

### Overview

#### HPE InfiniBand NDR Switches

Nvidia InfiniBand (IB) NDR Switches are supported to work with HPE InfiniBand Adapters to deliver high performance connectivity for HPC clusters using HPE servers. The 1U rack mount switches feature 64, 400Gb/s non-blocking ports with aggregate data throughput up to 51.2 Tb/s.

These switches are ideally suited for customers who deploy high-performance computing (HPC) clusters based on HPE ProLiant XL, Cray and DL Servers using InfiniBand technology.



#### HPE InfiniBand NDR Switch Series

##### Models

NVIDIA InfiniBand NDR 64-port OSFP Managed Power to Connector Airflow Switch	P45692-B21
<ul style="list-style-type: none"><li>• NVIDIA Quantum-2-based 400Gb/s InfiniBand switch</li><li>• 64 400Gb/s ports</li><li>• 32 OSFP ports</li><li>• Non-blocking switching capacity of 51.2Tb/s</li><li>• Two power supplies (AC),</li><li>• Standard depth</li><li>• Managed switch</li><li>• Power-to-connector (P2C) airflow</li><li>• Rail kit</li><li>• Quick Start Guide</li></ul>	
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## Overview

### Key Features

- 64 ports, each providing NDR (400Gbps) performance
  - 51.2 Tb/s non-blocking aggregate bandwidth
  - NDR200 Supports up to 128 ports of HDR (200 Gbps)
  - Quick and easy setup and management
  - Improved performance by removing fabric congestion
  - Backward compatibility to Nvidia HDR InfiniBand technology for ease of migration
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## Standard Features

### Switch Specifications

- Nvidia Quantum-2-based QM9700 and QM9790 switch systems
- 64 400Gb/s non-blocking ports
- 32 octal small form-factor pluggable (OSFP) connectors
- NDR (400Gbps) per port bidirectional
- Switching capacity 51.2 Tbps
- Supports passive copper or active copper or fiber cable with optical module
- Compliant with IBTA 1.5
- Two hot-swappable power supplies

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### Management Ports (Managed Switch)

- 1x RJ45 (1Gb/s Ethernet)
  - 1x RJ45 (UART) 1x USB 3.0

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### Connectors and cabling

- OSFP ports
- Passive or active copper or optical module with fiber cables

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### Indicators

- Per OSFP port status LED for link and activity
- System status LEDs for system, fans, power supplies
- Unit ID (beacon) LED

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### Power Supply

- Dual redundant (1+1) hot-swappable power supplies
- Input range: 200-240Vac; US min: 2 phases of 100-110v – in total, at least 208v
- 80 Gold+ and ENERGY STAR certified

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### Cooling

- Power to connector airflow
- Hot-swappable fan units

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### Warranty and support

- Switches carry a 3-year warranty, On Site, next business day response
  - Cables carry a 1-year warranty, parts exchange
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## Service and Support

### HPE Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

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

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### Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.

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### HPE Managed Services

HPE runs your IT operations, providing 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 Managed Services | HPE](#)

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### Operational services

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>

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### 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:

- 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/complecare>

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### 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>

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## 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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### Other Related Services from HPE Services:

#### HPE Education Services

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/>



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## Service and Support

### AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.

<https://support.hpe.com/hpesc/public/home/signin>

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### Consume IT On Your Terms

**HPE GreenLake** edge-to-cloud platform 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 edge-to-cloud platform 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

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE"

<https://www.hpe.com/us/en/contact-hpe.html>

For more information

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

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## Technical Specifications

### Technical Specifications

HPE SKU P45692-B21 (NVIDIA part MQM9700-NS2F) NVIDIA InfiniBand NDR 64-port OSFP Managed Power to Connector Airflow Switch

HPE SKU P45691-B21 (MQM9790-NS2F) NVIDIA InfiniBand NDR 64-port OSFP Power to Connector Airflow Switch

For technical specifications please visit the NVIDIA technical specifications page for the latest details, [click here](#).

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## Summary of Changes

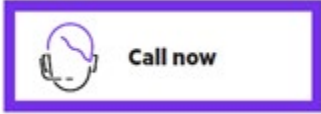
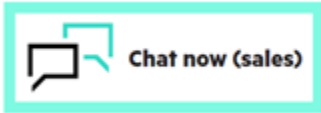
<b>Date</b>	<b>Version History</b>	<b>Action</b>	<b>Description of Change</b>
18-Dec-2023	Version 5	Changed	HPE Services Rebranding
02-Oct-2023	Version 4	Changed	Overview and Technical Specifications sections were updated
10-Jul-2023	Version 3	Changed	Related Options section was removed
03-Apr-2023	Version 2	Changed	Related Options section was updated.
19-Dec-2022	Version 1	Created	New QuickSpecs





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a50004316enw - 16920 - Worldwide - V5 - 18-December-2023