

HPE Aruba Networking CX 10000 Switch Series

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



What's new

- A category of distributed services switch with embedded programmable DPUs overcoming legacy network and security design limitations
- CX 10000 offer 3.2 Tbps of switching capacity supporting 1/10/25 GbE
CX 10040 offer 8 Tbps of switching capacity supporting 32x100G, 6x400G connectivity
- Unified network and security policy through HPE Aruba Networking Fabric Composer
- Security ecosystem integration with third-party vendors
- Leverages existing AOS-CX Cloud Native Switching
- Distributed stateful segmentation, east-west firewalling, NAT, encryption, and telemetry services —

Overview

HPE Aruba Networking CX 10000 Switch Series, industry's first DPU-enabled switches, 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 co-located centers of data.

The CX 10000 Series is a category of switches that combines the best-of-breed network operating system, HPE Aruba Networking CX switch operating system (AOS-CX), for data center, campus, and edge in addition to the fully programmable DPUs. This allows the switches to deliver 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 TCO. This allows the flexibility to enable service 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.

Features

Improves Network Bandwidth and Performance

The HPE Aruba Networking CX 10000 Switch Series offers a unique blend of performance and scale for distributing advanced networking and security services where it is impractical and costly to force traffic back and forth across the network to a centralized policy enforcement point.

Simplify application of services at the services network access layer edge.

All switching and routing are wire-speed to meet the demands of bandwidth-intensive applications today and in the future. CX 10000 models provide 3.2 Tbps for bidirectional switching and 2000 Mpps for forwarding. CX 10040 models offer 8 Tbps of switching capacity, 1.6 Tbps of L4 stateful inspection.

Limit Security Appliance Sprawl and Cost

The CX 10000 Series improves network bandwidth and performance by not having to trombone local traffic to a centralized chokepoint, helping to improve security posture while limiting appliance sprawl complexity and cost.

The CX 10000 Series provides a compelling architectural alternative that distributes these advanced services to the data center edge, with unified network and security automation and policy management.

Extend Zero Trust and Micro Segmentation

The HPE Aruba Networking CX 10000 Switch Series allows operators to extend industry-standard leaf-spine networking with 1.6T of distributed micro-segmentation, east-west firewalling, NAT, encryption and telemetry services delivered inline across every port closer to critical enterprise applications.

Organizations with dedicated SecOps teams can leverage Pensando policy and services manager (PSM) based on specific security roles and responsibilities for increased scalability and fault tolerance.

It extends Zero Trust segmentation deeper into the data center for any type of host.

It optimizes network traffic flows, bandwidth, and performance, which reduces operational complexity associated with service stitching.

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

Simplify Operations

The CX 10000 Series is integrated with Fabric Composer which provides unified network and security management, automated switch and network configurations, and unified security policy and distributed firewalls across the entire switching fabric.

The CX 10000 Series integrates through Rest API, provides flow data to security and network performance tools including Advanced Security ML (XDR), Application Dependency Mapping (ADM), Network Performance Management (NPM), SIEM/SOAR, firewall compliance rules, and identity group mapping tools.

The switch is based on the AOS-CX, a modern, database-driven operating system that automates and simplifies many critical and complex network tasks.

Technical specifications		HPE Aruba Networking CX 10040 32p QSFP28 100G 6p QSFP-DD 400G Back-to-Front 4xFan 2xPSU AC Bdl
Product Number	S4R55A	
Differentiator	Bundle includes: 32 x 100 GbE ports (QSFP56), 6 x 400 GbE ports (QSFP-DD) 2 Back-to-Front (Power-to-Port) power supplies (PS) (S4R53A) with no additional open PS slots 6 Back-to-Front (Power-to-Port) fan tray (FT) bundles (S4R51A) with no additional open FT slots Qty 2 of the 2-Post rack kit is included 2U - Height	
Power consumption	CX 10040 - 1700W (maximum), 1200W (typical)	
Heat dissipation	1,876 BTU/hr	
Input voltage	100-240 VAC	
Ports	CX 10040 - 32x100 GbE QSFP, 6x400 GbE QSFP-DD, 2x10 GbE SFP+	
Latency	<1 µs (without redirect) <5 µs (with redirect)	
Routing capabilities	Static (IPv4/IPv6): RIPv2 RIPv6 OSPF OSPFv3 BGP-4 MP-BGP with IPv6 PBR ECMP GRE	
Switching capacity	CX 10000 - 3.2 Tbps full-duplex CX 10040 - 8 Tbps full-duplex	
Stacking capabilities	Yes	
Throughput	CX 10040 provides 8 Tbps for bidirectional switching	
Memory and processor	AMD V3C48 as main system CPU, resides on Ryder; 128 GB m.2 SSD, 16 MB SPI Flash, 32 GB x2 SODIMM Packet Buffer - 82 MB; DPU: 4 x Pensando Elba	
Power supply	2xS4R52A (Front-to-Back) or 2xS4R53A (Back-to-Front)	
Management features	CLI REST API SNMP Fabric Composer Multi-Edit RJ-45 console Port USB micro console port RJ-45 out-of-band management port	

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Operating temperature	front-to-back: 0°C to 40°C (32°F to 104°F) back-to-front: 32°F to 104°F (0°C to 40°C)
Warranty	1-year warranty. See the warranty duration.

HPE Aruba Networking Services

HPE Aruba Networking services simplify and accelerate the network technology lifecycle, enabling your network to scale with better predictability and cost-effectiveness. Whether you operate your own network and need to improve your IT efficiencies, or you want to offload some of the burden, we have the services you need to reach your goals.

Learn more about what HPE Services - Aruba Networking has to offer at: hpe.com/edge/services

Support Services

Our support portfolio provides the essential support elements as well as proactive and preventive features to help you improve your team's productivity and get the most from your network. Our support customers benefit from faster issue resolution, simplified operations and efficiencies, and reduced network issues.

Professional Services

With deep intellectual capital and purpose-built tools, our team delivers a range of standard and custom professional services designed to accelerate your value from HPE Aruba Networking technology.

Project based services include:

- Planning, audit, and assessment
- Architecture review and design
- Deployment, migration, and knowledge transfer

Annual subscription services include:

- Network optimization
- Intelligent Operations
- Customer Experience Management

Our [Education Services](#) allow your team to come up to speed quickly.

HPE GreenLake for Networking

Our NaaS solution, is part of the HPE GreenLake services family, and simplifies network operations, accelerates equipment handling, and increases the value of your HPE Aruba Networking solution. If you need expert guidance and automation-based operations for your team, please explore our NaaS approach through HPE GreenLake for Networking.

[For additional technical information,
available models and options, please
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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.

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