Architecture guide

Enterprise server acceleration from edge to data center

Hewlett Packard Enterprise understands that every business is unique. That's why we are committed to providing customers with tailored solutions for your specific needs. Discover how HPE ProLiant Compute servers and NVIDIA can power any workload with scale, economics, and the security your business demands.

NVIDIA accelerated computing offerings for every workload

HPE's portfolio includes NVIDIA GPUs designed to power workloads, from AI and deep learning to professional visualization. Our offerings span from the entry-level L4 to the high-performance RTX PRO™ 6000 Blackwell Server Edition, designed for AI and machine learning, 3D graphics, and scientific simulation. With this comprehensive lineup, we help ensure businesses and developers have the right solution to meet their performance and scalability needs.

NVIDIA L4 24GB

The NVDIA L4 provides universal acceleration and energy efficiency, making it ideal for AI video applications, virtual workstations, and graphics workloads. Its advanced architecture enhances video processing, ensuring smooth streaming and high-quality rendering.

NVIDIA RTX A400 4GB

The NVIDIA RTX A400 delivers real-time ray tracing and AI acceleration in a compact, power-efficient form factor. It enables smoother graphics and faster workflows for professional design, visualization, and light AI workloads while maximizing performance per watt.

NVIDIA RTX A1000 8GB

Built on the NVIDIA Ampere architecture, the NVIDIA RTX A1000 is a compact, low-profile GPU, which is ideal for professionals needing entry-level accelerators to balance performance with power efficiency or requiring the power of GPUs in small spaces. With its real-time ray tracing, AI acceleration, and high-fidelity graphics capabilities, the RTX A1000 is ideal for design, visualization, and digital content creation.

NVIDIA A16 64GB

Designed to accelerate virtual desktop infrastructure (VDI) workloads, the A16 provides high user density and enhanced graphics performance for remote desktop applications.

NVIDIA L40S 48GB

Experience breakthrough multi-workload performance with the NVIDIA L40S GPU. Combining powerful AI compute with best-in-class graphics and media acceleration, the L40S GPU is built to power the next generation of data center workloads—from generative AI and large language model (LLM) inference and training to 3D graphics, rendering, and video.

NVIDIA RTX PRO 4500 Blackwell Server Edition

The NVIDIA RTX PRO 4500 Blackwell Server Edition brings the revolutionary capabilities of the Blackwell architecture to mainstream enterprise data center and edge platforms. With fifth generation Tensor Cores, fourth generation RT cores, and 32GB of high-speed GDDR7 memory, it delivers breakthrough performance and efficiency for demanding data processing, AI, video, and visual computing workloads in a single slot, power-efficient design.

NVIDIA RTX PRO 6000 Blackwell Server Edition

Built on the groundbreaking NVIDIA Blackwell architecture, the NVIDIA RTX PRO 6000 Blackwell Server Edition combines advanced AI and visual computing capabilities to accelerate enterprise data center workloads. Equipped with 96 GB of ultra-fast GDDR7 memory and FP4 capabilities, the NVIDIA RTX PRO 6000 Blackwell Server Edition provides unparalleled performance and flexibility to accelerate a broad range of use cases including graphics, visual computing, industrial and physical AI, Enterprise HPC, VDI, and Enterprise AI applications.

Finding the right solution for your specific needs

How do you traverse this rich ecosystem of servers and GPU options? The following tables make this process easy by showing NVIDIA GPU compatibilities with each HPE ProLiant Compute server.

Table 1. Quantity of NVIDIA GPUs supported per HPE ProLiant Compute tower server

		L4 24GB	RTX A400 4GB	RTX A1000 8GB	RTX PRO 4500 Blackwell Server Edition
		SW	SW	SW	SW
Gen11	HPE ProLiant MicroServer		1		
	HPE ProLiant ML30		1	1	
	HPE ProLiant ML110	2		2	
	HPE ProLiant ML350			8	
Gen12	HPE ProLiant Compute ML350	4		8	4

Table 2A. Quantity of NVIDIA GPUs supported per HPE ProLiant Gen11 rack server with Intel® processors

			L4 24GB	RTX A400 4GB	RTX A1000 8GB	L40S 48GB
		Form factor	SW		SW	DW
Gen11	HPE ProLiant DL20	1U		1	1	
	HPE ProLiant DL380a	2U	8			4

Table 2B. Quantity of NVIDIA GPUs supported per HPE ProLiant Compute Gen12 rack server with Intel processors

			L4 24GB	RTX A1000 8GB	RTX PRO 4500 Blackwell Server Edition	L40S 48GB	H200 NVL 141GB	RTX PRO 6000 Blackwell Server Edition
		Form factor	SW	SW	SW	DW	DW	DW
Gen12	HPE ProLiant Compute DL320	1U	4			2		
	HPE ProLiant Compute DL340	2U	6			4		
	HPE ProLiant Compute DL360	1U	3					
	HPE ProLiant Compute DL380	2U	8	8	5	3		3
	HPE ProLiant Compute DL380a	4U	16			10	10	8

SW: Single-wide DW: Double-wide

Table 3A. Quantity of NVIDIA GPUs supported per 1U HPE ProLiant Compute rack server with AMD processors

			L4 24GB	RTX PRO 4500 Blackwell Server Edition	A16 64GB
		Form factor	SW	SW	DW
Gen11	HPE ProLiant DL365	1U	3	2	2
Gen12	HPE ProLiant DL325	1U	4		

Table 3B. Quantity of NVIDIA GPUs supported per 2U HPE ProLiant Compute rack server with AMD processors

			L4 24GB	RTX PRO 4500 Blackwell Server Edition	A16 64GB	L40S 48GB	H200 NVL 141GB	RTX PRO 6000 Blackwell Server Edition
		Form factor	SW	SW	DW	DW	DW	DW
Gen11	HPE ProLiant DL145	2U	3	1		1		
	HPE ProLiant DL385	2U	8	4	4	4	2	2
Gen12	HPE ProLiant DL345	2U	6	4		4		2

SW: Single-wide DW: Double-wide

HPE ProLiant Compute DL380a Gen12

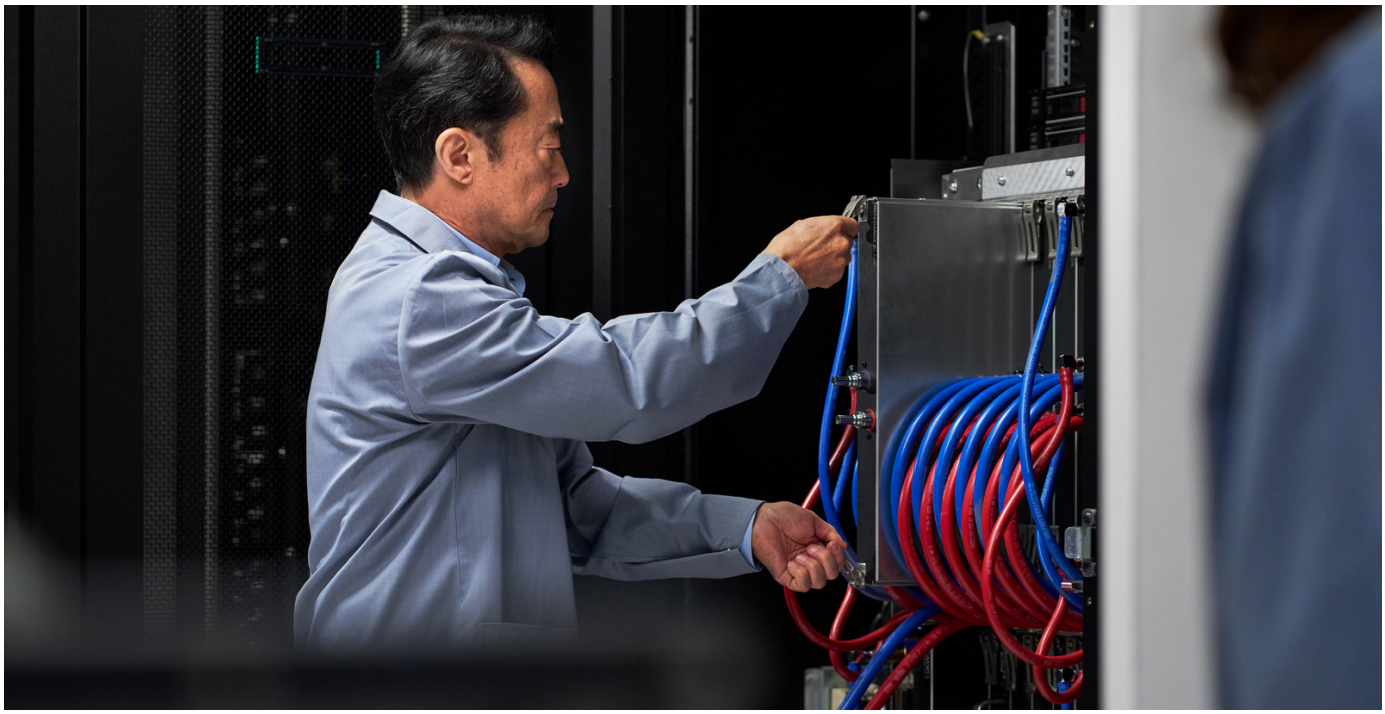
* Product configuration and appearance may vary

HPE ProLiant DL385 Gen11

HPE supports NVIDIA NVLink, which enhances GPU-to-GPU communication for improved performance in AI, HPC, and visualization workloads. The 2-way NVLink, connects two GPUs for increased memory pooling and data transfer speeds, and 4-way NVLink, links four GPUs for even greater scalability and parallel processing power.

— The HPE ProLiant DL385 Gen11 server supports the 2-way NVLink when using NVIDIA H200 NVL GPUs

— The HPE ProLiant Compute DL380a Gen12 server supports both 2-way and 4-way NVLink with NVIDIA H200 NVL GPUs



Learn more at

How HPE and NVIDIA unlock AI

NVIDIA Accelerators for HPE

HPE ProLiant Compute

Visit HPE.com

Chat now

a00156995ENW

HEWLETT PACKARD ENTERPRISE

hpe.com