

Overview

HPE Synergy 480 Gen10 Plus Graphics Accelerators

HPE Synergy 480 Gen10 and Gen10 Plus

Datacenter GPU hardware acceleration enables delivery of required functionality, performance, and user experience for mid to ultra-high-end 3D engineering, compute, design, and business application workloads. It also enables “Work from anywhere” business models with the user able to access systems from anywhere remotely, maintaining high levels of user experience without sacrificing data security and system performance. The graphics accelerator options paired with the HPE Synergy 480 Gen10 and Gen10 Plus compute modules offer a variety of deployment options, operating environments.

- The HPE Synergy 480 Gen10 and Gen10 Plus, with its portfolio of GPU-optimized hardware solutions, offers complete flexibility for virtualized end-user computing workloads that include the following benefits:
 - Density-optimized GPU options and solutions portfolio for all end-user computing workloads requirements
 - Software-definable virtual GPU profiles that enable all workload types from low-end non-accelerated, mid-range knowledge workloads requiring high fidelity experience (multi-monitor just-like-desktop user experience), up to workstation-class ultra-high-end user workloads.
- The HPE Synergy 480 Gen10 Plus offers 3 pciE Gen4 Expansion module solutions for GPU configurations and 1 PCIe Drive for a single GPU:
 - HPE Synergy 480 2 Slot PCIe Expansion Module, supporting up to two PCIe double-wide full-size GPUs (e.g. NVIDIA A40, A16)
 - HPE Synergy 480 4 Slot PCIe Expansion Module, supporting up to four PCIe single-wide full-length or small form factor GPUs (e.g. NVIDIA A10, T4, A2)
 - HPE Synergy 480 8 Slot PCIe Expansion Module, supporting up to eight PCIe Gen4 small form factor GPUs (e.g. NVIDIA T4 or A2)
 - HPE synergy front pcie gpu enable kit supporting one PCIe Gen4 small form factor GPUs (e.g. NVIDIA T4 or A2)
- The HPE Synergy 480 Gen10 offers 2 PCIe Gen4 Expansion Modules solutions for GPU configurations for:
 - Up to two PCIe Gen3 double-wide full-size GPUs (e.g. NVIDIA RTX 6000)
 - Up to four PCIe Gen3 single-wide full-length or small form factor GPUs (e.g. NVIDIA T4)

What's new in HPE Synergy 480 Gen10 Plus

- All new Non- CEC GPU versions from NVIDIA
- MXM Programs and options have reached EOL and are being discontinued.

HPE Synergy 480 Gen10 Plus Graphics Accelerator Options Overview

HPE Synergy graphics accelerator options are paired with the HPE Synergy 480 Compute Module to provide a wide variety of deployment options, operating environments, and remote access methods. The HPE Synergy 480 Gen10 Plus graphics accelerator options deliver data center deployments of GPU-enabled servers optimized for high-density graphics accelerated VDI (virtual Workstation), virtual applications, and compute deployments such as deep learning, inferencing, and HPC workloads.

Overview

HPE Synergy 480 Gen10 Plus Graphics Options Detail

HPE Synergy 480 Gen10 Plus graphics accelerators are offered and supported in four different configurations:

- HPE Synergy 480 Gen10 Plus 8-Slot PCIe Expansion Module
 - Double wide configuration (occupies two Synergy frame slots)
 - Supports up to eight PCIe Gen4 x16 small form factor cards
 - Supported cards include:
 - NVIDIA T4
 - NVIDIA A2 Non-CEC

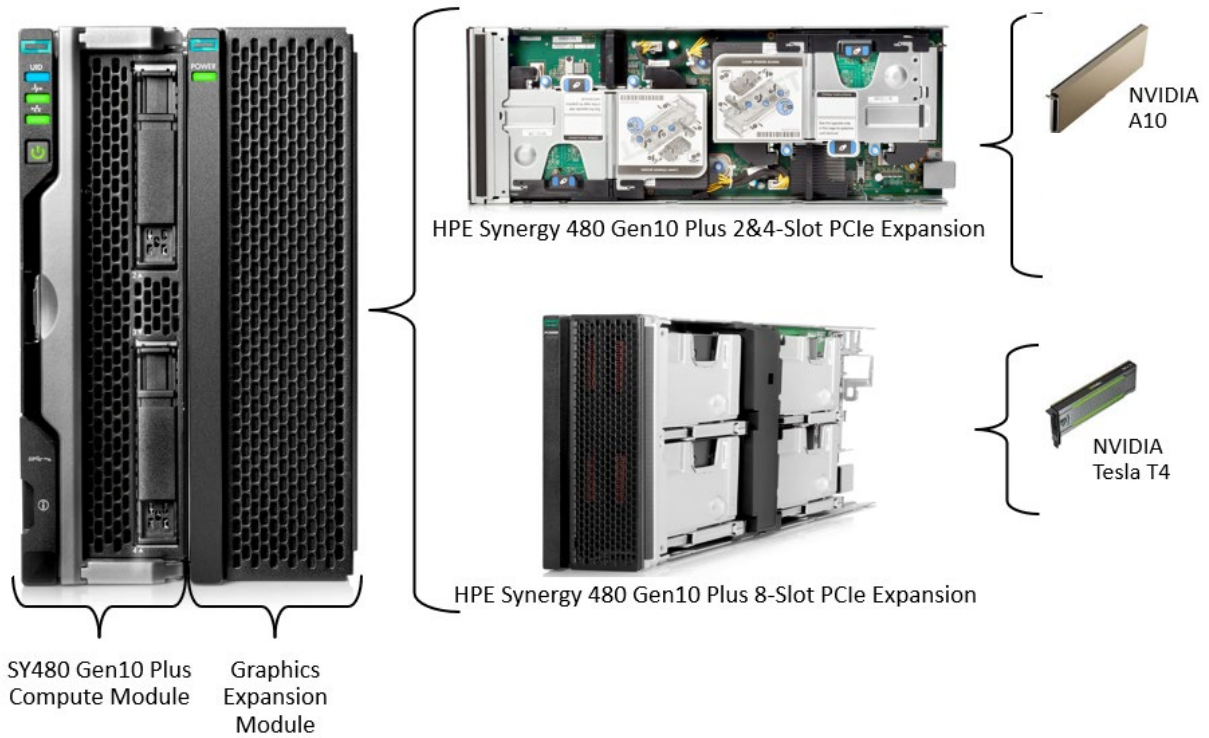
- HPE Synergy 480 Gen10 Plus Front PCIe GPU Enablement Kit
 - Single wide configuration (occupies one Synergy frame slot)
 - Support one PCIe Gen4 x16 small form factor cards
 - Supported cards include:
 - NVIDIA T4 (limited availability)
 - NVIDIA A2 Non-CEC

- HPE Synergy 480 Gen10 Plus 2-Slot PCIe Expansion Module
 - Double wide configuration (two Synergy frame slots)
 - Supports up to two PCIe Gen4 x16 double-wide full-length cards
 - Supported cards include:
 - NVIDIA A40 (limited availability)
 - NVIDIA A16 (release OCT '22)

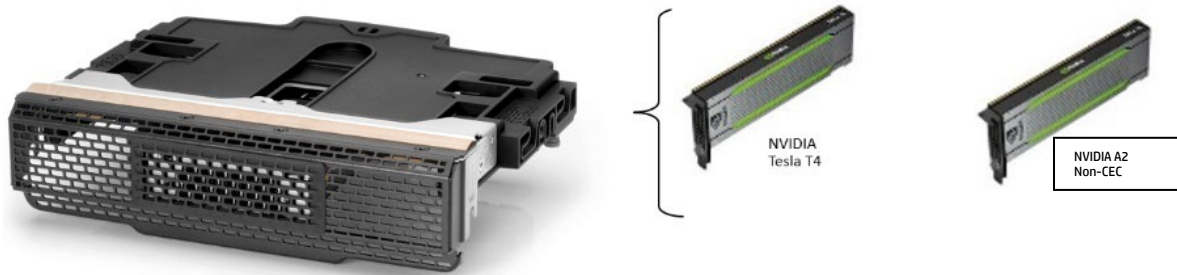
- HPE Synergy 480 Gen10 Plus 4-Slot PCIe Expansion Module
 - Double wide configuration (occupies two Synergy frame slots)
 - Supports up to four PCIe Gen4 x8 single-wide full-length cards
 - Supported cards include:
 - NVIDIA A10 Non-CEC (release Oct '22)



Overview



HPE Synergy 480 Compute GPU Expansion Options



HPE Synergy 480 Front PCIe Accelerator Enablement Kit



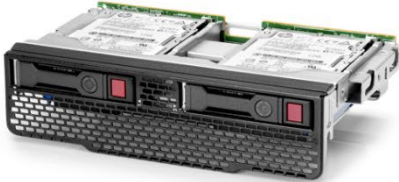
Overview



HPE Synergy 480 Gen10 Plus Front PCIe GPU Enablement Kit



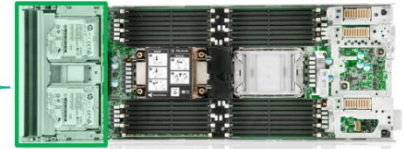
HPE SY480 Gen10 Plus Premium 4SFF Drive Cage Kit



HPE SY480 Gen10 Plus Standard 2SFF Drive Cage Kit



HPE Synergy 480 Gen10 Plus without Drive Front Cage Kit



HPE Synergy 480 Gen10 Plus Compute Module

All HPE Synergy 480 Front Bay Options

Notes: IMPORTANT Configuration notes - When the HPE Synergy 480 Front PCIe Accelerator Enablement Kit is installed, it takes the place of other SFF driver cage options for internal drives. If internal storage is required, choose the HPE NS204i-d SY Gen10+ M.2 Controller or HPE P416ie-m Smart Array Controller for HPE Synergy D3940 storage module support.



Overview

HPE Synergy 480 Gen10 Graphics Options

The HPE Synergy 480 Gen10, with its portfolio of GPU-optimized hardware solutions, offers complete flexibility for a virtualized end-user computing workloads that include the following benefits:

- Density-optimized GPU options and solutions portfolio for all end-user computing workloads requirements.
- Software-definable virtual GPU profiles that enable all workload types from low-end non-accelerated, mid-range knowledge workloads requiring high fidelity experience (multi-monitor just-like-desktop user experience), up to workstation-class ultra-high-end user workloads.
- The HPE Synergy 480 Gen10 offers configuration support for:
 - Up to two PCIe Gen3 double-wide full-size GPUs (e.g. NVIDIA A40 / A16)
 - Up to four PCIe Gen3 single-wide full-length or small form factor GPUs (e.g. NVIDIA A10 Non-CEC, T4 or A2)

HPE Synergy 480 Gen10 Graphics Options Detail

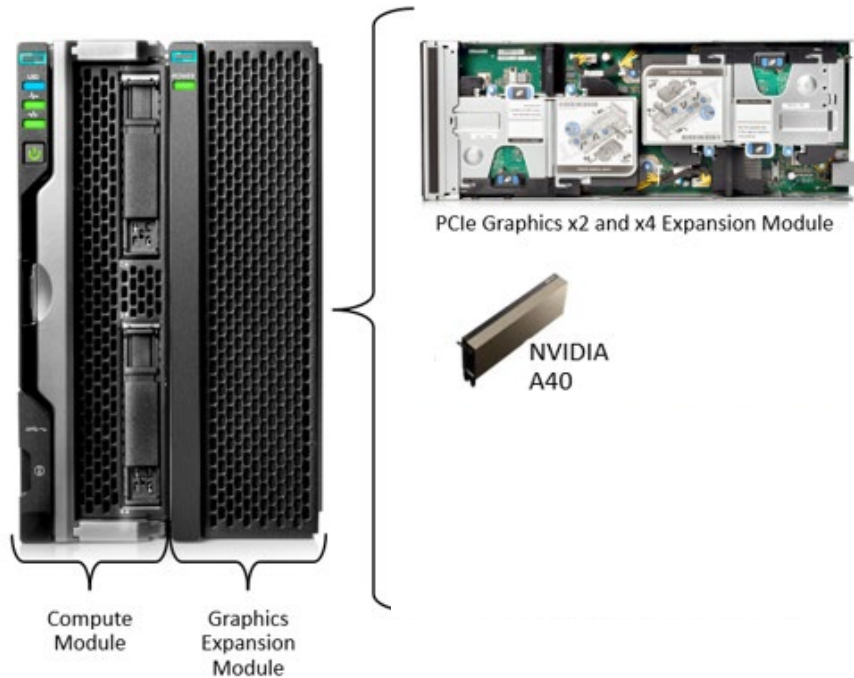
For the HPE Synergy 480, graphics accelerators are offered and supported in four different configurations:

- HPE Synergy 480 Gen10 2 PCIe Expansion Module
 - Double Wide System (two Synergy frame slots)
 - Supports up to two PCIe Gen3 x16 double-wide full-length cards
 - Supported cards include:
 - o NVIDIA A40 (Non-CEC)
 - o NVIDIA A16 (Non-CEC)
 - HPE Synergy 480 Gen10 4 PCIe Expansion Module
 - Double Wide System (occupies two Synergy frame slots)
 - Supports up to four PCIe Gen3 single-wide full-length cards
 - Supported cards include:
 - o NVIDIA A10 (Non-CEC)
-



Overview

HPE Synergy 480 Compute and Graphics Expansion Module



HPE Synergy 480 Gen10 and Gen10 Plus Compute GPU Expansion Options

The HPE Synergy 480 Graphics Option Modules in Detail

Graphics Accelerators are supported in x16 PCIe Expansion Module with single and dual risers to support double and single-wide PCIe GPUs.



HPE SY 480 Gen10 PCIe FIO Exp Module and the HPE SY 480 Gen10 PCIe x4 Exp module

The HPE SY 480 Gen10 PCIe FIO Expansion Module supports either one or two full-length, full-height, double-wide GPUs. Each GPU can be up to 300 watts each. Currently, the NVIDIA A40 is supported.

The HPE SY 480 Gen10 PCIe x4 Expansion Module support 2 or 4 full height, full length single wide GPUs. Each GPU can be up to 150 watts each. Currently, the NVIDIA A10 is supported.



Standard Features

PCIe Graphics Card Options for HPE Synergy 480 Gen10 and Synergy 480 Gen10 Plus

HPE Synergy 480 Gen10 and Gen10 Plus supports the following GPUs:

- **NVIDIA A40 48 GB or A16 Non-CEC GPU Modules**

- Supported GPU Expansion Model:
 - 1 or 2 cards supported in HPE Synergy 480 Gen10 Plus 2-Slot PCIe Expansion Module
- Max number supported: 2
- Type: Double-width, full-height, full-length GPU
- Availability: Currently available*
- GPU info: Workload flexibility for NVIDIA vGPU virtualization, deep learning, data science, and computer-based workloads

- **NVIDIA A10 24 GB or A10 Non-CEC GPU Modules**

- Supported GPU Expansion Model:
 - 2 or 4 cards supported in HPE Synergy 480 Gen10 Plus 4-Slot PCIe Expansion Module
- Max number supported: 4
- Type: Single-width, full-height, full-length GPU
- Availability: Currently available*
- GPU info: Workload flexibility for NVIDIA vGPU virtualization, deep learning, data science, and computer-based workloads

- **NVIDIA Tesla T4 16GB or NVIDIA A2 Non-CEC GPU Module**

- Supported GPU Expansion Model:
 - 2, 4, 6, or 8 cards supported in HPE Synergy 480 Gen10 Plus 8-Slot PCIe Expansion Module
 - 1 card supported in HPE Synergy 480 Gen10 Plus Front PCIe GPU Enablement Kit
 - Max number supported: 9 (Combining 8-slot expansion and Front PCIe GPU Enablement Kit)
 - Type: Single-width, half-height, half-length GPU
 - Availability: Currently available*
 - GPU info: Universal accelerator for distributed computing environments including vGPU virtualization, deep learning, data science, and computer-based workloads
-



Standard Features

HPE Synergy 480 GPU Segmentation Chart

	Mixed Use Virtualization / Compute	Mixed Use-Pro Vis. Focus Bare Metal GPU /vGPU	
	T4	A10	A40
Primary Workload	Inference Video vGPU ML / DL	Inference Video vGPU ML / DL	Rendering Pro Vis vGPU
Features	Diverse Workload SFF	Diverse Workload SFF	Fastest Graphics Fastest RT
Power – Cooling	70W Pass.	150W Pass.	300W Pass
Memory	16G DDR6	24G DDR	48G DDR
Form Factor	HH HL SW	FH FL DW	FH FL DW
CUDA Core	2560	9216	10752
Tensor Core	320	288 (Gen3)	336 (Gen 3)
Ray Trace (RT) Core	40	72 (Gen2)	84 (Gen2)
vGPU Support	√	√	√
Precision Pref	FP32=8.1 TF Mix16/32=65TF INT8=130TOPS INT4=260TOPS	FP32=31.2 TF INT8=250 TOPS INT4=500 TOPS	FP32=37.4 TF INT8=299.3 TOPS INT4=598.7 TOPS
Pass-Through GPU	√	√	√
Bare Metal Client OS / Graphics – Pro Visualization	X	X	√(3 Disp.) Dual Mode GPU



Standard Features

HPE Synergy 480 Gen10/Gen10 Plus Server and Hypervisor Support

The following table shows the support for server operating systems and hypervisors on HPE Synergy 480 with graphics options installed.

	Microsoft Server	VMware ESXi	Red Hat Server	SLES
HPE Synergy 480 Gen10 Plus Ice Lake CPU Skylake CPU	2016 LTSC 2019 LTSC	vSphere 6.7u3+ vSphere 7.0u2+	RHEL 7.9+ RHEL 8.3+	SLES 15 SP2+ ¹
HPE Synergy 480 Gen10 Cascade Lake CPU	2016 LTSC 2019 LTSC	vSphere 6.7u1+ vSphere 7.0+ vSphere 7.0u2+(A40)	RHEL 7.6+ RHEL 8.0+ RHEL 8.3+(A40)	SLES 12 SP3+ ¹ SLES 15+ ¹
HPE Synergy 480 Gen10 Skylake CPU	2016 LTSC 2019 LTSC	vSphere 6.7+ vSphere 7.0+	RHEL 7.4 + RHEL 8.0 +	SLES 12 SP2+ ¹ SLES 15+ ¹

Notes:

- ¹Not support and tested for Client OS, GPU only tested and supported for compute workloads.
- Operating System support may change from time to time. To get the most updated information, please go to the HPE OS Support Matrix at <http://www.hpe.com/info/ossupport>



Service and Support

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Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.

<https://www.hpe.com/services/operational>

HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

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- 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/complecare>

HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service 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 Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service 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>



Service and Support

HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

Notes: To review the list of Lifecycle Services available for your product go to:

<https://www.hpe.com/services/lifecycle>

For a list of the most frequently purchased services using service credits, see the [HPE Service Credits Menu](#)

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Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.

<https://www.hpe.com/services/training>

Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

Parts and Materials

HPE 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.

How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at <https://ssc.hpe.com/portal/site/ssc/>



Service and Support

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- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
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<https://www.hpe.com/us/en/contact-hpe.html>

For more information

<http://www.hpe.com/services>



Additional Options

Synergy Gen10 Plus GPU Expansion PCIe Modules

HPE Synergy 480 2-slot PCIe Expansion Module	P14256-B21
HPE Synergy 480 4-slot PCIe Expansion Module	P14257-B21
HPE Synergy 480 8-slot PCIe Expansion Module	P14258-B21
HPE Synergy Front PCIe GPU Enablement Kit	P15825-B21

PCIe Expansion Module GPU Options for HPE Synergy 480 Gen10 / Plus Compute Module

GPU Option	SKU	Cable Kit	Availability
HPE NVIDIA A40	R7E31C	P25493-B21	Limited
HPE NVIDIA A40 Non-CEC	R9P49C	P25493-B21	√
HPE NVIDIA Tesla T4 16GB	R0W29C	N/A	√
HPE NVIDIA A2 Non-CEC	R9H23C	N/A	June 2022
HPE NVIDIA A10 24GB	R7G40C	P25497-B21	√

√ - Currently available

X - No longer available

Notes: Please check the latest availability information of the cards from your account manager

PCIe Expansion Module Cable Kit Options for Synergy 480 Gen10 Plus Compute Module

Cable Kit Option

HPE Synergy 1x 8-pin 2-pack GPU Cable P25493-B21

Notes: Compatible Expansion Modules are required to add these cards on Synergy (See Expansion Modules section above). If the Expansion Modules have already been purchased, compatible Cable kits may need to be purchased for adding the new GPUs.

HPE Synergy 2x 8-pin 0.14m 2-pack Cable P25497-B21

Synergy Gen10 Plus GPU Expansion PCIe Modules

GPU Expansion Modules - PCIe

HPE Synergy 480 Gen10 PCIe FIO Expansion Module	872628-B21
HPE Synergy 480 Gen10 PCIe x4 Expansion Module	P14255-B21

PCIe Expansion Module Cable Kit Options for Synergy 480 Gen10 Compute Module

Cable Kit Option

HPE Synergy 1x 8-pin 2-pack GPU Cable P25493-B21

HPE Synergy 1x 8-pin/1x 6-pin 2-pack PCIe GPU Cable P25494-B21

Notes: Compatible Expansion Modules are required to add these cards on Synergy (See Expansion Modules section above). If the Expansion Modules have already been purchased, compatible Cable kits may need to be purchased for adding the new GPUs.

HPE Synergy 480 Gen10 PCIe x4 FIO Expansion Module FIO Cable Kit P17391-B21



Additional Options

PCIe Expansion Module GPU Options for HPE Synergy 480 Gen10 Compute Module

GPU Option	SKU	Cable Kit	Availability
HPE NVIDIA A40	R7E31C	P25493-B21	√
HPE NVIDIA Tesla T4 16GB Computational Accelerator	ROW29C	N/A	√

√ - **Currently available***

X - **No longer available***

Notes: Please check the latest availability information of the cards from your account manager

HPE Synergy Operational Services

HPE 5Y Tech Care Essential Service	HU4A6A5
HPE 5Y Tech Care Critical Service	HU4A3A5
HPE 5Y Complete Care Addon Essential Service	HU4D5A5
HPE 5Y Complete Care Addon Critical Service	HU4D2A5



Summary of Changes

Date	Version History	Action	Description of Change
04-Dec-2023	Version 16	Changed	Service and Support section was updated
06-Sep-2022	Version 15	Changed	Overview, Standard Features, Additional Options sections were updated.
06-Jun-2022	Version 14	Changed	Overview, Standard Features, Additional Options sections were updated. Full Update to remove MXM and update Nvidia changes.
15-Nov-2021	Version 13	Changed	Service and Support Pointnext Tech Care and Complete Care information updated
06-Jul-2021	Version 12	Changed	Overview, Standard Features, Services and Support, Additional Options sections were updated. New HPE Synergy Gen10 Plus Options New NVIDIA A40 support and other updates
17-May-2021	Version 11	Changed	Overview, Standard Features, Services and Support, Configuration Information, Windows BM support, Hypervisor support and Additional Options sections were updated.
07-Dec-2020	Version 10	Changed	Overview, Standard Features, Configuration Information, and Additional Options sections were updated.
18-May-2020	Version 9	Changed	Overview, Standard Features, Configuration Information, and Additional Options sections were updated.
02-Dec-2019	Version 8	Changed	Configuration Information and Related Options sections were updated.
07-Oct-2019	Version 7	Changed	Overview, Standard Features, and Related Options sections were updated.
16-Sep-2019	Version 6	Changed	Overview, Standard Features, Configuration Information, Related Options and Service and Support sections were updated.
15-Apr-2019	Version 5	Changed	Standard Features and Service and Support sections were updated.
05-Mar-2018	Version 4	Changed	Overview, Standard Features, and Platform Information sections were updated
04-Dec-2017	Version 3	Changed	Overview, Standard Features, and Platform Information sections were updated. SKUs added in Platform Information section: 880708-B21, 880709-B21. SKUs added in Platform Information section: M9R60A.
14-Aug-2017	Version 2	Changed	Quick Specs was updated.
11-Jul-2017	Version 1	Created	New Quick Specs



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