x 1Gb	6 x 10Gb 4 x 1Gb	2 x 10Gb 4 x 1Gb

[1] Reference Architecture

Storage				Use Case

How to Order

	Storage Block Description	Usable capacity (TB) per block	Max usable TB per chassis	Virt	Cloud	VDI[1]
The following storage block options are available, based on the use case. Up to 3 storage blocks per node.	4.9TB Hybrid Block – Write Intensive	4.9	14.7	✓	✓	✓
	6.8TB Hybrid Block – Write Intensive	6.8	20.4	✓	✓	✓
	3.48TB Hybrid Block – Mixed Use - A	3.48	10.44	✓	✓	
	3.48TB Hybrid Block – Mixed Use - B	3.48	10.44	✓	✓	
	4.98TB Hybrid Block – Mixed Use - A	4.98	14.94	✓	✓	
	4.98TB Hybrid Block – Mixed Use - B	4.98	14.94	✓	✓	
	6.8TB Hybrid Block – Mixed Use	6.8	20.4	✓	✓	
	4.2TB Hard Drive Block	4.2	12.6	✓	✓	
	6.3TB Hard Drive Block	6.3	18.9	✓	✓	
	8.4TB Hard Drive Bock	8.4	25.2	✓	✓	
	5.6TB Solid State Drive Block	5.6	16.8	✓	✓	✓
	11.2TB Solid State Drive Block	11.2	33.6	✓	✓	✓
	13.4TB Solid State Drive Block	13.4	40.2	✓	✓	✓

Hybrid includes both SSD and HDD drives
Hard Drive includes only HDD drives
Solid State Drive includes only SSD drives

Scale Up Storage Expansion now allows additional storage blocks be added to existing HC 380 nodes/clusters. Expansions must match original storage choice and must be added to all nodes in a cluster. *Installation services required SKU# - HA124A1#56U HPE HC 380 Storage Block Expansion SVC

✓ - Available

[1] Reference Architecture

Power

The following power options are available, based on the use case selected.

	Use Case		
Description	Virt	Cloud	VDI[1]
HPE 500W Flex Slot Platinum Hot Plug power Supply	✓	✓	✓
HPE 800W Flex Slot Platinum hot plug power Supply	✓	✓	✓
HPE 800W Flex Slot -48VDC Hot Plug power Supply (Telecom)	✓	✓	✓
HPE 800W Flex Slot Titanium Hot Plug power Supply*	✓	✓	✓

How to Order

	HPE 800W FS Universal Hot Plug Power Supply*	✓	✓	✓
	HPE 1400W FS Plat Hot Plug Power Supply*	✓	✓	2 required for graphics
Redundant power supplies recommended. For VDI, two supplies are required.				

Graphics Cards Graphics cards are for the VDI use case only, cards are optional.		Use Case		
	Description	Virt	Cloud	VDI[1]
	HPE NVIDIA Tesla M60 RAF Dual GPU Module			✓

NOTE: NVIDIA Tesla M60 & M10 cards require NVIDIA GRID software which is available via separate software product licenses that the customer will need to obtain from an approved NVIDIA GRID software reseller. Please refer to pgs 37-38 of the HC 380 install guide on how to obtain and install the NVIDIA GRID software.

Step 4: Service and Support

Service and Support

Technology Services for increased uptime, productivity and ROI
At HPE, our priority is to maximize your workload uptime, avoiding problems before they occur. As the experts for the HC380, TS support will be your 24x7x 365 single point-of-contact for all of your support needs. This means you can spend more time developing apps and adding value to the business rather than maintaining your infrastructure.

If there is a potential risk in your infrastructure, our remote support technology will proactively notify HPE and initiate the resolution process. If you are experiencing any issue with your solution you will have immediate access to our team of solution experts, whose first priority is to ensure your workloads are up and running, and then immediately start diagnosing the failure.

HC380 is supported by the power of HPE, in 30+ different languages, with local presence across 140 countries

Please consult your HPE Sales Representative for any additional questions and support options.

Installation and Startup services

Recommended. Please contact your HPE Sales Representative for more information.

For more information

https://www.hpe.com/us/en/services.html
To learn more on HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. HPE Pointnext operational services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners.

Services for customers purchasing from Hewlett Packard Enterprise or an enterprise reseller are quoted using Hewlett Packard Enterprise order configuration tools.

How to Order

Additional Services Information

For more information about HPE Support Services, please visit: **http://ssc.hpe.com/portal/site/ssc?selectedCountry=EE**

If you have specific questions, contact your local Hewlett Packard Enterprise representative. Contact information for a representative in your area can be found at "Contact HPE" **http://www.hpe.com**

Warranty

This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

NOTE: Hyper Converged Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: **http://h20565.www2.hpe.com/portal/site/hpsc/public/psi/home/?sp4ts.oid=5169096&ac.admitted=1475092149062.125225703.1851288163**

Technical Specifications

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: **www.hpe.com/us/en/living-progress.html**. To recycle your product, please go to: **www.hpe.com/us/en/living-progress.html** or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site at: **www.hpe.com/us/en/living-progress.html**. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.
Form Factor One of the following depending on model	2U Rack form factor 24SFF Drive Bay Version (racked): Unboxed Weight & Dimensions: 35 (min) - 57 (max) lbs 26.75in (L) x 17.54in (W) x 3.44in (D) - (8.73 x 44.55 x 67.94 cm) **NOTE:** Dimensions without bezel. **Boxed Weight & Dimensions:** 62 (min) - 80 (max) lbs 36.13in (L) x 23.63in (W) x 10.63in (D) (including packaging)	

Summary of Changes

Date	**Version History**	**Action**	**Description of Change**
23-Oct-2017	Version 8	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
24-Feb-2017	From Version 6 to 7	Changed	Updated some link in the Tech Specs Section.
27-Jan-2017	From Version 5 to 6	Changed	Changes made to the entire document
14-Oct-2016	From Version 4 to 5	Changed	Changes made to the entire document
26-Sept-2016	From Version 3 to 4	Changed	Updates for 1.1.
15-Aug-2016	From Version 2 to 3	Changed	Changes made to the How to Order and Standard Features Sections.
13-May-2016	From version 1 to 2	Changed	Changes made to the entire document
31-Mar-2016	Version 1	New	Initial version

Sign up for updates

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