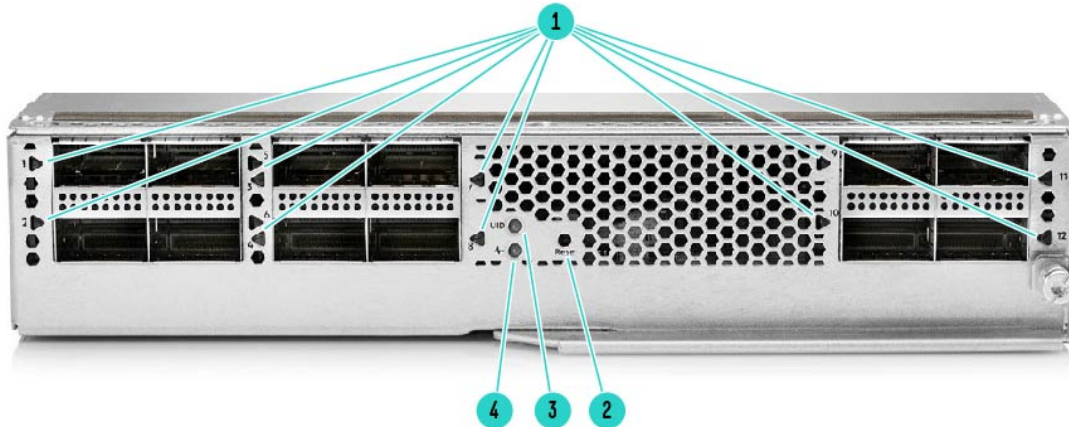


### Overview

### HPE Apollo InfiniBand EDR 36-port Unmanaged Switch

HPE Apollo InfiniBand EDR 36-port Unmanaged Switch is a 36-port integrated switch based on Mellanox Switch-IB™ 2 Switch Silicon in HPE Apollo 6000 Gen10 System with 24 downlink ports and 12 QSFP28 uplink ports. The HPE Apollo InfiniBand EDR 36-port Unmanaged Switch cost-effectively supports HPC clusters from small to extremely large sizes. This HPE Apollo InfiniBand EDR 36-port Unmanaged Switch is a new member of the InfiniBand switches supported by Hewlett Packard Enterprise, delivering an exceptional set of high-speed networking features and functions.

The HPE Apollo InfiniBand EDR 36-port Unmanaged Switch is ideal for customers who deploy high-performance computing (HPC) clusters based on HPE Apollo 6000 Gen10 Servers using the InfiniBand technology.



**HPE Apollo Ethernet EDR 36port Unmanaged Switch**

- |                     |                   |
|---------------------|-------------------|
| 1. Link Status LEDs | 3. UID LED/button |
| 2. Reset Pin-hole   | 4. Health LED     |



**12 QSFP28 ports**

### Key features

- 36 ports, each providing EDR (100Gbps) performance
  - 24 mid-plane downlink ports to servers in Apollo 6000 Gen10 Chassis
  - 12 QSFP28 uplink ports on the switch faceplate
- 7Tbps non-blocking aggregate bandwidth with 90ns port-to-port latency
- Collective data aggregation/reduction operation offload via SHARP (Scalable Hierarchical Aggregation Protocol SHARP) technology
- Quick and easy setup and management
- Multiple Virtual Lanes (VLs) per physical port
- Congestion control
- Adaptive Routing

## Standard Features

### Platform Information



#### Apollo 6000 Integrated switch

HPE Apollo A10 InfiniBand EDR 100 Gb 36-port Unmanaged Switch

843407-B21

#### Top Level and Director-class switches – Support Connectivity

Mellanox InfiniBand EDR 100 Gb/sec v2 36-port Power-side-inlet Airflow Unmanaged Switch

834976-B22

Mellanox InfiniBand EDR 100 Gb/sec v2 36-port Connector-side-inlet Airflow (RAF) Unmanaged Switch

834977-B22

Mellanox InfiniBand EDR 100 Gb/sec v2 36-port Power-side-inlet Airflow Managed Switch

834978-B22

Mellanox InfiniBand EDR 100 Gb/sec v2 36-port Connector-side-inlet Airflow (RAF) Managed Switch

834979-B22

Mellanox InfiniBand EDR 648 Port Switch Chassis

843188-B21

Mellanox InfiniBand EDR 324 Port Switch Chassis

843189-B21

Mellanox InfiniBand EDR 216 Port Switch Chassis

843190-B21

## Features and benefits

### Switch Specifications

- Based on Mellanox Switch-IB™ 2 Switch Silicon 36-port ASIC with SHARP support
- EDR (100Gbps) per port bidirectional
- Switching capacity 7Tbps
- Virtual lanes, configurable from one to eight VLs plus one management VL
- Configurable MTU size of up to 4 KB
- Maximum multicast table size: 16384 entries
- Uplink ports support QSFP28 passive copper and active optical cables
- Compliant with IBTA 1.21 and 1.3
- Port Mirroring
- System reset button

### Management

- Unmanaged switch
- Requires Mellanox InfiniBand subnet manager on a node or a managed switch for fabric management

### Connectors and cabling

- QSFP28 uplinks ports support
- Passive copper or active optical cables

### I/O ports and slots

- 12 QSFP28 uplink ports



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## Standard Features

### Indicators

- Per QSFP28 port status LED for link and activity
  - Unit ID (beacon) LED
- 

### Power Supply and Cooling

- Provided by Apollo 6000 Gen10 Chassis
- 

### Warranty and support

- This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners (may vary by region). Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty.

**Notes:** Server Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge.

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## 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.

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## Standard Features

### Recommended Services

#### 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 reimaged 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/completecure>

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### 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.

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### Other Related Services

#### HPE Server Hardware Installation

Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

<https://www.hpe.com/h20195/V2/GetPDF.aspx/5981-9356EN.pdf>

#### HPE Installation and Startup Service

Provides for the installation of your HPE hardware according to product specifications including options as well as installation of the operating system. The HPE service delivery technician will connect the product to a LAN as appropriate and enable remote support to allow for automatic case creation for hardware failures.



## Standard Features

### HPE Factory Express for Servers and storage

HPE Factory Express offers configuration, customization, integration and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HPE products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAxxxx3PAR suite, XP, rackable tape libraries and configurable network switches.

### HPE Technology Services Support Credits

Offer flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic

### HPE Flexible Capacity

With Flexible Capacity, you get the speed, scalability, and economics of the public cloud in the privacy of your data center. Gain the advantages of the public cloud—consumption-based payment, rapid scalability without worrying about capacity constraints. Reduce the “heavy lifting” needed to operate a data center. And retain the advantages that IT provides the business (i.e., control, security). Deliver the right user experience, choose the right technology for the business, manage privacy and compliance, and manage the cost of IT. And, you have the option to use the public cloud when needed.

### DC for Hyperscale

Complete Care for Hyperscale is available for Service Providers and HPC customers who use a scale out approach to computing with a high volume homogenous infrastructure and resilient architecture can take advantage of this environment support tailored to their operating model.

### HPE Education Services

Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment. <http://www.hpe.com/ww/learn>

### HPE Support Center

The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers.

Learn more

<http://www.hpe.com/support/hpesc>

HPE's Support Center Mobile App\* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalize IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

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## Additional Options

<b>Mellanox Unified Fabric Manager (UFM) Software</b>	Mellanox Unified Fabric Manager Advanced 1yr 24x7 Updates and Technical Support Flex License	BD571A
	Mellanox Unified Fabric Manager Advanced 3yr 24x7 Updates and Technical Support Flex License	BD572A
<b>HPE InfiniBand EDR cables</b>	<b>Passive Copper cables</b>	
	HPE 0.5m InfiniBand EDR QSFP Copper Cable	834973-B21
	HPE 1m InfiniBand EDR QSFP Copper Cable	834973-B22
	HPE 1.5m InfiniBand EDR QSFP Copper Cable	834973-B23
	HPE 2m InfiniBand EDR QSFP Copper Cable	834973-B24
	HPE 3m InfiniBand EDR QSFP Copper Cable	834973-B25
	<b>Active Optical cables</b>	
	HPE 3m InfiniBand EDR QSFP Optical Cable	834972-B21
	HPE 5m InfiniBand EDR QSFP Optical Cable	834972-B22
	HPE 7m InfiniBand EDR QSFP Optical Cable	834972-B23
	HPE 10m InfiniBand EDR QSFP Optical Cable	834972-B24
	HPE 12m InfiniBand EDR QSFP Optical Cable	834972-B25
	HPE 15m InfiniBand EDR QSFP Optical Cable	834972-B26
	HPE 20m InfiniBand EDR QSFP Optical Cable	834972-B27
HPE 30m InfiniBand EDR QSFP Optical Cable	834972-B28	
<b>Service and Support Offerings</b>	<b>Installation &amp; start up services</b>	
	HPE Installation Apollo 6000 Gen10 Chassis Service	H2GA8E
	HPE Apollo 6000 Generation 10 Installation and Startup Service	H6SV1E
	<b>Support Service</b>	
	HPE 3 Year Proactive Care 24x7 Apollo EDR-OPA Switch Service	H2GS2E
	HPE 3 Year Proactive Care 24x7 with CDMR Apollo EDR-OPA Switch Service	H2GS3E
	HPE 3 Year Foundation Care 24x7 Apollo EDR-OPA Switch Service	H2GS0E
HPE 3 Year Foundation Care 24x7 with CDMR Apollo EDR-OPA Switch Service	H2GS1E	
HPE 3 Year Foundation Care Next Business Day Apollo EDR-OPA Switch Service	H2GR4E	



## Technical Information

<b>Physical characteristics</b>	Shipping Dimensions	Length	12.28 in (31.19 cm)
		Width	16.54 in (42.01 cm)
		Height	3.23 in (8.20 cm)
<b>Performance</b>	Weight		2.9 lbs (1.32kg)
	Latency		90ns port-to-port
	Throughput		up to 7Tbps
<b>Environment</b>	Linear forwarding data base		4x48K entries
	Dimensions	Length	11.73 in (29.79 cm)
		Width	8.43 in (21.41 cm)
Height		1.70 in (4.32 cm)	
<b>Electrical characteristics</b>	Weight		2.5 lbs (1.13 kgs)
	Operating temperature		50° to 95° F (10° to 35° C)
	Non-Operating temperature		-22° to 140° F (-30° to 60° C)
<b>Others</b>	Operating humidity		10 to 90% relative humidity
	Operating Altitude		0 to 3048m (0 to 10,000 feet)
	Voltage		12V DC
<b>Standards and protocols</b>	Typical power with passive cables (ATIS)		129W
	Max power with optical cables (assuming 3.5W per port)		198W

### 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 our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE Directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site: <http://www.hpe.com/RECYCLE>. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.



## Summary of Changes

<b>Date</b>	<b>Version History</b>	<b>Action</b>	<b>Description of Change</b>
15-Nov-2021	Version 4	Changed	Service and Support section was updated.
05-Nov-2018	Version 3	Changed	Standard Features section was updated
23-Oct-2017	Version 2	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
11-Jul-2017	Version 1	Created	Initial version of QuickSpecs for Mellanox InfiniBand EDR Switches.





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