HPE aruba networking

Data sheet

HPE Aruba Networking CX 8320 Switch Series

HPE

Key features

— High performance 2.5 Tbps with 1,905 MPPS

— High availability with HPE Aruba Networking Virtual Switching Extension, and redundant, hot-swappable power supplies and fans

— HPE Aruba Networking CX Switch Operating System enables automation and programmability using built-in REST APIs and Python scripts

— Intelligent monitoring, visibility, and remediation with HPE Aruba Networking Network Analytics Engine (NAE)

— One touch deployment with the HPE Aruba Networking CX mobile application

— HPE Aruba Networking Switch Multi-Edit Software support for automated configuration and verification

— Advanced Layer 2/3 feature set includes BGP, OSPF, VRF, and IPv6

— Compact 1U switches with 1/10GbE (SFP/SFP+ and 10GBASE-T) and 40GbE connectivity

Product overview

The past several decades in networking have been defined by static, closed networking solutions designed for the client-server era. The HPE Aruba Networking CX 8320 Switch Series is a game-changing campus core and aggregation solution offering a flexible and innovative approach to dealing with the demands of the mobile, cloud, and Internet of Things (IoT) era. The 8320 Switch Series also serves as a top-of-rack (ToR) switch for data centers needing 10GbE connectivity to servers and 40GbE to the spine.

The 8320 Switch Series provides industry-leading line rate 1/10GbE (SFP/SFP+ and 10GBASE-T) and 40GbE connectivity in a compact 1U form factor. It provides up to 2.5 Tbps of switching capacity with redundant power and fans combined with HPE Aruba Networking Virtual Switching Extension for a high availability solution ideal for enterprise campus and data center deployments.

Product differentiators

HPE Aruba Networking CX Switch Operating System — a modern software system

The CX 8320 Switch Series is based on HPE Aruba Networking CX Switch Operating System, a modern, database-driven operating system that automates and simplifies many critical and complex network tasks.

A built-in time series database enables customers and developers to utilize software scripts for historical troubleshooting, as well as analysis of past trends. This helps predict and avoid future problems due to scale, security, and performance bottlenecks. HPE Aruba Networking CX Switch Operating System features are organized into HPE Aruba Networking Central Foundational and HPE Aruba Networking Central Advanced software licenses.

Every CX switch includes an active, embedded HPE Aruba Networking Central Foundational license at no additional cost with the option to upgrade to a HPE Aruba Networking Central Advanced license.

The HPE Aruba Networking Central Foundational license has everything needed to deploy, connect, and troubleshoot an enterprise network, including:

— HPE Aruba Networking Network Analytics Engine (NAE)
— Dynamic segmentation
— Switch stacking
— High availability and resiliency
— Quality of service (QoS)
— Layer 2 switching
— Layer 3 services and routing
— IP multicast
— Network security
— Support for HPE Aruba Networking Switch Multi-Edit Software

The HPE Aruba Networking Central Advanced license includes CX Edge Insights, offering deep visibility with application recognition, identification, and flow capture from Layer 4 to Layer 7.

For more information on the HPE Aruba Networking Central Advanced License, read the HPE Aruba Networking CX Switch License ordering guide.

Because HPE Aruba Networking CX Switch Operating System is built on a modular Linux® architecture with a stateful database, our operating system provides the following unique capabilities:

— Easy access to all network state information allows unique visibility and analytics
— REST APIs and Python scripting for fine-grained programmability of network tasks
— A microservices architecture that enables full integration with other workflow systems and services
— Continual state synchronization that provides superior fault tolerance and high availability
— All software processes communicate with the database rather than each other, helping ensure near real-time state and resiliency and allowing individual software modules to be independently upgraded for higher availability

HPE Aruba Networking Central, cloud-based network management

Flexible cloud-based or on-premises management for unified network operations of wired, WLAN, SD-WAN, and public cloud infrastructure. Designed to simplify day zero through day two operations with streamlined workflows. Switch management capabilities include configuration, onboarding, monitoring, troubleshooting, and reporting.

An HPE Aruba Networking Central Advanced license expands these capabilities with premium security and AIOps, including the HPE Aruba Networking Central NetConductor Fabric Wizard and global policy manager to enable dynamic segmentation and distributed enforcement at a global scale.

The HPE Aruba Networking Central Advanced license now comes with all HPE Aruba Networking Central Advanced features so there is no need to purchase a HPE Aruba Networking Central Advanced license. This streamlines operational efficiency, reducing the need for IT teams to keep track of multiple licenses, active terms, and renewal dates. For more information on HPE Aruba Networking Central licensing, see the HPE Aruba Networking Central SaaS Subscription ordering guide.

HPE Aruba Networking Network Analytics Engine — advanced monitoring and diagnostics

For enhanced visibility and troubleshooting, HPE Aruba Networking Network Analytics Engine automatically interrogates and analyzes events that can impact a network's health. Advanced telemetry and automation provide the ability to easily identify and troubleshoot network, system, application, and security-related issues easily, through the use of Python agents, CLI-based agents, and REST APIs.

The time series database (TSDB) stores configuration and operational state data, making it available to quickly resolve network issues. The data may also be used to analyze trends, identify anomalies, and predict future capacity requirements.

HPE Aruba Networking Switch Multi-Edit Software — automated switch configuration and management

The entire HPE Aruba Networking CX portfolio empowers IT teams to orchestrate multiple switch configuration changes for smooth end-to-end service rollouts. HPE Aruba Networking Switch Multi-Edit Software introduces automation that allows for rapid network-wide changes and helps ensure policy conformance post-network updates. Intelligent capabilities include search, edit, validation (including conformance checking), deployment, and audit features.

Capabilities include:

— Centralized configuration with validation for consistency and compliance
— Time savings through simultaneous viewing and editing of multiple configurations
— Customized validation tests for corporate compliance and network design
— Automated large-scale configuration deployment without programming
— Network health and topology visibility through HPE Aruba Networking Network Analytics Engine integration

Note: A separate software license is required to use the HPE Aruba Networking Switch Multi-Edit Software.

HPE Aruba Networking CX mobile app — unparalleled deployment convenience

An easy-to-use mobile app simplifies connecting and managing HPE Aruba Networking CX switches for any size project. Switch information can also be imported into HPE Aruba Networking Switch Multi-Edit Software for simplified configuration management and to continuously validate the conformance of configurations anywhere in the network.

HPE Aruba Networking Virtual Switching Extension

The ability of HPE Aruba Networking CX Switch Operating System to maintain synchronous state across dual control planes allows a simplified carrier-class high-availability solution called HPE Aruba Networking Virtual Switching Extension.

Designed using the best features of existing high availability technologies such as Multi-Chassis Link Aggregation (MC-LAG), HPE Aruba Networking Virtual Switching Extension enables a distributed architecture that is highly available during upgrades or control plane events.

Features include:

— Continuous configuration synchronization through HPE Aruba Networking CX Switch Operating System
— Flexible active-active network designs at Layers 2 and 3
— Operational simplicity and usability for easy configuration
— High availability by design during upgrades including support for HPE Aruba Networking Virtual Switching Extension live upgrade with Link Aggregation Control Protocol (LACP) traffic draining

Product capabilities

Performance

High-speed fully distributed architecture

— Provides 2.5 Tbps for bidirectional switching and 1905 Mpps for forwarding. All switching and routing are wire speed to meet the demands of bandwidth-intensive applications today and in the future

Scalable system design

— Provides investment protection to support future technologies and higher-speed connectivity

Connectivity

Variety of port density options

Choice of compact 1U switches include models with:

— 32 ports of 40GbE (QSFP+) (optional 4x10 breakout)
— 48 ports of 1GbE/10GbE (SFP/SFP+) (1GBASE-T and 10GBASE-T transceiver support)
— +6 ports of 40GbE (QSFP+) (optional 4x10 breakout)
— 48 ports of 1GbE/10GbE (1GBASE-T/10GBASE-T) +6 ports of 40GbE (QSFP+) (optional 4x10 breakout)

Jumbo frames

— Allows high performance backups and disaster-recovery systems; provides a maximum frame size of 9000 bytes

Unsupported transceiver mode (UTM)

— Allows to insert and enable all unsupported 1G and 10G transceiver and cable
— No warranty nor support for the transceiver/cable when used

Loopback

— Supports internal loopback testing for maintenance purposes and increased availability; loopback detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility

Packet storm protection

— Protects against unknown broadcast, multicast, or unicast storms with user-defined thresholds

Quality of service (QoS)

Strict priority (SP) queuing and Deficit Weighted Round Robin (DWRR)

— Enable congestion avoidance

Resiliency and high availability

Redundant and load-sharing fans and power supplies

— Increases total performance and power availability while providing hitless, stateful failover

Hot-swappable power supply and fan modules

— Allows replacement of accessories modules without any operational impact on other modules or the switch operations

Separate data and control paths

— Separates control from services and keeps service processing isolated; increases security and performance

HPE Aruba Networking Virtual Switching Extension

— HPE Aruba Networking Virtual Switching Extension enables a distributed and redundant architecture by deploying two switches with each switch maintaining independent control yet staying synchronized during upgrades or failovers. It also supports upgrades during live operation.

Virtual Router Redundancy Protocol (VRRP)

— VRRP allows a group of switches to dynamically back each other up to create highly available routed environments

Bidirectional Forward Detection (BFD)

— Enable sub-second failure detection for rapid routing protocol rebalancing

Ethernet RING Protection Switching (ERPS)

— Supports rapid protection and recovery in a RING topology

Unidirectional Link Detection (UDLD)

— Monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in Spanning Tree Protocol (STP)-based networks

IEEE 802.3ad LACP

— Supports up to 54 LAGs, with up to 16 members per LAG (32 for an HPE Aruba Networking Virtual Switching Extension pair), with a user-selectable L1-4 hashing algorithm

Management

In addition to the HPE Aruba Networking CX mobile app, HPE Aruba Networking Switch Multi-Edit Software, and HPE Aruba Networking Network Analytics Engine, the CX 8320 Switch Series offers the following:

Built-in programmable and easy-to-use REST API interface.

Management interface control

— Enables or disables each of the following interfaces depending on security preferences: console port or reset button

Industry-standard CLI with a hierarchical structure

— Reduces training time and expenses and increases productivity in multivendor installations

Management security

— Restricts access to critical configuration commands; offers multiple privilege levels with password protection; Access Control Lists (ACLs) provide Simple Network Management Protocol (SNMP) access; local and remote syslog capabilities allow logging of all access

IPSLA

— Monitors the network for degradation of various services, including voice

— Monitoring is enabled through the HPE Aruba Networking Network Analytics Engine (NAE) for history and immediate automated gathering of additional information when anomalies are detected

SNMP v2c/v3

— Provides SNMP read and trap support of industry-standard Management Information Base (MIB), and private extensions

sFlow® (RFC 3176)

— Provides scalable ASIC-based wire-speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes

Remote monitoring (RMON)

— Uses standard SNMP to monitor essential network functions and supports events, alarms, history, and statistics groups as well as a private alarm extension group

TFTP and SFTP support

— Offers different mechanisms for configuration updates; Trivial File Transfer Protocol (TFTP) allows bidirectional transfers over a TCP/IP network

— Secure File Transfer Protocol (SFTP) runs over a Secure Shell (SSH) tunnel to provide additional security

Debug and sampler utility

— Supports ping and traceroute for IPv4 and IPv6

Network Time Protocol (NTP)

— Synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network

— Can serve as the NTP server in a customer network

— Prefer statement on an NTP server entry

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

— Advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications

Dual flash images

— Provides independent primary and secondary operating system files for backup while upgrading

Multiple configuration files

— Stores files easily to the flash image

Layer 2 switching

VLAN

— Supports up to 4040 port-based or IEEE 802.1Q-based VLANs

VLAN translation

— Remaps VLANs during transit across a core network

Bridge Protocol Data Unit (BPDU) tunneling

— Transmits STP BPDUs transparently, allowing correct tree calculations across service providers, WANs, or MANs

Port mirroring

— Duplicates port traffic (ingress and egress) to a local or remote monitoring port; supports four mirroring groups, with an unlimited number of ports per group

STP

— Supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, IEEE 802.1s Multiple Spanning Tree Protocol (MSTP), STP TCN Trap, and STP new root

Rapid Per-VLAN Spanning Tree Plus (RPVST+)

— Allows each VLAN to build a separate Spanning Tree to improve link bandwidth usage in network environments with multiple VLANs

Internet Group Management Protocol (IGMP)

— Controls and manages the flooding of multicast packets in a Layer 2 network

Layer 3 services

Address Resolution Protocol (ARP)

— Determines the MAC address of another IP host in the same subnet; supports static ARPs

— Gratuitous ARP allows detection of duplicate IP addresses

— Proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network

IP directed broadcast

— Supports directed broadcast on configured network subnets

Dynamic Host Configuration Protocol (DHCP)

— DHCP services are offered within a client network to simplify network management

— DHCP smart relay enables DHCP operation across subnets

DHCP server

— Supports DHCP services (for IPv4 and IPv6) in customer networks

— DHCP relay coexistence with server — allows DHCP relay coexistence with DHCP server for both IPv4 and IPv6

Domain name system (DNS)

— Provides a distributed database that translates domain names and IP addresses, which simplifies network design; supports client and server

— Multicast DNS (mDNS) gateway support

Generic Routing Encapsulation (GRE)

— Enables tunneling traffic from site to site over a Layer 3 path

Layer 3 routing

— Static IPv4 routing

— Provides simple manually configured IPv4 routing

OSPF

— Delivers faster convergence; uses link-state routing interior gateway protocol (IGP), which supports Equal-Cost Multipath (ECMP), NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery

— Displays IP OSPF interface brief output for passive mode

Border Gateway Protocol 4 (BGP-4)

— Delivers an implementation of the exterior gateway protocol (EGP) utilizing path vectors; uses TCP for enhanced reliability for the route discovery process; reduces bandwidth consumption by advertising only incremental updates; supports extensive policies for increased flexibility; scales to very large networks

Routing Information Protocol version 2 (RIPv2)

— Easy to configure routing protocol for small networks relying on User Datagram Protocol (UDP)

Routing Information Protocol next generation (RIPng)

— Extension of RIPv2 for support of IPv6 networking

Multiprotocol BGP (MP-BGP) with IPv6 address family

— Enables sharing of IPv6 routes using BGP and connections to BGP peers using IPv6

Policy-based routing (PBR)

— Enables using a classifier to select traffic that can be forwarded based on policy set by the network administrator

6in4 tunnels

— Supports the tunneling of IPv6 traffic in an IPv4 network

IP performance optimization

— Provides a set of tools to improve the performance of IPv4 networks; includes directed broadcasts, customization of TCP parameters, support of ICMP error packets, and extensive display capabilities

Static IPv6 routing

— Provides simple manually configured IPv6 routing

Dual IP stack

— Maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design

OSPFv3

— Provides OSPF support for IPv6

ECMP

— Enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth

GRE

— Enables tunneling traffic from site to site over a Layer 3 path

Loopback IP redistribution in OSPF

— Allows redistribution of IPv4 and IPv6 addresses of loopback interface in OSFPv2/v3

Visibility

HPE Aruba Networking CX Edge Insights

— Upgrade the active, perpetual HPE Aruba Networking Central Foundational license to the term-based HPE Aruba Networking Central Advanced license to enable deep visibility with HPE Aruba Networking CX Edge Insights for application recognition, identification, and flow capture from Layer 4 to Layer 7. HPE Aruba Networking CX Edge Insights enables granular datapoint collection with search, sort, and report as well as the ability to recognize 22 categories and more than 3700 applications

Security

TAA compliance

— The CX 8320 Switch Series with HPE Aruba Networking CX Switch Operating System, a TAA compliant product, uses FIPS 140-2 validated cryptography for protection of sensitive information

ACL features

— Supports powerful ACLs for both IPv4 and IPv6. Supports the creation of object groups representing sets of devices such as IP addresses.

For instance, IT management devices could be grouped in this way

— ACLs can also protect control plane services such as SSH, SNMP, NTP, or web servers

Enrollment over Secure Transport (EST)

— Enables secure certificate enrollment, allowing for easier enterprise management of PKI.

Remote Authentication Dial-In User Service (RADIUS)

— Eases security access administration by using a password authentication server

Terminal Access Controller Access-Control System (TACACS+)

— Delivers an authentication tool using TCP with encryption of the full authentication request, providing additional security

RadSec

— Enable RADIUS authentication and accounting data to be passed safely and reliably across insecure networks such as the internet

Management access security

— HPE Aruba Networking CX Switch Operating System provides for both on-box as well as off-box authentication for administrative access. RADIUS or TACACS+ can be used to provide encrypted user authentication

— Additionally, TACACS+ can also provide user authorization services

SSHv2

— Uses external servers to securely log in to a remote device; with authentication and encryption, it protects against IP spoofing and plain-text password interception; increases the security of SFTP transfers

Supportability

— Job scheduler framework

Analytics

— AIOps NAE Agent and engine improvements — Unicast routing and client services

Korea government security features

— Ensures configuration integrity

— Limits concurrent users for web access

Multicast

IGMP

— Enables establishing multicast group memberships in IPv4 networks; supports IGMPv1, v2, and v3

Multicast Listener Discovery (MLD)

— Enables discovery of IPv6 multicast listeners; supports MLDv1 and v2

Multicast Service Delivery Protocol (MSDP) for Anycast RP

— MSDP used for Anycast RP is an intradomain feature that provides redundancy and load-sharing capabilities

MSDP mesh groups

— Allows to avoid SA messages flood to other mesh group peers

Protocol Independent Multicast (PIM)-dense mode

— Floods multicast traffic to every corner of the network (push-model). This method is for delivering data to receivers without receivers requesting the data. This can be efficient in certain deployments in which there are active receivers on every subnet in the network. Branches without downstream receivers are pruned from the forwarding trees.

FastLeave (FL) and Forced-FastLeave (FFL)

FL and FFL for IGMP/MLD speed up the process of blocking unnecessary multicast traffic to a switch port that is connected to end nodes for IGMP. They help to eliminate the CPU overhead of having to generate an IGMP/MLD Group-Specific Query message.

Support for Microsoft **Network Load Balancing (NLB)** for server applications

Microsoft Network Load Balancing (NLB)

— Support for server applications

PIM

— Protocol Independent Multicast for IPv4 and IPv6 supports one-to-many and many-to-many media casting use cases such as IPTV over IPv4 and IPv6 networks. Support for PIM Sparse Mode (PIM-SM, IPv4 and IPv6).

— PIM multicast boundary (v4)

— HPE Aruba Networking Virtual Switching Extension graceful shutdown for IGMP/MLD

— Multicast NSF

Additional information

Green initiative support

— Provides support for RoHS (EN 50581:2012) regulations

Customer first, customer last support

When your network is important to your business, then your business needs the backing of HPE Aruba Networking Support Services. Partner with HPE Aruba Networking product experts to increase your team productivity, keep pace with technology advances, software releases, and obtain break-fix support.

HPE Aruba Networking Foundational Care support services include priority access to HPE Aruba Networking technical assistance center (TAC) engineers 24x7x365, flexible hardware and on-site support options, and total coverage for HPE Aruba Networking products. HPE Aruba Networking switches with assigned HPE Aruba Networking Central subscriptions benefit with an option for additional hardware support only.

HPE Aruba Networking Pro Care adds fast access to senior TAC engineers, who are assigned as a single point of contact for case management, reducing the time spent addressing and resolving issues.

For complete details on Foundational Care and HPE Aruba Networking Pro Care, visit HPE Aruba Networking Services.

Warranty, services, and support

Limited lifetime warranty

See the Support Center for warranty and support information included with your product purchase.

For **software releases** and documentation, refer to HPE Networking Support Portal.

For **support and services** information, visit HPE Aruba Networking Services.

Technical specifications

	HPE Aruba Networking 8320 48p 10G SFP/SFP+ and 6p 40G QSFP+ with X472 5 Fans 2 Power Supply Switch Bundle (JL479A)	HPE Aruba Networking 8320 32p 40G QSFP+ with X472 5 Fans 2 Power Supply Switch Bundle (JL579A)	HPE Aruba Networking 8320 48p 1G/10GBASE-T and 6p 40G QSFP+ with X472 5 Fans 2 Power Supply Switch Bundle (JL581A)
I/O ports and slots			
	Supports 48 ports of 1/10G for use with SFP and SFP+ transceivers, and 6 ports of 40G for use with QSFP+ transceivers (optional 1GBASE-T and 10GBASE-T transceivers and 4x10G breakout cables)	Supports 32 ports of 40G for use with QSFP+ transceivers (optional 4x10G breakout cables)	Supports 48 ports of 10GBASE-T and 6 ports of 40G for use with QSFP+ transceivers (optional 4x 10G breakout cables)
Additional ports and slots			
Packet buffer	16 MB		
Power supplies	Field-replaceable, hot-swappable, and up to two power supplies. Bundles (JL479A, JL579A, JL581A) include two power supplies.		
Fans	Field-replaceable, hot-swappable, and up to five fans. Bundles (JL479A, JL579A, JL581A) include five fans.		
MTBF	314,721 hours	296,526 hours	275,339 hours
Physical characteristics			
Dimensions	17.4 (w) x 19.9 (d) x 1.7 (h) in (442 x 505.5 x 43.2 mm)	17.26 (w) x 20.28 (d) x 1.71 (h) in (438 x 515 x 43.5 mm)	18.6 (w) x 17.4 (d) x 1.71 (h) in (473 x 443 x 43.9 mm)
Full configuration weight	20.7 lb (9.4 kg)	21.27 lb (9.7 kg)	20.94 lb (9.5 kg)
Memory and processor			
CPU	2.4 GHz		
Memory, drive	16 GB RAM, 64 GB SSD, and 8 GB Flash		
Performance			
Switching capacity	2.5 Tbps		
IPv4 host table	120,000		
IPv6 host table	52,000		

Technical specifications (continued)

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Performance*			
IPv4 unicast routes	131,072		
IPv6 unicast routes	32,732		
MAC table size	98,304		
IGMP groups	4094		
MLD groups	4094		
IPv4 multicast routes	4094		
IPv6 multicast routes	4094		
Environment			
Operating temperature	0°C to 40°C (32°F to 104°F) up to 10,000 ft (3 km)		
Operating relative humidity	5% to 95% at 40°C (104°F) noncondensing		
Nonoperating	–40°C to 70°C (–40°F to 158°F) up to 15,000ft (4.6 km)		
Nonoperating/Storage relative humidity	5% to 95% @ 65°C (149°F)		
Max operating altitude	Up to 10,000 ft (3.048 km)		
Max nonoperating	Up to 15,000 ft (4.6 km)		
Acoustic	Sound pressure (LpAm) (bystander)	Sound pressure (LpAm) (bystander) 79 dB	Sound pressure (LpAm) (bystander) 61.1 dB
Airflow direction	61.1 dB		
Electrical characteristics			
Frequency	50–65 Hz		
AC voltage	100–127 and 200–240 with either 50 or 60 Hz VAC		
Current	6A (low voltage)–3A (high voltage)		
Power consumption	357W	310W	348W

* Some of these scaling numbers assume shared tables.

Technical specifications (continued)

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Safety			
	EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013 EN60825-1 IEC60950-1:2005 Ed.2; Am 1:2009+A2:2013 IEC 60825-1 UL60950-1, CSA 22.2 No 60950		
EMC			
	EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 FCC CFR 47 Part 15:2010, Class A EN 50581:2012 (RoHS)		
Lasers			
	EN60825-1:2014/IEC 60825-1: 2014 Class 1 Class 1 Laser Products/Laser Klasse 1		
Management			
	SNMP RJ45 for Serial Console USB-Type A for file management only RJ45 Ethernet for OOBM		
Mounting and enclosure			
	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); horizontal surface mounting only		

Standards and protocols

The following standards and protocols are supported.

— IEEE 802.1AB-2009
— IEEE 802.1ak-2007
— IEEE 802.1t-2001
— IEEE 802.1AX-2008 Link Aggregation
— IEEE 802.1p Traffic Class Expediting and Dynamic Multicast Filtering
— IEEE 802.1Q VLANs
— IEEE 802.1s Multiple Spanning Trees
— IEEE 802.1w Rapid Reconfiguration of Spanning Tree
— IEEE 802.3ad Link Aggregation Control Protocol (LACP)
— IEEE 802.3x Flow Control
— IEEE 802.3z Gigabit Ethernet
— IEEE 802.3ae 10 Gigabit Ethernet
— IEEE 802.3ba 40 Gigabit Ethernet Architecture
— RFC 768 UDP
— RFC 791 IP
— RFC 792 ICMP
— RFC 793 TCP
— RFC 826 ARP
— RFC 768 User Datagram Protocol
— RFC 813 Window and Acknowledgement Strategy in TCP
— RFC 815 IP datagram reassembly algorithms
— RFC 879 TCP maximum segment size and related topics
— RFC 896 Congestion control in IP/TCP internetworks
— RFC 917 Internet subnets
— RFC 919 Broadcasting Internet Datagrams
— RFC 922 Broadcasting Internet Datagrams in the Presence of Subnets (IP_BROAD)
— RFC 925 Multi-LAN address resolution
— RFC 1215 Convention for defining traps for use with the SNMP
— RFC 1256 ICMP Router Discovery Messages
— RFC 1393 Traceroute Using an IP Option
— RFC 1591 Domain Name System Structure and Delegation
— RFC 1657 Definitions of Managed Objects for BGP-4 using SMIv2
— RFC 1772 Application of the Border Gateway Protocol in the Internet
— RFC 1981 Path MTU Discovery for IP version 6
— RFC 1997 BGP Communities Attribute
— RFC 1998 An Application in of the BGP Community Attribute Multi-Home Routing
— RFC 2385 Protection of BGP Sessions via the TCP MD5 Signature Option
— RFC 2401 Security Architecture for the Internet Protocol
— RFC 2402 IP Authentication Header
— RFC 2406 IP Encapsulating Security Payload (ESP)
— RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
— RFC 2545 Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing
— RFC 2710 Multicast Listener Discovery (MLD) for IPv6
— RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol
— RFC 2918 Route Refresh Capability for BGP-4
— RFC 2934 Protocol Independent Multicast MIB for IPv4
— RFC 3137 OSPF Stub Router Advertisement
— RFC 3176 InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks
— RFC 3484: Default Address Selection for Internet Protocol version 6 (IPv6)
— RFC 3509 Alternative Implementations of OSPF Area Border Routers
— RFC 3623 Graceful OSPF Restart
— RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
— RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
— RFC 4251 The Secure Shell (SSH) Protocol
— RFC 4271 A Border Gateway Protocol 4 (BGP-4)
— RFC 4273 Definitions of Managed Objects for BGP-4
— RFC 4291 IP Version 6 Addressing Architecture
— RFC 4292 IP Forwarding Table MIB
— RFC 4293 Management Information Base for the Internet Protocol (IP)
— RFC 4360 BGP Extended Communities Attribute
— RFC 4486 Subcodes for BGP Cease Notification Message
— RFC 4552 Authentication/Confidentiality for OSPFv3
— RFC 4724 Graceful Restart Mechanism for BGP
— RFC 4760 Multiprotocol Extensions for BGP-4
— RFC 4940 IANA Considerations for OSPF
— RFC 5095: Deprecation of Type 0 Routing Headers in IPv6
— RFC 5187 OSPFv3 Graceful Restart
— RFC 5701 IPv6 Address Specific BGP Extended Community Attribute
— RFC 6987 OSPF Stub Router Advertisement

— RFC 7047 The Open vSwitch Database Management Protocol
— RFC 7059 A Comparison of IPv6-over-IPv4 Tunnel Mechanisms
— RFC 7313 Enhanced Route Refresh Capability for BGP-4
— RFC 8201 Path MTU Discovery for IP version 6

Bundles and accessories

HPE Aruba Networking CX 8320 Switch Series bundles

— JL479A HPE Aruba Networking 8320 Switch Series bundle includes: 48p 10G SFP/SFP+ and 6p 40G QSFP+ Switch, 5x fans, 2x power supplies, 1x 2-post rack kit[1]
— JL579A HPE Aruba Networking 8320 Switch Series bundle includes: 32p 40G QSFP+, 5x fans, 2x power supplies, 1x 2-post rack kit
— JL581A HPE Aruba Networking 8320 Bundle includes: 48p 1G/10GBASE-T and 6p 40G QSFP+, 5 x Fans, 2 x Power Supplies, 1 x 2-post Rack Kit

Accessories

— HPE Aruba Networking X371 400W AC Power Supply (JL480A)
— HPE Aruba Networking X721 Front-to-Back Fan (JL481A)
— HPE Aruba Networking CX Switch Bluetooth Adapter (S1H23A)

Power supply

— HPE Aruba Networking X371 400W AC Power Supply (JL480A)

Mounting kit

— HPE Aruba Networking X472 2-post Rack Kit (JL482C)
— HPE Aruba Networking X474 4-post Rack Kit (JL483C)

Console cable

— HPE Aruba Networking X2C2 RJ45 to DB9 Console Cable (JL448A)

Transceivers

— HPE Aruba Networking 1G SFP LC SX 500m MMF XCVR (J4858D)
— HPE Aruba Networking 1G SFP LC LX 10km SMF XCVR (J4859D)
— HPE Aruba Networking 1G SFP LC LH 70km SMF XCVR (J4860D)
— HPE Aruba Networking 1G SFP RJ45 100m XCVR (J8177E)
— HPE Aruba Networking 10G SR SFP+ LC 400m OM4 C-XCVR (S2P30A)
— HPE Aruba Networking 10G LR SFP+ LC 10km SMF C-XCVR (S2P31A)
— HPE Aruba Networking 10G ER SFP+ LC 40km SMF C-XCVR (S2P32A)
— HPE Aruba Networking 10G SFP+ LC SR 300m MMF XCVR (J9150D)
— HPE Aruba Networking 10G SFP+ LC LR 10km SMF XCVR (J9151E)
— HPE Aruba Networking 10G SFP+ LC ER 40km SMF XCVR (J9153D)
— HPE Aruba Networking 10GBASE-T SFP+ RJ45 30m Transceiver (JL563C)
— HPE Aruba Networking 10G SFP+ to SFP+ 1m DAC Cable (J9281D)
— HPE Aruba Networking 10G SFP+ to SFP+ 3m DAC Cable (J9283D)
— HPE Aruba Networking 25G SR SFP28 LC 100m MMF C-XCVR (S2P33A)
— HPE Aruba Networking 25G LR SFP28 LC 10km SMF C-XCVR (S2P34A)
— HPE Aruba Networking 40G QSFP+ LC BiDi 150m MMF XCVR (JL308A)
— HPE X142 40G QSFP+ MPO SR4 Transceiver (JH231A)
— HPE X142 40G QSFP+ LC LR4 SM Transceiver (JH232A)
— HPE X142 40G QSFP+ MPO eSR4 300M XCVR (JH233A)
— HPE Aruba Networking 40G QSFP+ LC ER4 40km SMF XCVR (Q9G82A)
— HPE X242 40G QSFP+ to QSFP+ 1m DAC Cable (JH234A)
— HPE X242 40G QSFP+ to QSFP+ 3m DAC Cable (JH235A)
— HPE X242 40G QSFP+ to QSFP+ 5m DAC Cable (JH236A)
— HPE QSFP+ to 4xSFP+ 3m Breakout Direct Attach Cable (721064-B21)[2]

Note: The 8320 Switch Series do not support the use of 10G LRM (J9152D) nor 7M 10G DAC (J9285D).

[1] Maximum of 12 10 GBASE-T transceivers in model JL479A (n/a to other 8320 Switch Series models).

[2] Maximum of 24 breakout cables (721064-B21) in JL579A model (only allowed in ports 5-28). No limits in other models.

HPE Aruba Networking Central Advanced licenses

- HPE Aruba Networking CX Soft 8/9xxx Sw Adv 1-Year E-STU (S0T87AAE)
- HPE Aruba Networking CX Soft 8/9xxx Sw Adv 3-Year E-STU (S0T88AAE)
- HPE Aruba Networking CX Soft 8/9xxx Sw Adv 5-Year E-STU (S0T89AAE)
- HPE Aruba Networking CX Soft 8/9xxx Sw Adv 7-Year E-STU (S0T90AAE)
- HPE Aruba Networking CX Soft 8/9xxx Sw Adv 10-Year E-STU (S0T86AAE)

HPE Aruba Networking Central CX switch subscription SKUs

- HPE Aruba Networking Central 8xxx/9xxx/10xxx Switch Foundational 1-Year Subscription E-STU (R3K03AAE)
- HPE Aruba Networking Central 8xxx/9xxx/10xxx Switch Foundational 3-Year Subscription E-STU (R3K04AAE)
- HPE Aruba Networking Central 8xxx/9xxx/10xxx Switch Foundational 5-Year Subscription E-STU (R3K05AAE)
- HPE Aruba Networking Central 8xxx/9xxx/10xxx Switch Foundational 7-Year Subscription E-STU (R3K06AAE)
- HPE Aruba Networking Central 8xxx/9xxx/10xxx Switch Foundational 10-Year Subscription E-STU (R3K07AAE)
- HPE Aruba Networking Central On-premises 8xxx Switch Foundational 1-Year Subscription E-STU (R6U88AAE)
- HPE Aruba Networking Central On-premises 8xxx Switch Foundational 3-Year Subscription E-STU (R6U89AAE)
- HPE Aruba Networking Central On-premises 8xxx Switch Foundational 5-Year Subscription E-STU (R6U90AAE)
- HPE Aruba Networking Central On-premises 8xxx Switch Foundational 7-Year Subscription E-STU (R6U91AAE)
- HPE Aruba Networking Central On-premises 8xxx Switch Foundational 10-Year Subscription E-STU (R6U92AAE)

For details and a complete listing of HPE Aruba Networking Central licensing options, refer to the HPE Aruba Networking Central data sheet.

Support

- JL479A: 4 Hour On-site 3-year (H8XK5E)
- JL579A: 4 Hour On-site 3-year (HA1G5E)
- JL581A: 4 Hour On-site 3-year (HA1B5E)

For HPE Aruba Networking Central hardware only support, 24x7 TAC support, and many other support options, go to the Support Services Central SKU lookup tool.

Learn more at

HPE.com/Aruba-CX-Switches

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