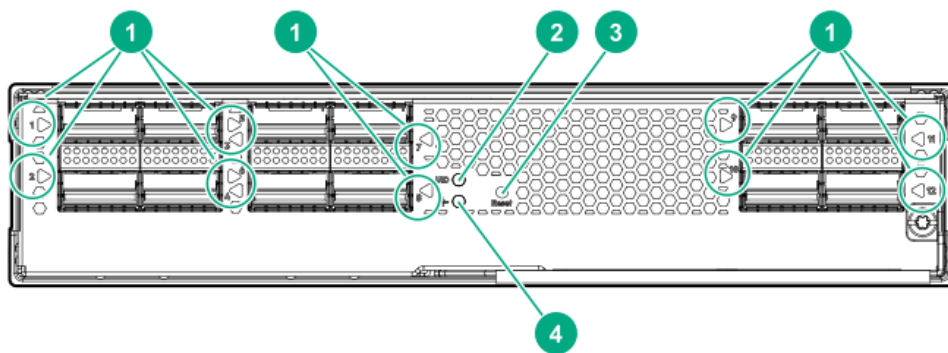## Overview

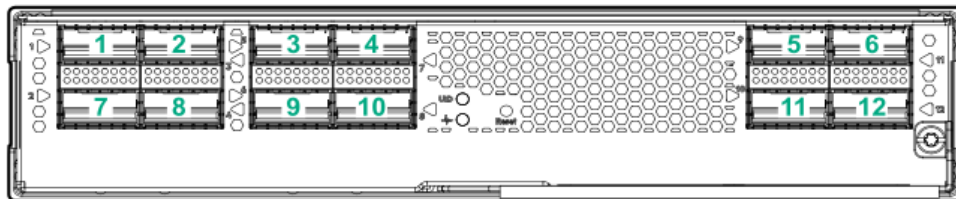### HPE Apollo InfiniBand EDR 36-port Unmanaged Switch

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
2. UID LED/button
3. Reset Pin-hole
4. Health LED

12 QSFP28 ports

Key features

- 36 ports, each providing EDR (100Gbps) performance
    - o 24 mid-plane downlink ports to servers in Apollo 6000 Gen10 Chassis
    - o 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

Top Level 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	• QSFP28 uplinks ports support

Standard Features

cabling
- Passive copper or active optical cables

I/O ports and slots
- 12 QSFP28 uplink ports

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.

NOTE: 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. Additional information regarding worldwide limited warranty and technical support is available at:
 http://h18004.www1.hpe.com/products/servers/platforms/warranty/index.html

Service and Support

It is recommended to have the same attached support level for Mellanox EDR InfiniBand Switches as the Server tray and chassis.

Protect your business beyond warranty with HPE Support Services

HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution.   Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. HPE is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

Optimized Recommendation

HPE Recommended Services

HPE Proactive Care* with 24x7 coverage, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice This Service combines three years proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a problem. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.) running on your HPE servers.

https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf

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NOTE: *HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their

Service & Support

devices to make the most of these services and receive all the deliverables.

Standard Recommendation	**HPE Foundation Care 24x7, three-year Support Service** HPE Foundation Care 24x7 gives you access to HPE 24 hours a day, seven days a week for assistance on resolving issues. This service includes need based Hardware onsite response within four hours. In addition, collaborative software support is included in this service that provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make HPE your first call to help resolve hardware or software problems. **https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en**
Basic Recommendation	**HPE Foundation Care NBD, three-year Support Service** HPE Foundation Care Next Business Day connects you to HPE during business hours for assistance on resolving issues – This service features need based next business day hardware onsite response and software call back within two hours. In addition, Collaborative software support and provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make HPE your first call to help resolve hardware or software problems. **https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en**
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. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.
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. **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 Datacenter Care service** HPE Datacenter Care helps improve IT stability and security, increase the value of IT, and enable agility and innovation. It is a structured framework of repeatable, tested, and globally available services "building blocks."

Service & Support

You can deploy, operate, and evolve your datacenter wherever you are on your IT journey. With HPE Datacenter Care, you benefit from a personalized relationship with HPE via a single point of accountability for HPE and others' products. For more information, visit **http://www.hpe.com/services/datacentercare**

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
Datacenter 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.

Additional Options

Mellanox Unified Fabric Manager (UFM) Software	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
HPE InfiniBand EDR cables	**Passive Copper cables**	
	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
	Active Optical cables	
	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
Service and Support Offerings	**Installation & start up services**	
	HPE Installation Apollo 6000 Gen10 Chassis Service	H2GA8E
	HPE Apollo 6000 Generation 10 Installation and Startup Service	H6SV1E
	Support Service	
	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

Physical characteristics	**Shipping Dimensions**	Length 12.28 in (31.19 cm) Width 16.54 in (42.01 cm) Height 3.23 in (8.20 cm)
	Weight	2.9 lbs (1.32kg)
Performance	**Latency**	90ns port-to-port
	Throughput	up to 7Tbps
	Linear forwarding data base	4x48K entries
Environment	**Dimensions**	Length 11.73 in (29.79 cm) Width 8.43 in (21.41 cm) Height 1.70 in (4.32 cm) 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)
	Operating humidity	10 to 90% relative humidity
	Operating Altitude	0 to 3048m (0 to 10,000 feet)
Electrical characteristics	**Voltage**	12V DC
	Typical power with passive cables (ATIS)	129W
	Max power with optical cables (assuming 3.5W per port)	198W
Others	RoHS-6 compliant	
Standards and protocols	IBTA 1.2.1 and 1.3	
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

Date	Version History	Action	Description of Change
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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