Overview

HPE ProLiant for vSAN Ready Node

VMware vSAN™ is a software-defined storage product that pools direct-attached storage devices across a VMware vSphere server virtualization cluster to create a distributed, shared data store.
Hewlett Packard Enterprise supports, certifies, and offers VMware vSAN ReadyNode™ configurations based on HPE ProLiant servers through the use of Reference Builds and CTO Menus. These easy-to-order configurable bundles are built on HPE ProLiant servers and are certified under the HPE vSAN ReadyNode profile specifications, and multiple Build-Your-Own (BYO) vSAN Certified configurations. All options available for our Reference Build base configurations are tested, certified, and listed in the VMware hardware compatibility list, taking the guesswork out of building vSAN ReadyNode configurations. These HPE configurations were built based on the published VMware vSAN ReadyNode Profiles. HPE has now released Reference Build configurations for all current shipping ProLiant systems with new **VMware vSAN Express Storage Architecture** in ESXi 8.0 along with all flash SAS, SAS/SATA, SATA SSD options. HPE also has configurations optimized for either virtualization, data management and processing, accelerated infrastructure, or data warehousing, to provide ideal performance based on the customer's workload. Customers looking to install ESXi through the factory can utilize Factory Express and designate the ESXi version of their choice (using correct ESXi versions for their platform and storage type listed on VMware Hardware Compatibility List).

VMware software from Hewlett Packard Enterprise includes either one, three, or five years of unlimited, 24x7 installation, configuration, and troubleshooting support.

A complete list of supported and certified ProLiant servers is available either in the Hewlett Packard Enterprise support matrix at **http://www.hpe.com/servers/vmwarecert** or in the VMware hardware compatibility list (HCL) at **http://www.vmware.com/resources/compatibility/search.php**.

For vSAN Original Storage Architecture ReadyNodes please visit:
https://www.vmware.com/resources/compatibility/search.php?deviceCategory=vsanosa and select HP or Hewlett Packard Enterprise.

For vSAN Express Storage Architecture ReadyNodes please visit
https://www.vmware.com/resources/compatibility/search.php?deviceCategory=vsanesa&vsan_esa_partners=515 and select Hewlett Packard Enterprise.

What's New

- New vSAN ESA "AF-0" available servers using lightweight entry specifications
- New vSAN ESA ReadyNodes using Read Intensive (RI) NVMe (check above compatibility guides for specific nodes)
- New vSAN Tracking SKUs (2) for both "OSA" and "ESA" Architecture
- Reference Builds - In OCA there is a new section for locating best-use vSAN ReadyNode configurations. While in OCA go to "Search From Product Catalog", look for "Reference Builds" and then "HyperConverged Infrastructure".
- New ESXi 8.x and 7.0u3 vSAN Original Storage Architecture ("OSA") ReadyNodes for All Flash and Hybrid configurations
- New vSAN Express Storage Architecture ("ESA") builds for HPE Synergy SY480 Gen11, HPE ProLiant DL380 Gen10 Plus, HPE ProLiant DL360 Gen10 Plus (AF-2 through AF-8 and AF-HD), HPE ProLiant DL385 Gen11, HPE ProLiant DL365 Gen11, HPE ProLiant DL345 Gen11, HPE ProLiant DL380 Gen11, and HPE ProLiant DL360 Gen11 servers.
- Gen11 Controllers from Broadcom and Microchip now support Hybrid vSAN Certified builds

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Overview

At A Glance

HPE vSAN ReadyNodes provide customers with the fastest path to optimized workloads, delivered on platforms that provide broad scalability and flexibility for each unique environment. The end-to-end solutions are covered by HPE Tech Care support and can be sourced entirely from Hewlett Packard Enterprise, inclusive of VMware software licenses. Key features and benefits include:

- HPE now offers Reference Build configurations that target mainstream use cases and forward-looking technology such Express Storage Architecture ("ESA") as higher bandwidth networking and NVMe for next-gen storage.
- Optimized solutions - vSAN ReadyNode offerings are optimized to provide ideal performance on the from a range of workloads including VDI, SQL, and more.
- Custom and scalable build- All nodes default to a configuration optimized for both cost and performance; however, each has a full suite of options to upgrade. The customer can tailor each server to fit their specific environment.
- All Reference Builds use HPE NS204i instead of SDcard or USB for boot source.
- Factory built -The hardware is assembled and configured in the HPE factory using extensively tested configuration guidelines.
- Solution-level support - Hewlett Packard Enterprise offers its HPE 4-hour 24x7 Tech Care Service as base support, with options for Tech Care Advanced as well as Complete Care. This solution-level support experience is designed to accelerate time to resolution and is delivered by an HPE Center of Excellence capable of supporting the complete solution, including the HPE hardware, software, VMware software, and Microsoft software. HPE solution support experts are well versed in all aspects of the offering. Customers also have the ability to select from various service level options such as HPE 6-Hour Call-to-Repair Hardware Support, or options for defective media retention.
- Tracking SKUs for each server generation cover Gen10 and Gen10 Plus (AMD and Intel)
- Tracking SKUs for OSA and ESA servers covering Gen11 (AMD and Intel)
- VMware ReadyNode AF-0 Profile added:
  - CPU Requirements: 16 cores minimum
  - Memory Requirements: 128GB DRAM
  - NVMe Requirements: 2 device minimum, RI or MU
  - Network Requirements: 10GbE Throughput
- Current Gen11 Controllers available for vSAN:
  - HPE MR416i-p Gen11 16 Internal Lanes/8GB Cache SPDM PCI Plug-in Storage Controller P47777-B21
  - HPE MR416i-o Gen11 16 Internal Lanes/8GB Cache SPDM OCP Storage Controller P47781-B21
  - HPE MR216i-p Gen11 16 Internal Lanes/No Cache SPDM PCI Plug-in Storage Controller P47785-B21
  - HPE MR216i-o Gen11 16 Internal Lanes/No Cache SPDM OCP Storage Controller P47789-B21
  - HPE MR408i-o Gen11 8 Internal Lanes/4GB Cache SPDM OCP Storage Controller P58335-B21
  - HPE SR932i-p Gen11 32 Internal Lanes/8GB Wide Cache SPDM PCI Plug-in Storage Controller P47184-B21

Overview

– HPE SR416ie-m Gen11 x16 Lanes 4GB Cache SPDM Mezzanine Storage Controller P39959-B21

HPE Web Sites

- Alliance page: **https://www.hpe.com/us/en/alliance/vmware.html**
- Support Matrix: **http://www.hpe.com/servers/vmwarecert**

License activation instructions:

- **https://hpe.sharepoint.com/teams/Team_VMware/Shared%20Documents/Licensing/c04430317_VMware%20Activation%20Instructions.pdf**

VMware from Hewlett Packard Enterprise:

- **https://buy.hpe.com/b2c/us/en/software/virtualization-software/vmware-virtualization-software/vmware-vsphere-software-series/vmware-vsphere-software/p/4010459**

VMware websites

- **https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/product/vmware-product-guide.pdf**
- **https://vsansizer.vmware.com/login?src=%2Fhome**
- **https://www.vmware.com/resources/compatibility/search.php**

Download software at **http://downloads.vmware.com**

Standard Features

Weight & Dimensions

- **Dimensions**
  8.75 x 5.625 x 0.063 in (22.23 x 14.29 x 0.16 cm)
- **Volume**
  0.002
- **Gross Weight** (lb)

  0.056 lb (0.03 kg)

Licensing

VMware server products are available on a per-processor license. You must have the same number of licenses as processors installed in your system. Note that VMware solution bundles (i.e. Essentials products) and acceleration kits have specific server and processor boundaries within these licenses. To view the licenses for which you are entitled, log in to your VMware portal.

License Activation and Software Download Instructions

Retrieve your entitlement order number from the Entitlement Certificate. If you have opted for physical delivery, your entitlement certificate will be part of your shipment. If you have opted for electronic delivery, you will receive an email from Hewlett Packard Enterprise with a link for retrieving your entitlement certificate.

Visit **MyEnterpriseLicense.hpe.com** and login with your Hewlett Packard Enterprise Passport to generate your Partner Activation Code (PAC). You will receive an email from Hewlett Packard Enterprise with various activation codes, including your PAC, for your VMware products.

- Visit **http://vmware.com/code/hp** to register your PAC and generate your serial number.
- Visit **http://downloads.vmware.com** to download your VMware software and follow the prompts to install your VMware product.
- Visit **https://hpe.sharepoint.com/teams/Team_VMware/Shared%20Documents/Licensing/c04430317_VMware%20Activation%20Instructions.pdf** for License Activation Instructions.

Supported Media for vSphere 7/vSphere 8

Acquire your choice of Hewlett Packard Enterprise supported and qualified media. Please note that all devices will need to be imaged for vSphere 7/vSphere 8:

- Any HPE hard drive
- HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device
- HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device
- HPE NS204i-d Gen11 Synergy Gen11 Boot Controller

Entitlement Mappings

For complete details on upgrades and entitlements, visit **http://www.vmware.com/go/vsphere** and review the Upgrade Center.

Downgrade Information

vSphere downgradable to currently supported products. Downgrades and entitlements for valid subscriptions will be available in your profile in the VMware license portal. VMware vSphere supported products are listed in the VMware lifecycle matrix **https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/support/product-lifecycle-matrix.pdf**

For more information on how to downgrade license keys in the VMware portal visit

Standard Features

https://kb.vmware.com/s/article/2006975

Service and Support

HPE Pointnext - Service and Support

Get the most from your HPE Products. Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services**, focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

Consume IT on your terms

HPE GreenLake brings the cloud experience directly to your apps and data wherever they are-the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

Managed services to run your IT operations

HPE GreenLake Management Services provides services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

HPE Pointnext Tech Care.

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care is available in three response levels. Basic, which provides 9x5 business hour availability and a 2 hour response time. Essential which provides a 15 minute response time 24x7 for most enterprise level customers, and Critical which includes a 6 hour repair commitment where available and outage management response for severity 1 incidents.

https://www.hpe.com/services/techcare

HPE Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

https://www.hpe.com/services/completecare

Service and Support

HPE Technology Services for industry-standard servers

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

Protect your business beyond warranty with HPE Support Services

HPE Support Services enable you to order the right service level, length of coverage, and response time as you purchase your new server, giving you full entitlement for the selected support.

Recommended Services

Hardware and software support services designed specifically for your technology with rapid access to Advanced Solution Center specialists for start-to-finish case management plus proactive reports and recommendations for firmware and software management and best practice advice.
https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf

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 QuickSpecs, 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.

How to order

Customers can purchase VMware vSAN ReadyNodes directly from Hewlett Packard Enterprise or through Hewlett Packard Enterprise authorized resellers. There is a dedicated VMware vSAN solutions catalog within our Hewlett Packard Enterprise sales and authorized partner ordering tool [OCA]. Within the catalog, all profiles and workload optimized solutions are listed within 'Reference Builds' and the desired platform can be chosen by these dedicated tracking SKUs.

HPE ProLiant DL325 Gen10 Plus vSAN WW FIO Tracking	P52169-B21
HPE ProLiant DL325 Gen10 Plus v2 vSAN WW FIO Tracking	P52170-B21
HPE ProLiant DL345 Gen10 Plus vSAN WW FIO Tracking	P52171-B21
HPE ProLiant DL360 Gen10 vSAN WW FIO Tracking	P52172-B21
HPE ProLiant DL360 Gen10 Plus vSAN WW FIO Tracking	P52173-B21
HPE ProLiant DL380 Gen10 vSAN WW FIO Tracking	P52174-B21
HPE ProLiant DL380 Gen10 Plus vSAN WW FIO Tracking	P52175-B21
HPE Synergy 480 Gen10 vSAN WW FIO Tracking	P52701-B21
HPE Synergy 480 Gen10 Plus vSAN WW FIO Tracking	P52702-B21
HPE ProLiant vSAN Original Storage Architecture FIO Tracking	P63223-B21
HPE ProLiant vSAN ReadyNode Express Storage Architecture FIO Tracking	P63226-B21

HPE VMware vSAN Products

VMware vSAN is a software-defined storage tier, pools compute and direct-attached storage resources and clusters server disks and flash to create resilient shared storage. vSAN creates a distributed shared datastore designed and optimized for virtual machines.

Notes:

– Software Requirements: VMware vCenter Server and one of the following: VMware vSphere (any edition), or VMware vCloud Suite (any edition).

– vSAN Term per Core offering requires a minimum purchase of 16 licenses

VMware vSAN Standard 1 Processor 1-year E-LTU	G4Y17AAE
VMware vSAN Standard 1 Processor 1yr LTU	G4Y17A
VMware vSAN Standard 1 Processor 3-year E-LTU	G4Y18AAE
VMware vSAN Standard 1 Processor 3yr LTU	G4Y18A
VMware vSAN Standard 1 Processor 5-year E-LTU	G4Y19AAE
VMware vSAN Standard 1 Processor 5yr LTU	G4Y19A
VMware vSAN Standard Term per Core 1-year E-LTU	S2D01AAE
VMware vSAN Standard Term per Core 1-year LTU	S2D02A
VMware vSAN Standard Term per Core 3-year E-LTU	S2D03AAE
VMware vSAN Standard Term per Core 3-year LTU	S2D04A

Configuration Information

VMware vSAN Standard Term per Core 5-year E-LTU	S2D05AAE
VMware vSAN Standard Term per Core 5-year LTU	S2D06A
VMware vSAN Advanced 1 Processor 1yr E-LTU	P9H44AAE
VMware vSAN Advanced 1 Processor 1yr LTU	P9H44A
VMware vSAN Advanced 1 Processor 3yr E-LTU	P9H45AAE
VMware vSAN Advanced 1 Processor 3yr LTU	P9H45A
VMware vSAN Advanced 1 Processor 5yr E-LTU	P9H46AAE
VMware vSAN Advanced 1 Processor 5yr LTU	P9H46A
VMware vSAN Advanced Term per Core 1-year E-LTU	S2D07AAE
VMware vSAN Advanced Term per Core 3-year E-LTU	S2D08AAE
VMware vSAN Advanced Term per Core 3-year LTU	S2D09A
VMware vSAN Advanced Term per Core 5-year E-LTU	S2D10AAE
VMware vSAN Enterprise 1 Processor 1yr E-LTU	P9U52BAE
VMware vSAN Enterprise 1 Processor 1yr LTU	P9U52B
VMware vSAN Enterprise 1 Processor 3yr E-LTU	P9U53BAE
VMware vSAN Enterprise 1 Processor 3yr LTU	P9U53B
VMware vSAN Enterprise 1 Processor 5yr E-LTU	P9U54BAE
VMware vSAN Enterprise 1 Processor 5yr LTU	P9U54B
VMware vSAN Enterprise Term per Core 1-year E-LTU	S2D11AAE
VMware vSAN Enterprise Term per Core 3-year E-LTU	S2D12AAE
VMware vSAN Enterprise Term per Core 3-year LTU	S2D13A
VMware vSAN Enterprise Term per Core 5-year E-LTU	S2D14AAE
VMware vSAN for Remote Office Branch Office 25 VM Pack 1yr E-LTU	Q0E37BAE
VMware vSAN for Remote Office Branch Office 25 VM Pack 3yr E-LTU	Q0E38BAE
VMware vSAN for Remote Office Branch Office 25 VM Pack 5yr E-LTU	Q0E39BAE
VMware vSAN 6 Advanced for Remote Office Branch Office 25 VM Pack 1yr E-LTUvSAN	Q5T24AAE
VMware vSAN 6 Advanced for Remote Office Branch Office 25 VM Pack 3yr E-LTUvSAN	Q5T25AAE
VMware vSAN 6 Advanced for Remote Office Branch Office 25 VM Pack 5yr E-LTUvSAN	Q5T26AAE

HPE VMware vSAN Upgrades

Notes: Software requirements: VMware vCenter Server 7.x/8 and either VMware vSphere 7.x/8 (any edition) or VMware vCloud Suite 6.x (any edition).

VMware vSAN Standard to vSAN Advanced Upgrade 1 Processor 1yr E-LTU	Q9N14AAE
VMware vSAN Standard to vSAN Advanced Upgrade 1 Processor 3yr E-LTU	Q9N15AAE
VMware vSAN Standard to vSAN Advanced Upgrade 1 Processor 5yr E-LTU	Q9N16AAE
VMware vSAN Standard to vSAN Enterprise Upgrade 1 Processor 1yr E-LTU	R2H05AAE
VMware vSAN Standard to vSAN Enterprise Upgrade 1 Processor 3yr E-LTU	R2H06AAE
VMware vSAN Standard to vSAN Enterprise Upgrade 1 Processor 5yr E-LTU	R2H07AAE
VMware vSAN Advanced to vSAN Enterprise Upgrade 1 Processor 1yr E-LTU	Q9N17AAE
VMware vSAN Advanced to vSAN Enterprise Upgrade 1 Processor 3yr E-LTU	Q9N18AAE
VMware vSAN Advanced to vSAN Enterprise Upgrade 1 Processor 5yr E-LTU	Q9N19AAE

Guidance for vSAN ESA

VMware All Flash Hardware Guidance					
Description	**vSAN-ESA-AF-2**	**vSAN-ESA-AF-4**	**vSAN-ESA-AF-6**	**vSAN-ESA-AF-8**	**vSAN-ESA-AF-HD**
Node Capacity (TB)	15	20	40	60	100
CPU (#cores) per Node	32	40	48	56	48
Memory (GB)	512	512	768	1024	768
Network (GbE)	1x25	1x25	2x25	1x100	2x25

Device Guidence

- Type(NVMe TLC): Mixed Use Devices (3DWPD)
- Minimum Capacity: 1.6TB
- Performance Class: Class F or higher
- Endurance Class: Class D or higher(3DWPD or higher)

VMware vSAN ReadyNode Profiles for ESA

Notes:

– These are base default specifications for each server and match the VMware defined vSAN ReadyNode profile minimums. Processor, memory, storage, network interface controllers [NIC], and power supplies are configurable options but must meet or exceed minimums.

– AF-2 minimum requirements: CPU: 32 total cores; Memory: 512GB; Single tier total capacity: 15Tb or more (4 total drives minimum), NIC: 25GB or more

– Not all ESA nodes are listed here -- please visit the below links for more configurations.

– For more detail on vSAN profiles please see:
https://www.vmware.com/resources/compatibility/search.php?deviceCategory=vsanesa&vsan_esa_partners=515

– For more detail on vSAN ESA allowable changes please see:

https://kb.vmware.com/s/article/90343

VMWare vSAN Profile	HPE ProLiant SY480 Gen11 Server for ESA All Flash 2 (AF-2)
Node Size	Single slot
Processors	2x Intel Xeon 4th Generation Gold 6430 CPU for HPE P49614-B21
Memory	512 GB, additional options available
Storage	HPE NS204i-d Gen11 Synergy Gen11 Boot Controller P39568-B21 Total Capacity must be 15Tb, 4 NVMe HPE 6.4TB NVMe Perf MU PM1735a SSD Configured as 4 NVMe required
Network Ports	HPE Synergy 4820c 10/20/25Gb Converged Network Adapter (25Gb configured)
Power Supplies	2x HPE 6x 2650W Performance Hot Plug Titanium Plus FIO Power Supply Kit

Technical Specifications

VMWare vSAN Profile	HPE ProLiant DL380 Gen11 ESA All Flash 2 (AF-2)
Node Size	2U
Processors	2x Intel 4th Generation Xeon Scalable processors, 32 total cores additional options available
Memory	512 GB, additional options available
Storage	HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device Total Capacity must be 15Tb, 4 NVMe Samsung PM1735a U.3 NVMe Configured as 10 NVMe with 1.6Tb OR 5 NVMe with 3.2Tb
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits or others

VMWare vSAN Profile	HPE ProLiant DL380 Gen10 Plus ESA All Flash 4 (AF-4)
Node Size	2U
Processors	2x Intel 3rd Generation Xeon Scalable processors, 40 total cores additional options available
Memory	512 GB, additional options available
Storage	HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device Total Capacity must be 20Tb, 4 NVMe Minimum of two vendors available: Samsung PM1735a U.3 Configured as 13 NVMe with 1.6Tb OR 7 NVMe with 3.2Tb OR 4 NVME with 6.4Tb
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits

VMWare vSAN Profile	HPE ProLiant DL360 Gen11 ESA All Flash 2 (AF-2)
Node Size	1U
Processors	2x Intel 4th Generation Xeon Scalable processors, 32 total cores additional options available
Memory	512 GB, additional options available
Storage	HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device Total Capacity must be 15Tb, 4 NVMe Samsung PM1735a U.3 NVMe Configured as 10 NVMe with 1.6Tb OR 5 NVMe with 3.2Tb
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits or others

Technical Specifications

VMWare vSAN Profile	**HPE ProLiant DL385 Gen11 ESA All Flash 2 (AF-2)**
Node Size	2U
Processors	2x 4th Generation AMD EPYC™ Series Processors, 32 total cores additional options available
Memory	512 GB, additional options available
Storage	HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device Total Capacity must be 15Tb, 4 NVMe Samsung PM1735a U.3 NVMe Configured as 10 NVMe with 1.6Tb OR 5 NVMe with 3.2Tb
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits or others

VMWare vSAN Profile	**HPE ProLiant DL365 Gen11 ESA All Flash 2 (AF-2)**
Node Size	2U
Processors	2x 4th Generation AMD EPYC™ Series Processors, 32 total cores additional options available
Memory	512 GB, additional options available
Storage	HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device Total Capacity must be 15Tb, 4 NVMe Samsung PM1735a U.3 NVMe Configured as 10 NVMe with 1.6Tb OR 5 NVMe with 3.2Tb
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits or others

VMWare vSAN Profile	**HPE ProLiant DL380 Gen10 Plus ESA All Flash 2 (AF-2)**
Node Size	2U
Processors	2 x Intel 3rd Generation Xeon Scalable processors, 32 total cores, additional options available
Memory	512 GB, additional options available
Storage	HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device Total Capacity must be 15Tb, 4 NVMe Minimum of two vendors available: Samsung PM1735a Configured as 10 NVMe with 1.6Tb OR 5 NVMe with 3.2Tb
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits

Technical Specifications

VMWare vSAN Profile	HPE ProLiant DL360 Gen10 Plus ESA All Flash 6 (AF-6)
Node Size	1U
Processors	2 x Intel 3rd Generation Xeon Scalable processors - 48 total cores, additional options available
Memory	768 GB, additional options available
Storage	HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device Total Capacity must be 40Tb, 4 NVMe Minimum of two vendors available: Samsung PM1735a Configured as 13 NVMe with 3.2Tb OR 7 NVMe with 6.4Tb
Network Ports	2 x Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits

VMware vSAN ReadyNode Profile for OSA: All Flash 6 (AF-6)

Notes:

- These are base default specifications for each server and match the VMware defined vSAN ReadyNode profile minimums. Processor, memory, storage, network interface controllers [NIC], and power supplies are configurable options

- AF-6 minimum requirements: CPU Core: 24 cores; Memory: 256GB; Capacity Tier Disk: 800Gb minimum; Caching Tier Flash: 2x800GB, NIC: 10GB or more

- Not all OSA nodes are listed here -- please visit the below links for more configurations.

- For more detail on vSAN profiles please see:
  https://www.vmware.com/resources/compatibility/vsan_profile.html

VMWare vSAN Profile	HPE ProLiant DL345 Gen11 OSA All Flash 6 (AF-6)
Node Size	2U
Processors	1 x AMD EPYC 9224 2.5GHz 24-core 200W Processor for HPE P58540-B21
Memory	256 GB, additional options available
Storage	HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device HPE MR216i-p Gen11 Controller P47785-B21, additional options available Capacity -6 x HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD P49031-B21, additional options available Caching - 2 x HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD P49049-B21, additional options available
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits or others

Technical Specifications

VMWare vSAN Profile	HPE ProLiant DL325 Gen11 OSA All Flash 6 (AF-6)
Node Size	1U
Processors	1 x AMD EPYC 9224 2.5GHz 24-core 200W Processor for HPE P58540-B21
Memory	256 GB, additional options available
Storage	HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device HPE MR216i-p Gen11 Controller P47785-B21, additional options available Capacity -6 x HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD P49031-B21, additional options available Caching - 2 x HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD P49049-B21, additional options available
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits or others

VMWare vSAN Profile	HPE ProLiant DL380 Gen11 OSA All Flash 6 (AF-6)
Node Size	2U
Processors	2 x Intel 4th Generation Xeon Scalable processors, 24 cores or higher
Memory	256 GB, additional options available
Storage	HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device HPE MR216i-p Gen11 Controller P47785-B21, additional options available Capacity -6 x HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD P49031-B21, additional options available Caching - 2 x HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD P49049-B21, additional options available
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits or others

VMWare vSAN Profile	HPE ProLiant DL360 Gen10 Plus vSAN ReadyNode All SAS AF-6 (50936)
Node Size	1U
Processors	2x Intel 3rd Generation Xeon Scalable processors, additional options available
Memory	256 GB, additional options available
Storage	HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device HPE Tri-Mode MR216i-p Gen10 Plus Controller Capacity - 6 x HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD, additional options available Caching - 2 x HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD, additional options available
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits

Technical Specifications

VMWare vSAN Profile	HPE ProLiant DL360 Gen10 Plus All Flash 6 (AF-6)
Node Size	1U
Processors	2 x Intel 3rd Generation Xeon Scalable processors - 32 cores, additional options available
Memory	512 GB, additional options available
Storage	12G SAS Modular LH Controller, one additional option 96W Smart Storage Battery Capacity - 6 x 1.6 TB SAS Mixed Use, additional options available Caching - 2 x 400 GB SAS Write Intensive, additional options available 240GB SATA 6G Mixed Use M.2
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits

VMWare vSAN Profile	HPE ProLiant DL380 Gen10 Plus All SAS AF-6
Node Size	2U
Processors	2 x Intel 3rd Generation Xeon Scalable processors - 28 cores each, additional options available
Memory	512 GB, additional options available
Storage	HPE NS204i-p x2 Lanes NVMe PCIe3 x8 OS Boot Device HPE Tri-Mode MR216i-p Gen10 Plus Controller, additional options available Capacity -6 x HPE 3.84TB SAS 24G Read Intensive SFF BC Multi VendorSSD, additional options available Caching - 2 x HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD, additional options available
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits

VMWare vSAN Profile	HPE ProLiant DL360 Gen11 OSA All Flash 6 (AF-6)
Node Size	1U
Processors	2 x Intel 4th Generation Xeon Scalable processors, 24 cores or higher
Memory	256 GB, additional options available
Storage	HPE NS204i-u Gen11 NVMe Hot Plug Boot Optimized Storage Device HPE MR408i-o Gen11 P58335-B21, additional options available Capacity -3 x HPE 1.92TB SATA 6G Read Intensive SFF BC PM893 SSD P44009-B21, additional options available Caching - 1 x HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD P49049-B21, additional options available
Network Ports	Ethernet 10/25 GB 2-port, additional options available
Power Supplies	2 x 800W Flex Slot Platinum Hot Plug Power Supply Kits or others

VMware vSAN ReadyNode Profile for OSA: All Flash 6 for HPE Synergy (AF-6)

Notes:

These are base default specifications for each server and match the VMware defined vSAN ReadyNode profile minimums. Processor, memory, storage, network interface controllers [NIC], and power supplies are configurable options

HY-6 minimum requirements: CPU Core: 24 cores; Memory: 384GB; Capacity Tier Disk: 12TB minimum; Caching Tier Flash: 2x400GB, NIC: 10GB or more

For more detail on vSAN profiles please see:
https://www.vmware.com/resources/compatibility/vsan_profile.html

VMWare vSAN Profile	HPE Synergy 480 Gen10 Plus AF-6
Node Size	3
Processors (per node)	2 x Intel 3rd Generation Xeon Scalable processors - 28 cores, additional options available
Memory (per node)	256 GB, additional options available
Storage	HPE Smart Array P416ie-m SR Gen10 12G SAS Mezzanine Controller Cache -6 x HPE 1.6TB SAS MU SFF SC SSD P19915-B21, additional options available Capacity - 18 x HPE 1.92TB SAS RI SFF SC SSD P19905-B21, additional options available 3x HPE Synergy D3940 12Gb SAS CTO Drive Enclosure
Network Ports	HPE Synergy 4820C 10/20/25Gb Converged Network Adapter 876449-B21

VMWare vSAN Profile	HPE Synergy 480 Gen10 Plus AF-6
Power Supplies	2x HPE 6x 2650W Performance Hot Plug Titanium Plus FIO Power Supply Kit
Frame	2x HPE Synergy 12000 Configure-to-order Frame with 10x Fans
Virtual Connect	2x HPE Virtual Connect SE 100Gb F32 Module for Synergy
Virtual Connect Interconnects	2x HPE Synergy 50Gb Interconnect Link Module
SAS Interconnect	4x HPE Synergy 12Gb SAS Connection Module with 12 Internal Ports

Environment-friendly Products and Approach End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life product return, trade-in, and recycling programs in many geographic areas.
For trade-in information, please go to **http://www.hpe.com/info/recycle.**
To recycle your product, please go to **http://www.hpe.com/info/recycle** 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 HPE website at
http://www.hpe.com/info/recycle.

Technical Specifications

These instructions may be used by recyclers and other WEEE treatment facilities as well as HPE OEM customers who integrate and re-sell HPE equipment.

Summary of Changes

Date	Version History	Action	Description of Change
02-Oct-2023	Version 11	Changed	Read Intensive NMVe allowed, AF-0 Profiles added
10-Jul-2023	Version 10	Changed	Overview and Configuration Information sections were updated.
01-May-2023	Version 9	Changed	OSA/ESA Gen11 Tracking SKUs, SY480 Gen11 ESA node added, Gen11 HY certification for Broadcom HBA controllers
20-Feb-2023	Version 8	Changed	Overview, Standard Features, Configuration Information, and Technical Specifications sections were updated with ESXi 8.0 and Gen11 server information.
14-Nov-2022	Version 7	Changed	Overview, Standard Features, Configuration Information, and Technical Specifications sections were updated.
04-Apr-2022	Version 6	Changed	Overview and Technical Specifications sections were updated. Added ReadyNodes with more controller options, changes to SAS drives
07-Mar-2022	Version 5	Changed	Overview, Configuration Information, Service and Support and Technical Specifications sections were updated.
15-Nov-2021	Version 4	Changed	Service and Support section was updated.
01-Jun-2020	Version 3	Changed	Overview, Standard Features, Configuration Information, and Technical Specifications sections were updated.
30-Jul-2019	Version 2	Changed	Overview, Standard Features, Configuration Information, Service and Support and Technical Specifications sections were updated.
01-Jul-2019	Version 1	New	New QuickSpecs

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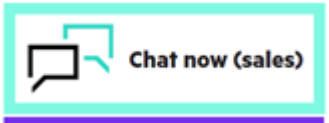

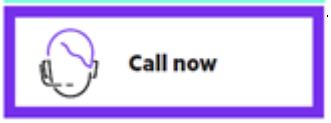

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