HPE aruba networking

Data sheet

HPE Aruba Networking CX 10000 Switch Series

Deploy software-defined stateful services where data is processed

HPE

Product overview

The HPE Aruba Networking CX 10000 Switch Series helps network and security administrators distribute intelligence to the data center network-server edge, overcoming legacy network and security design limitations that often require overly complex, highly inefficient, and costly architecture designed to address decades old requirement.

It combines the best-of-breed network operating system, HPE Aruba Networking CX, for data center, campus, and edge in addition to the fully programmable data processing unit (DPU).

This allows the DPU-enabled CX 10000 and CX 10040 switches to deliver stateful software-defined services inline, at scale, with wire-rate performance and orders of magnitude scale and performance improvements over traditional L2/L3 switches at a fraction of their total cost of ownership (TCO).

The switches allow operators to extend industry-standard leaf-spine networking with distributed stateful segmentation, east–west firewalling, NAT, encryption[1], and telemetry services — all delivered inline, all the time, on every access port, closer to where critical enterprise applications run.

The switches' distributed services architecture is agnostic of network deployment architecture. This allows the flexibility to enable stateful services delivery, when deployed as access, leaf top of rack (ToR), or end of row (EoR) in a data center, and potentially in the aggregation layer in campus or edge data center designs.

HPE Aruba Networking CX 10000 Switch

HPE Aruba Networking CX 10000 delivers a flexible and innovative approach to address the security performance, agility, and scalability demands of both traditional enterprise data centers and emerging distributed, edge, and colocated centers of data.

CX 10000 offer 3.2 Tbps of ASIC switching capacity with interface configurations supporting 1/10/25GbE (SFP/SFP+/SFP28) and 40/100GbE (QSFP+/QSFP28) connectivity, in a compact 1U form factor. Consequently, it offers a fantastic investment for customers migrating from older 1GbE/10GbE to faster 25GbE, or from 10GbE/40GbE to 100GbE ports.

HPE Aruba Networking CX 10040 Switch

HPE Aruba Networking CX 10040 built on the foundation of the CX 10000 Series, elevates the network fabric to new heights. By delivering double the performance at scale, deeply integrated, near line-rate security, real-time operational insights, and automation-ready simplicity critical for powering the next generation of cloud, AI-driven services, and digital infrastructure.

HPE Aruba Networking CX 10040 offer 8 Tbps of ASIC switching capacity with interface configurations supporting 32x100G, 6x400G connectivity, in a compact 2U form factor supporting east-west traffic demands and accelerating application performance. The switch includes 1.6 Tbps of L4 stateful inspection natively integrated, 4.8 Tbps encryption engine to support MACsec[2], flexibly assignable to ports, securing traffic without compromising speed or scalability.

The switch has built-in hardware support for PTP Boundary Clock[2] capabilities and is uniquely positioned to serve the next wave of precision-driven digital infrastructure.

Product capabilities

HPE Aruba Networking CX Operating System — a modern software system

The switches are based on the CX 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 past trends analysis. This helps predict and avoid future problems due to scale, security, and performance bottlenecks.

Every CX switch includes HPE Aruba Networking CX Switch Operating System at no cost and with an active, perpetual set of native features that has everything needed to deploy, connect, and troubleshoot an enterprise network, including:

— HPE Aruba Networking CX 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

[1] Currently supported in CX 10000 models only
[2] HW supported, not currently supported in software

Distributed stateful services

Embedded natively in the switch, the HPE Aruba Networking CX Switch Operating System is an industry unique, inline stateful software service, enabled through the AMD Pensando programmable DPU, delivered at scale with wire-rate performance. The services include stateful firewalling and secure segmentation, distributed denial of service (DDoS) protection, deep flow-based session-level telemetry with logging, enabled natively in the fabric switching infrastructure without requiring host-based agents or dedicated appliances.

Operational benefits include:

- Overcoming the design, performance, and cost limitations of software only and dedicated appliances
- Protecting the unprotected assets in your data center
- Improving security posture, limiting appliance sprawl
- Extending zero trust segmentation deeper into the data center for any type of host
- Delivering isolation and multitenancy for virtualized, bare-metal, or containerized workloads
- Optimizing network traffic flows, bandwidth, and performance, which reduces operational complexity associated with service stitching
- Overcoming centralized networking service layer chokepoints, which reduces downtime
- Simplifying operations through unified network and security automation and management with HPE Aruba Networking Fabric Composer
- Addressing deployments where security agents can't be deployed into servers
- Accelerating infrastructure service provisioning
- Lowering CapEx/OpEx expenditure on security and services

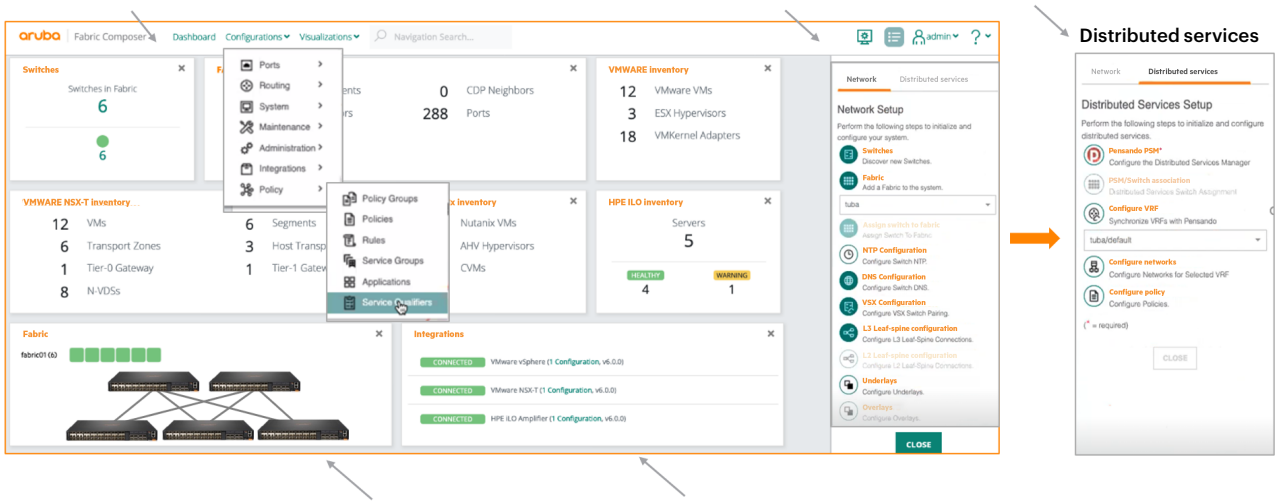
HPE Aruba Networking Fabric Composer

HPE Aruba Networking Fabric Composer is an intelligent, API-driven, software-defined orchestration solution that simplifies and accelerates leaf-spine fabric provisioning and day-to-day operations across rack-scale compute and storage infrastructure. HPE Aruba Networking Fabric Composer supports deep IT ecosystem integrations, enables seamless configuration and operational experience, and is easy to manage, provision, and visualize the entire end-to-end network (Figure 1).

Fabric Composer is designed to work with HPE Aruba Networking CX switches and is optimized for HPE data center products and tools such as HPE SimpliVity, HPE iLO and Pensando Distributed Services Platform. Read the solution overview for detailed capabilities and benefits.

Dashboard view
Includes information about fabrics, switches, hosts, VMs, and security

Workflow automations and guided setup
Point and click GUI network and security services automation



Network and switch visualization
Hosts. MAC. neighbors. switch inventory, health status

API, MAC integrations with various environments
Including HPE, HPE Aruba Networking, VMware vSphere®, VMware ESX®, NSX and Nutanix

Figure 1. HPE Aruba Networking Fabric Composer dashboard

Unified security policy configuration

— **Ease of deployment** — Beyond traditional zero touch deployment approaches, which require significant up-front work, AFC user-friendly, guided wizards of HPE Aruba Networking Fabric Composer provide turnkey workflows that walk customers through the fabric deployment process, radically simplifying operations. HPE Aruba Networking Fabric Composer is agnostic of topology and can equally support standards-based VXLAN EVPN fabric as well as traditional HPE Aruba Networking Virtual Switching Extension deployments seamlessly. Any complexity of deploying the fabric is hidden, helping ensure that network operators don't need to understand the specific protocols and commands in HPE Aruba Networking CX Switch Operating System in order to deploy best practice architectures.

— **Service orchestration** — The operational benefits of HPE Aruba Networking Fabric Composer also extend to services because now, with the switch, you can orchestrate provisioning and securing tenants on the fabric in a simplified wizard driven workflow. This is enabled through an integration with AMD Pensando Policy and Services Manager (PSM). The solution allows SecOps and NetOps teams to accelerate application rollouts while helping ensure strict compliance and secure segmentation requirements are met. From rapid and error-free fabric deployment to automation and security, we are truly delivering a cloud-like experience to our customers with HPE Aruba Networking Fabric Composer and the AMD Pensando PSM across virtualized, bare-metal, and containerized deployments.

— **Easy integration** — The event-driven automation engine within HPE Aruba Networking Fabric Composer supports integration packs that are easily installed and offer integrations with VMware Cloud Foundation™, VMware vCenter®, VMware vSAN™, Nutanix, HPE SimpliVity, and HPE iLO Amplifier. Integrations allow customers to enjoy the benefits of automated fabric provisioning, event-based workflow automations, end-to-end network and host visibility, and automatic storage traffic optimization.

— **Pervasive visibility** — Network and virtualization admins have complete end-to-end network visibility of connective of hosts, virtual machines, VLANs, services, and workloads to simplify troubleshooting of connectivity and performance problems. It automatically detects and dynamically solves network issues before your business is impacted. Integration with advanced AMD Pensando stateful services provides not just visibility into the network and compute but also extends to services allowing customers to utilize flow logging, understand communication patterns in the data center, and more accurately segment and firewall application tiers, workloads, and services.

Performance

HPE Aruba Networking CX 10000

High-speed fully distributed architecture

— Provides ASIC switching capacity of 3.2 Tbps (6.4Tbps full-duplex) and 2000 Mpps for forwarding; all switching and routing are wire-speed to meet the demands of bandwidth-intensive applications today and in the future

— Front panel switching capacity of 1.8 Tbps (3.6 Tbps full-duplex)

— 800 Gbps of stateful services performance through dual AMD Pensando DPUs

HPE Aruba Networking CX 10040

High-speed fully distributed architecture

— Provides ASIC switching capacity of 8 Tbps (16 Tbps full-duplex); all switching and routing are wire-speed to meet the demands of bandwidth- intensive applications today and in the future

— Front panel switching capacity of 5.6 Tbps (11.2 Tbps full-duplex)

— 1.6 Tbps of stateful services performance through four AMD Pensando DPUs

Scalable system design

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

Connectivity

HPE Aruba Networking CX 10000

High-density port options

Compact, high port density 1U switch with airflow direction flexibility includes a model with 48 ports of 1GbE/10GbE/25GbE (SFP/SFP+/SFP28) (1GBASE-T and 10GBASE-T transceiver support) + 6 ports of 40GbE/100GbE (QSFP+/QSFP28) (optional 4x10 and 4x25 breakout)

HPE Aruba Networking CX 10040 high-density port options

Compact, high port density 2U switch with high Speed Interfaces (400G/200G/100G) 32 ports 100GbE QSFP, 6x400GbE QSFP-DD, 2x10GbE SFP+.

Unsupported Transceiver Mode (UTM)

— Allows ability to insert and enable unsupported up to

400G transceiver and cable

— No warranty nor support for the transceiver/cable when used

Jumbo frames

— Allows high performance backups and disaster-recovery systems; provides a maximum frame size of 9K bytes

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

QoS

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

— Enables congestion avoidance

Data center bridging (DCB) — Supports lossless Ethernet networking standards to help eliminate packet loss due to queue overflow

— Priority flow control (PFC) 7 priorities per port

— Enhanced transmission service (ETS)

— DCB exchange protocol (prestandard Link Layer Discovery Protocol [LLDP] DCBX IEEE 1.01 version)

Flow-control guard

— Prevents accumulation of excessive congestion with periodic flushing; avoids packets buffering for an extended time period

ECN with slope

— Marks packets as ECN-congestion experienced (CE) Helps Transmission Control Protocol (TCP) to reduce receive window size during congestion

Dynamic pool configuration

— Enables lossless pool configuration without switch reboot

Storage solution support

— iSCSI, lossless iSCSI, RDMA over Converged Ethernet version 2 (RoCE v1 and v2) and nonvolatile memory express over fabrics (NVMe-oF)

Resiliency and high availability

Redundant and load-sharing fans and power supplies

— N+1 fans and power supplies provide redundancy

Hot swappable power supply and fan modules

— Allows replacement of accessory modules without operationally impacting other modules or switch operations

Separate data and control paths

— Separates control from services to keep service processing isolated and 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 maintaining independent control yet staying synchronized during upgrades or failover. Also, it supports upgrades during live operation.

Virtual Router Redundancy Protocol (VRRP)

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

Bidirectional Forward Detection (BFD)

— Enables 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

Bidirectional Forward Detection (BFD)

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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 CX Network Analytics Engine, the HPE Aruba Networking CX 10000 Switch family offers the following capabilities:

REST API

— Built-in programmable and easy to use

Management interface control

— Enables or disables the console port or reset button, depending on security preferences

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
— Provides SNMP access with access control lists (ACLs)
— Local and remote syslog capabilities allow access logging

IPSLA

— Monitors network for degradation of various services, including voice
— Enables monitoring through the HPE Aruba Networking CX Network Analytics Engine for history and for 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, allowing 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 trace route 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

IEEE 802.1AB LLDP

— Advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications
— **LACP-fallback** — Enables zero touch provisioning over link aggregation groups

Dual 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 4018 port-based or IEEE 802.1Q-based user configurable 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, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)

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

Static VXLAN

— Allows operators to manually connect two or more VXLAN tunnel endpoints (VTEP)

Dynamic VXLAN with BGP-EVPN

— Deep segmentation for spine-leaf data center networks or Layer 3 campus designs with centralized gateway and symmetric Integrated Routing and Bridging (IRB) based distributed gateways VXLAN tunnels

IPv4 multicast in VXLAN/EVPN overlay

— Enables Protocol Independent Multicast (PIM)-SM/ IGMP snooping in the VXLAN overlay

IPv6 VXLAN/EVPN overlay support

— Enables IPv6 traffic over the VXLAN overlay

VXLAN distributed anycast gateway

— Addressing mechanism that enables the use of the same gateway IP addresses across all the leaf switches part of a VXLAN network

VXLAN ARP/ND suppression

— Allows minimization of Address Resolution Protocol (ARP) and ND traffic flooding within individual VXLAN segments, thus optimizing the VXLAN network

Layer 3 services

ARP

— Determines the MAC address of another IP host in the same subnet and 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 relay enables DHCP operation across subnets

DHCP server

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

Domain name system (DNS)

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

— Supports client and server

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

Open shortest path first (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

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

— Dynamic BGP peering — simplifies BGP configuration for ZTP scenarios and enables CX for Azure Stack integration

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

— **IP sub-interface** — Enables IP sub-interface for ingress and egress ACL/policies, routing, HPE Aruba Networking Virtual Switching Extension-keep alive

— 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

— 32-way ECMP

GRE

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

Security

TAA and FIPS 140-2 compliance

— The HPE Aruba Networking CX 10000 with HPE Aruba Networking CX Switch Operating System, uses FIPS 140-2 validated cryptography for protection of sensitive information

— TAA compliant models available

Payment Card Industry Data Security Standard (PCI DSS) v4.0 compliance

— Includes many security features that are important for support of PCI DSS v4.0 compliance

Stateful firewall features

Provides hardware-based stateful firewall inspection and secure segmentation

— Protection from DDoS attacks
— Application layer gateway (ALG) support

ACL features

— Supports powerful ACLs for both IPv4 and IPv6
— Supports creating object groups representing sets of devices
— Protects control plane services such as SSH, SNMP, NTP, or web servers

Dynamic policy refresh

— Enforce policy changes immediately to terminate malicious flows

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

— Enables 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 both on-box as well as off-box authentication for administrative access
— RADIUS or TACACS+ can be used to provide encrypted user authentication
— TACACS+ can also provide user authorization services
— Secure port access — 802.1x, Mac-auth, LUR, DUR, port access policy, static port filtering

SSHv2

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

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

PIM Multicast Boundary (v4)

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

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

— Avoids SA messages flooding to other mesh group peers

PIM-dense mode

— Floods multicast traffic to every corner of the network (push-model). The method is for delivering data to receivers without receivers requesting the data, which 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

Fast-leave (FL) and forced fast-leave (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 NLB

— Supports server applications

PIM

— PIM for IPv4 and IPv6 supports one-to-many and many-to-many media casting use cases such as IPTV over IPv4 and IPv6 networks

— Supports PIM sparse mode (PIM-SM, IPv4 and IPv6)

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, your business needs the backing of HPE Aruba Networking Support Services. Partner with HPE Aruba Networking product experts to increase team productivity and keep pace with technology advances, software releases, and 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 have the added benefit of 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 HPE Aruba Networking Foundational Care and HPE Aruba Networking Pro Care, visit HPE Aruba Networking Services

Warranty, services, and support 1 year warranty

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

Reference the following webpages for more detailed information — HPE Aruba Networking CX Switch Operating System software releases and features:

HPE Aruba Networking CX Switch Operating System software documentation portal

HPE Aruba Networking Switch Feature Navigator

For support and services information, visit HPE Aruba Networking Support Services

Table 1. Technical specifications for HPE Aruba Networking CX 10000 Switch Series bundles

	R8P13A 10000 48Y 6C Front-to-back switch bundle (S0F97A HPE ANW 10000 48Y 6C FB 6Fs TAA Bdl)	R8P14A 10000 48Y 6C Back-to-front switch bundle (S0F98A HPE ANW 10000 48Y 6C BF 6Fs 2PS TAA Bdl)
Description	R8P13A HPE Aruba Networking 10000 48Y 6C bundle includes: 48 x 25 Gb ports (SFP/+/28), 6 x 100 Gb ports (QSFP+/28) 6xR8R53A front-to-back fan 2xR8R51A front-to-back 800W 100–240 VAC power supply	R8P14A HPE Aruba Networking 10000 48Y 6C bundle includes: 48 x 25 Gb ports (SFP/+/28), 6 x 100 Gb ports (QSFP+/28) 6xR8R54A back-to-front fan 2xR8R52A back-to-front 800W 100–240 VAC power supply
Power supplies	Field-replaceable, hot-swappable, and up to two power supplies	
Fans	Field-replaceable, hot-swappable, and up to six fans	
Physical characteristics		
Dimensions	17.25" x 20.12" x 1.75" (W) 43.82 cm x (D) 51.1 cm x (H) 4.44 cm	17.25" x 20.12" x 1.75" (W) 43.82 cm x (D) 51.1 cm x (H) 4.44 cm
Full configuration weight	9.75 kg (21.45 lb)	9.75 kg (21.45 lb)
Additional specifications		
CPU	Intel® Xeon® CPU D-1637 6 cores @ 2.90 GHz	
Memory, drive, and flash	32 GB RAM, 64 GB SSD	
Packet buffer	32 MB	
Performance[2]		
Switching capacity	3.2 Tbps	
Latency (LIFO)	<1 uSec (without redirect) <5 uSec (with redirect)	
IPv4 host table	120,000	
IPv6 host table	52,000	
IPv4 unicast routes	131,072	
IPv6 unicast routes	32,732	
MAC table size	98,304	
IGMP groups	8,192	
MLD groups	8,192	
IPv4 multicast routes	8000	
IPv6 multicast routes	8000	
Environment		
Operating temperature	0°C to 40°C (32°F to 104°F) up to 3.0 km (10,000 ft.)	
Operating relative humidity	10% to 85% at 40°C (104°F) noncondensing	
Nonoperating temperature	–40°C to 70°C (–40°F to 158°F) up to 4.6 km (15,000 ft.)	

[2] Some of these scaling numbers assume shared tables.

Table 1. Technical specifications for HPE Aruba Networking CX 10000 Switch Series bundles (continued)

	R8P13A 10000 48Y 6C Front-to-back switch bundle (S0F97A HPE ANW 10000 48Y 6C FB 6Fs TAA Bdl)	R8P14A 10000 48Y 6C Back-to-front switch bundle (S0F98A HPE ANW 10000 48Y 6C BF 6Fs 2PS TAA Bdl)
Environment		
Nonoperating/storage relative humidity	5% to 95% @ 65°C (149°F)	
Max operating altitude	Up to 10,000 ft (3.048 km)	
Max nonoperating altitude	Up to 15,000 ft (4.6 km)	
Primary airflow	Front-to-back port to PSU or back-to-front PSU to port	
Electrical characteristics		
Frequency	50–60 Hz	
AC voltage	100–240 volts	
Current	6A (low voltage)–3A (high voltage)	
Power consumption[3]	Max: 753W Typical: 550W Idle: 400W	Max: 753W Typical: 550W Idle: 400W
Safety		
	EN/IEC 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 EN/IEC 62368-1, 2nd. & 3rd. Ed. UL 62368–1, 3rd. Ed. CAN/CSA C22.2 No. 62368–1, 3rd. Ed.	
EMC		
	EN 55032:2015/CISPR 32, Class A FCC CFR 47 Part 15: 2018 Class A ICES-003 Class A VCCI Class A CNS 13438 Class A KS C 9832 Class A AS/NZS CISPR 32 Class A EN 55035, CISPR 35, KS KS C 9835	
Lasers		
	EN 60825-1:2014 / IEC 60825-1: 2014 Class 1 Class 1 Laser Products/Laser Klasse 1	
Management		
	CLI REST API SNMP HPE Aruba Networking Fabric Composer HPE Aruba Networking Switch Multi-Edit Software HPE Aruba Networking Central. HPE Aruba Networking Central support will come with HPE Aruba Networking Central 2.5.6 (not currently supported) RJ-45 serial USB micro USB console RJ-45 Ethernet port AMD Pensando PSM	
Mounting and enclosure		
	Mounts in an EIA standard 19-inch rack or other equipment cabinet; horizontal surface mounting only; order 2-post or 4-post mounting kit separately	

[3] Max measurement is collected under 100% line rate network traffic running, with all ports populated with SFP and QSFP modules. Typical measurement is collected under 50% line rate network traffic running, with all ports populated with SFP and QSFP modules. Idle measurement is collected with no network traffic or modules.

Table 2. Technical specifications for HPE Aruba Networking CX 10040 Switch Series bundles (continued)

	HPE Aruba Networking CX 10040 Front-to-back switch bundle (S4R54A HPE ANW CX 10040 32C 6D FB 4Fs 2PS AC Bdl)	HPE Aruba Networking CX 10040 Back-to-front switch bundle (S4R55A HPE ANW CX 10040 32C 6D BF 4Fs 2PS AC Bdl)
Description	HPE Aruba Networking CX 10040 32p QSFP28 100G 6p QSFP-DD 400G Front-to-Back 4xFan 2xPSU AC Bundle (S4R54A) 4xS4R50A front-to-back fan 2xS4R52A front-to-back 300W AC PSU	HPE Aruba Networking CX 10040 32p QSFP28 100G 6p QSFP-DD 400G Back-to-Front 4xFan 2xPSU AC Bundle (S4R55A) 4xS4R51A back-to-front fan 2xS4R53A back-to-front 3000W AC PSU
Power supplies	Field-replaceable, hot-swappable, and up to two power supplies*	
Fans	Field-replaceable, hot-swappable, and up to four dual-rotor fans	
Physical characteristics		
Dimensions	17.4" x 24.0" x 3.48" (W) 44.25 cm x (D) 60.96 cm x (H) 8.84 cm	17.4" x 24.0" x 3.48" (W) 44.25 cm x (D) 60.96 cm x (H) 8.84 cm
Full configuration weight	23.0 kg (50.6 lb)	23.0 kg (50.6 lb)
Additional specifications		
CPU	AMD V3C48 as main system CPU, resides on Ryder	
Memory, drive, and flash	128 GB m.2 SSD, 16 MB SPI Flash, 32 GB x2 SODIMM	
Packet buffer	82 MB	
Performance[4]		
Switching capacity	8 Tbps	
IPv4 host table	98304	
IPv6 host table	49152	
IPv4 unicast routes	720527	
IPv6 unicast routes	368404	
MAC table size	49152	
IGMP groups	8192	
MLD groups	8192	
IPv4 multicast routes	8196	
IPv6 multicast routes	8196	
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C) at sea level Derate 1°C for every 1,000 ft to 10,000 ft (300m to 3.0 km)	32°F to 104°F (0°C to 40°C) at sea level Derate 1°C for every 1,000 ft to 10,000 ft (300m to 3.0 km)
Operating relative humidity	5% to 95% @ 113°F (45°C) non-condensing	
Nonoperating temperature	–40°F to 158°F up to 15,000 ft (–40°C to 70°C up to 4.6 km)	

[4] Some of these scaling numbers assume shared tables.

* High-line only

Table 2. Technical specifications for HPE Aruba Networking CX 10040 Switch Series bundles (continued)

	HPE Aruba Networking CX 10040 Front-to-back switch bundle (S4R54A HPE ANW CX 10040 32C 6D FB 4Fs 2PS AC Bdl)	HPE Aruba Networking CX 10040 Back-to-front switch bundle (S4R55A HPE ANW CX 10040 32C 6D BF 4Fs 2PS AC Bdl)
Environment		
Nonoperating/storage relative humidity	5% to 95% @ 149°F (65°C) non-condensing	
Max operating altitude	Up to 10,000 ft (3 km)	
Max nonoperating altitude	Up to 15,000 ft (4.6 km)	
Primary airflow	Front-to-back	Back-to-front
Electrical characteristics		
Frequency	50-60 Hz	
AC voltage	100-127 VAC / 200-240 VAC 100-127 VAC restricted to non-redundant with 2PSUs operation only 200-240 VAC allows full support of redundant and non-redundant operation	
Current	16A	
Power consumption[5]	Max: 1550W Typical: 800W Idle: 680W	Max: 1550W Typical: 800W Idle: 680W
Safety		
	EU: EN62368-1, Ed.2:2014 EN62368-1, Ed.3:2020 North America: UL62368-1, CSA 22.2 No 62368-1 Worldwide: IEC 62368-1:2014 IEC 62368-1:2018	
EMC		
	FCC Part 15 Class A, EN55032:2015+AC:2016+A11:2020 Class A, CISPR-32:2015 Class A	
Management		
	CLI REST API SNMP HPE Aruba Networking Fabric Composer HPE Aruba Networking Switch Multi-Edit Software HPE Aruba Networking Central. HPE Aruba Networking Central support will come with HPE Aruba Networking Central 2.5.6 (not currently supported) RJ-45 serial USB-C USB console RJ-45 Ethernet port AMD Pensando PSM	
Mounting and enclosure		
	Mounts in an EIA standard 19-inch rack or other equipment cabinet; horizontal surface mounting only; 2-post Rack Mount Kit included with switch, optional 4-post rack mount kit must be ordered separately.	

[5] Max measurement is collected under 100% line rate network traffic running, with all ports populated with SFP and QSFP modules. Typical measurement is collected under 50% line rate network traffic running, with all ports populated with SFP and QSFP modules. Idle measurement is collected with no network traffic or modules. Max power @max temperature, SR optics and 100%traffic, typical power defined as 50% traffic, 230VAC, 25C, and DAC cables

[6] Estimated typical power consumption.

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 802.3by 25 Gigabit Ethernet
- IEEE 802.3ba 40 and 100 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 internet works
- 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 of the BGP Community Attribute in 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 10000 switch bundles

Note: 4-post mounting kit and console cable are not included in bundles. Order separately. Mounting kit is required.

— R8P13A HPE Aruba Networking 10000 48Y 6C bundle includes: 48 x 25Gb ports (SFP/+/28), 6 x 100Gb ports (QSFP+/28), 6 front-to-back fans and 2 PSUs

— R8P14A HPE Aruba Networking 10000 48Y 6C bundle includes: 48 x 25Gb ports (SFP/+/28), 6 x 100Gb ports (QSFP+/28), 6 back-to-front fans and 2 PSUs

TAA SKUs

— HPE Aruba Networking CX 10000 48p SFP28 10G/25G 6p QSFP28 100G FB 6 Fans 2 PSU TAA Switch Bundle (S0F97A)

— HPE Aruba Networking CX 10000 48p SFP28 10G/25G 6p QSFP28 100G BF 6 Fans 2 PSU TAA Switch Bundle (S0F98A)

HPE Aruba Networking CX feature packs

— HPE Aruba Networking CX Software 10xxx Switch Advanced 1-Year E-STU (S0T97AAE)

— HPE Aruba Networking CX Software 10xxx Switch Advanced 3-Year E-STU (S0T98AAE)

— HPE Aruba Networking CX Software 10xxx Switch Advanced 5-Year E-STU (S0T99AAE)

— HPE Aruba Networking CX Software 10xxx Premium 1-Year E-LTU (S0U02AAE)

— HPE Aruba Networking CX Software 10xxx Premium 3-Year E-LTU (S0U03AAE)

— HPE Aruba Networking CX Software 10xxx Premium 5-Year E-LTU (S0U04AAE)

— HPE Aruba Networking CX Soft 10xxx Pre Perpetual E-LTU (R9H26AAE)

— HPE Aruba Networking CX Soft 10xxx Sw Adv Perpetual E-LTU (R9H25AAE)

Mounting kit (required when ordering a bundle)

— R8R55A HPE Aruba Networking CX 10000 1U 2p Rack Mount Kit

— R8R56A HPE Aruba Networking CX 10000 1U 4p Rack Mount Kit

Console cable

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

— HPE Aruba Networking CX Switch Bluetooth Adapter (S1H23A) — for use with the CX mobile app

Accessories

— R8R53A HPE Aruba Networking CX 10000 FB Fan

— R8R54A HPE Aruba Networking CX 10000 BF Fan

Power supply

— R8R51A HPE Aruba Networking CX 10000 FB AC PSU

— R8R52A HPE Aruba Networking CX 10000 BF AC PSU

HPE Aruba Networking CX 10040 switch bundles

— S4R54A HPE Aruba Networking CX 10040 32p QSFP28 100G 6p QSFP-DD 400G Front-to-Back 4xFan 2xPSU AC Bundle

— S4R55A HPE Aruba Networking CX 10040 32p QSFP28 100G 6p QSFP-DD 400G Back-to-Front 4xFan 2xPSU AC Bundle

TAA SKUs

— HPE Aruba Networking CX 10040 32p QSFP28 100G 6p QSFP-DD 400G Front-to-Back 4Fs 2xPSU AC TAA Bundle (S4R56A)

— HPE Aruba Networking CX 10040 32p QSFP28 100G 6p QSFP-DD 400G Back-to-Front 4Fs 2xPSU AC TAA Bundle (S4R57A)

Accessories

— S4R50A HPE Aruba Networking CX 10040 Front-to-Back Fan

— S4R51A HPE Aruba Networking CX 10040 Back-to-Front Fan

Power supply

— S4R52A HPE ANW 10040 3000W FB C20 AC PSU

— S4R53A HPE ANW 10040 3000W BF C20 AC PSU

HPE Aruba Networking CX feature packs

— HPE ANW CX 10040 Adv Perp Sub E-STU (S6J71AAE)
— HPE ANW CX 10040 Adv 1yr Sub E-STU (S6J68AAE)
— HPE ANW CX 10040 Adv 3yr Sub E-STU (S6J69AAE)
— HPE ANW CX 10040 Adv 5yr Sub E-STU (S6J70AAE)
— HPE ANW CX 10040 Prem Perp Sub E-STU (S6J75AAE)
— HPE ANW CX 10040 Prem 1yr Sub E-STU (S6J72AAE)
— HPE ANW CX 10040 Prem 3yr Sub E-STU (S6J73AAE)
— HPE ANW CX 10040 Prem 5yr Sub E-STU (S6J74AAE)

1G Transceivers[7]

— HPE Aruba Networking 1G SFP LC SX 500m MMF Transceiver (J4858D)
— HPE Aruba Networking 1G SFP LC LX 10km SMF Transceiver (J4859D)
— HPE Aruba Networking 1G SFP LC LH 70km SMF Transceiver (J4860D)
— HPE Aruba Networking 1G SFP RJ45 100m Transceiver (J8177E)

10G Transceivers[8] and cables

— HPE Aruba Networking 10G SFP+ LC SR 300m MMF Transceiver (J9150D)
— HPE Aruba Networking 10G SFP+ LC LR 10km SMF Transceiver (J9151E)[9]
— HPE Aruba Networking 10GBASE-T SFP+ RJ45 30m Transceiver (JL563C)
— HPE Aruba Networking 10G SFP+ LC ER 40km SMF Transceiver (J9153D)
— HPE Aruba Networking 10G SFP+ to SFP+ 1m Direct Attach Copper Cable (J9281D)
— HPE Aruba Networking 10G SFP+ to SFP+ 3m Direct Attach Copper Cable (J9283D)

25G Transceivers[10] and cables

— HPE Aruba Networking 25G SFP28 LC SR 100m MMF Transceiver (JL484A)
— HPE Aruba Networking 25G SFP28 LC SR 400m MMF Transceiver (JL485A)
— HPE Aruba Networking 25G SFP28 LC LR 10km SMF Transceiver (JL486A)
— HPE Aruba Networking 25G SFP28 to SFP28 0.65m Direct Attach Copper Cable (JL487A)
— HPE Aruba Networking 25G SFP28 to SFP28 3m Direct Attach Copper Cable (JL488A)
— HPE Aruba Networking 25G SFP28 to SFP28 5m Direct Attach Copper Cable (JL489A)
— HPE Aruba Networking 25G SFP28 to SFP28 3m Active Optical Cable (R0M44A)
— HPE Aruba Networking 25G SFP28 to SFP28 7m Active Optical Cable (R0M45A)
— HPE Aruba Networking 25G SFP28 to SFP28 15m Active Optical Cable (R0Z21A)

40G Transceivers[11] and cables

— HPE Aruba Networking 40G QSFP+ LC BiDi 150m MMF Transceiver (JL308A)
— HPE X142 40G QSFP+ MPO SR4 Transceiver (JH231A)
— HPE X142 40G QSFP+ MPO eSR4 300M Transceiver (JH233A)
— HPE X142 40G QSFP+ LC LR4 SM Transceiver (JH232A)
— HPE Aruba Networking 40G QSFP+ LC ER4 40km SMF Transceiver (Q9G82A)
— HPE X242 40G QSFP+ to QSFP+ 1m Direct Attach Copper Cable (JH234A)
— HPE X242 40G QSFP+ to QSFP+ 3m Direct Attach Copper Cable (JH235A)
— HPE X242 40G QSFP+ to QSFP+ 5m Direct Attach Copper Cable (JH236A)
— HPE Aruba Networking 40G QSFP+ to QSFP+ 7m Active Optical Cable (R0Z22A)
— HPE Aruba Networking 40G QSFP+ to QSFP+ 15m Active Optical Cable (R0Z23A)
— HPE Aruba Networking 40G QSFP+ to QSFP+ 30m Active Optical Cable (R0Z24A)
— HPE QSFP+ to 4xSFP+ 3m Breakout Direct Attach Cable (721064-B21)

100G Transceivers[12] and cables

— HPE Aruba Networking 100G QSFP28 MPO SR4 MMF Transceiver (JL309A)
— HPE Aruba Networking 100G QSFP28 LC CWDM4 2km SMF Transceiver (R0Z30A)
— HPE Aruba Networking 100G DR QSFP28 LC 500m SMF Transceiver (S3N88A)
— HPE Aruba Networking 100G LR QSFP28 LC 10km SMF Transceiver (S3N89A)

[7] Supported only on CX 10000

[9] 10G LR support only for Revision E part, J9151E (**Note:** Do not use J9151D)

[8, 10, 11, 12] Consult the HPE Aruba Networking operating system switch and HPE Aruba Networking CX Switch Operating System transceiver guide in the HPE Aruba Networking support portal for the minimum required software releases to support these transceivers.

— HPE Aruba Networking 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable (R0Z25A)
— HPE Aruba Networking 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable (JL307A)
— HPE Aruba Networking 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable (R0Z26A)
— HPE (HIT) QSFP28 to 4xSFP28 3m Breakout Direct Attach Cable (845416-B21)

400G Transceivers[13] and cables

— HPE Aruba Networking 400G QSFP-DD MPO-16 SR8 100m MMF Transceiver (R9B41A)
— HPE Aruba Networking 400G QSFP-DD to QSFP-DD 3m Active Optical Cable (R9B45A)
— HPE Aruba Networking 400G QSFP-DD to QSFP-DD 7m Active Optical Cable (R9B43A)
— HPE Aruba Networking 400G QSFP-DD to QSFP-DD 15m Active Optical Cable (R9B47A)
— HPE Aruba Networking 400G QSFP-DD to QSFP-DD 30m Active Optical Cable (R9B46A)
— HPE Aruba Networking 400G QSFP-DD to QSFP-DD 50m Active Optical Cable (R9B44A)
— HPE Aruba Networking 400G QSFP-DD to 2x QSFP56 200G 3m Active Optical Cable (R9B55A)
— HPE Aruba Networking 400G QSFP-DD to 2x QSFP56 200G 7m Active Optical Cable (R9B53A)
— HPE Aruba Networking 400G QSFP-DD to 2x QSFP56 200G 15m Active Optical Cable (R9B57A)
— HPE Aruba Networking 400G QSFP-DD to 2x QSFP56 200G 30m Active Optical Cable (R9B56A)
— HPE Aruba Networking 400G QSFP-DD to 2x QSFP56 200G 50m Active Optical Cable (R9B54A)
— HPE Aruba Networking 400G QSFP-DD to 4x QSFP56 100G 3m Active Optical Cable (R9B50A)
— HPE Aruba Networking 400G QSFP-DD to 4x QSFP56 100G 7m Active Optical Cable (R9B48A)
— HPE Aruba Networking 400G QSFP-DD to 4x QSFP56 100G 15m Active Optical Cable (R9B52A)
— HPE Aruba Networking 400G QSFP-DD to 4x QSFP56 100G 30m Active Optical Cable (R9B51A)
— HPE Aruba Networking 400G QSFP-DD to 4x QSFP56 100G 50m Active Optical Cable (R9B49A)
— HPE ANW 400G ZR QSFP-DD 80km SMF XCVR (S4B38A)

HPE Aruba Networking Fabric Composer

— Product ordering information for HPE Aruba Networking Fabric Composer is available at HPE Aruba Networking Fabric Composer solution overview
— HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 1-Year Subscription E-STU (R7G99AAE)
— HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 3-Year Subscription E-STU (R7H00AAE)
— HPE Aruba Networking Fabric Composer Device Management Service Tier 4 Switch 5-Year Subscription E-STU (R7H01AAE)

[13] Supported only on CX 10000

Learn more at

HPE.com/us/en/Aruba-cx-switches.html

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