

HPE PROLIANT XL750F GEN9 SERVER

Apollo 8000 System



OVERVIEW

Fuel ground breaking research in science and engineering with leading edge technology, while going greener than ever before. The HPE ProLiant XL750f Gen9 Server supports NVIDIA® Tesla® K40 XL GPUs. Applications that benefit from GPUs include seismic processing, biochemistry simulations, weather and climate modeling, image, video and signal processing, computational finance, computational physics, CAE, CFD, and data analytics.

The HPE Apollo 8000 System reaches new heights of performance density, with 4x the teraflops per square foot and up to 40% more FLOPs per watt than comparable air cooled

servers. [1] At the same time, the HPE Apollo 8000 System helps reduce your carbon footprint, saving up to 3,800 tons of CO2 per year. [2] That's about the same amount of CO2 produced per year by 790 cars!

FEATURES

Performance for Advanced Scientific Computing Workloads

The HPE ProLiant XL750f Gen9 Server has a single 2P node with two NVIDIA® Tesla® K40 XL GPUs per tray.

Using the NVIDIA CUDA programming environment, NVIDIA® Tesla® K40 XL GPUs accelerate computational and graphics applications.

Each node delivers accelerated performance density with Intel® Xeon® processors combined with purpose built NVIDIA® Tesla® K40 XL GPUs, provide the processing power needed to handle a variety of demanding workloads. Supports up to 256 GB memory/node, with an optional SSD.

One high performance FDR InfiniBand port per server tray and 1 Gb NIC per server tray to enhance connectivity and data availability.

Efficient Liquid Cooling Without the Risk

Dry disconnect server trays provide liquid cooling via sealed copper tubes, with heat exchange via thermal bus bars in the rack.

Smart sensors automatically track activities, dynamically adjusting system components to enhance system performance and energy efficiency, while reducing operating expenses.

By coupling smart sensors data with iLO4, advanced power management, and or, an HPC center scheduler, you can create new optimization algorithms to get the most out of your HPE Apollo 8000 System.

Energy and Space Efficiency

The ProLiant XL750f Gen9 Server is 1U half-width and has 4x more performance per square foot than competing air cooled systems so you can pack more research capabilities into less space.

The system gets 40% more FLOPs per watt than air cooled systems for energy savings. [1]

With the HPE Apollo 8000 System, reduce your carbon footprint, saving up to 3,800 tons of CO2 per year. That's about the same amount of CO2 produced per year by 790 cars! [2]

Increase System Uptime with Built-in Technologies

The HPE ProLiant XL750f Gen9 Server supports HPE SmartMemory, preventing data loss and downtime with enhanced error handling while also improving workload performance and power efficiency.

Each ProLiant XL750f Gen9 Server tray supports up to 1200W of HVDC to 12V conversion enabling higher performance components.



Technical specifications

HPE ProLiant XL750f Gen9 Server

Memory protection features	Advanced ECC Memory Lock Step Mode Memory Online Spare Mode Memory Mirroring Mode
CPU	(2) Intel® Xeon® Processor E5-2600 per server – Supports E5-2695v3/E5-2690v3/E5-2683v3/E5-2680v3/E5-2670v3/E5-2660v3
Memory	(16) DIMMS total per server or maximum 256 GB memory per server– Supports 8 GB/16 GB DDR4 RDIMM, 2133 MHz memory
Network	Integrated NIC: single port 1GbE per server tray Adaptor FLOM Kit: single Mellanox ConnectX®-3 Pro IB FDR port per server tray
Storage	(1) Small form factor SSD per server – Supports 120 GB/480 GB/1.6 TB SSD
Boot capabilities	1) Direct From SSD 2) Network
System configuration(s)	Ships standard with two CPU and two NVIDIA® Tesla® K40 XL GPUs per server, single IB FDR adaptor, four DIMM per CPU. Configure up to a maximum of 8 DIMMs per CPU.
Power	Max of 1200W of HVDC to 12V conversion per XL750f tray Estimated Peak <500W per server (Preliminary estimates)
Form factor	These trays are 1U half width and a maximum of 72 HPE ProLiant XL750f trays can be installed in every HPE Apollo f8000 rack



For additional technical information, available models and options, please reference the [QuickSpecs](#)

HPE POINTNEXT SERVICES

[HPE Pointnext Services](#) brings together technology and expertise to help you drive your business forward and prepare for whatever is next.

Operational Services from HPE Pointnext Services

[HPE Pointnext Tech Care](#) provides fast access to product-specific experts, an AI-driven digital experience, and general technical guidance to help enable constant innovation. We have reimagined IT support from the ground up to deliver faster answers and greater value. By continuously searching for better ways to do things—as opposed to just fixing things that break—HPE Pointnext Tech Care helps you focus on achieving your business goals.

[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 Integration and Performance Services help you customize your experience at any stage of your product lifecycle with a menu of services based on individual needs, workloads, and technologies.

- Advise, design, and transform
- Deploy
- Integrate and migrate
- Operate and improve
- Financial Services
- Greenlake Management Services
- Retire and sanitize
- IT Training and personal development

Other related services

[HPE Education Services](#) delivers a comprehensive range of services to support your people as they expand their skills required for a digital transformation. Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and support options.

Defective Media Retention is optional and allows you to retain Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

HPE GREENLAKE

[HPE Greenlake](#) is HPE's market-leading IT as-a-Service offering that brings the cloud experience to apps and data everywhere – data centers, multi-clouds, and edges – with one unified operating model. HPE GreenLake delivers public cloud services and infrastructure for workloads on premises, fully managed in a pay per use model.

If you are looking for more services, like **IT financing solutions**, please [explore them here](#).

[1] Based on rack and power density, assuming the same processors. Data center square footage for standard rack = 12.5' x the width of the rack. Apollo f8000 Rack width is the same as an air cooled rack width = 2'. The HPE Apollo f8000 Rack fits 72 servers and 144 accelerators per rack. Standard air cooled racks fit 18 x 2U servers and 36 accelerators with 15-18kW power restrictions. 72/18 = 4 for 4x the performance density.

[2] Based on a comparison of a 3MW of IT capacity, estimated data center energy savings in kilowatts per hour. Kilowatt per hour savings measured by deploying the HPE Apollo 8000 System (65kW/rack) vs. air-cooled system (limited to 15kW/rack). World Energy Outlook 2013 calculation to convert kW-hr savings to annual CO2 emission savings.

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Parts and Materials: HPE will provide HPE-supported replacement parts and materials required to maintain the covered hardware.

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.

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