HPE Aruba Networking CX 10000 Switch Series

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 — all delivered inline

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 10000 Switch Series
Ports	CX 10000 - 48 SFP28; 6 QSFP28 CX 10040 - 32x100 GbE QSFP, 6x400 GbE QSFP-DD, 2x10 GbE SFP+.
Memory and processor	CX 10000 - CPU: 2.9 GHz, 32 GB 92x16 GB) SODIMM, 64 GB SSD, 32 MB SPI Flash (BIOS), 64 MB SPI Flash (SVOS); Packet Buffer - 32 MB; DPU: 2 x Pensando Elba 3 GHz CX 10040 - 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
Latency	<1 µs (without redirect) <5 µs (with redirect)
Throughput	CX 10000 provides 3.2 Tbps for bidirectional switching and 2000 Mpps for forwarding CX 10040 provides 8 Tbps for bidirectional switching
Switching capacity	CX 10000 - 3.2 Tbps full-duplex CX 10040 - 8 Tbps full-duplex
Routing capabilities	Static (IPv4/IPv6): RIPv2 RIPng OSPF OSPFv3 BGP-4 MP-BGP with IPv6 PBR ECMP GRE
Stacking capabilities	Yes
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
Power supply name	CX 10000 - 2x R8R51A (Front-to-Back) or 2x R8R52A (Back-to-Front) CX 10040 - 2x S4R52A (Front-to-Back) or 2x S4R53A (Back-to-Front)
Input voltage	100-240 VAC
Operating temperature	CX 10000 - 0°C to 40°C (32°F to 104°F) CX 10040 - 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)

Technical specifications	HPE Aruba Networking CX 10000 Switch Series
Power consumption	CX 10000 - 753W (maximum), 550W (typical), 400W (idle) CX 10040 - 1700W (maximum), 1200W (typical) Notes: Maximum 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.
Heat dissipation	1,876 BTU/hr

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.

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Parts and Materials: HPE will provide HPE-supported replacement parts and materials required to maintain the covered hardware.

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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Image may differ from the actual product.

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