

Aruba R0X29A

Datasheet



Product Overview

- The HPE Aruba Networking CX 6400 R0X29A is a modular Layer 3 campus and data center switch built for high-performance enterprise cores.
- Designed for large campus access, aggregation, and compact data center cores, it suits enterprises, education, healthcare, and distributed branches.
- It delivers non-blocking fabric up to 2.8 Tb per slot, line-rate 1/10/25/40/50/100GbE ports, and high-density 802.3bt high-power PoE for demanding workloads.
- Advanced Gen7 ASICs, a fully programmable AOS-CX OS, VSX for high availability, and HPE Smart Rate multi-gigabit access create a future-ready platform.
- Network Analytics Engine, dynamic segmentation, and tight integration with HPE Aruba Networking Central simplify monitoring, policy enforcement, and lifecycle operations.
- R0X29A helps IT build secure, resilient wired infrastructures that handle IoT, mobile, and cloud traffic with consistent user experience and streamlined management.

Product Highlights

- **Advanced Layer 3 Services:** Supports BGP, MPLS, EVPN, VXLAN, VRF, and OSPF with strong QoS and security for complex enterprise and data center routing.
- **Non-Blocking Performance:** Up to 28 Tbps switching capacity and 11.4 Bpps forwarding, with high-speed 1/10/25/40/50/100GbE interfaces for demanding traffic loads.
- **High Availability and Power:** VSX live upgrades, redundant power and fans, plus high-capacity HPE Smart Rate multi-gigabit 60W90W PoE and SFP+ modules.
- **Intelligent Operations:** Network Analytics Engine, Central single-pane management, NetEdit automation, and dynamic segmentation for secure, easy user and IoT access.

Detailed Features



R0X29A

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Component	Specification
Product Type	Layer 3 modular switch
Total Network Ports	96 × Gigabit Ethernet PoE+



High-Density Campus Access

R0X29A delivers 96 Gigabit Ethernet PoE+ access ports combined with four 50G SFP56 uplink expansion slots, allowing it to aggregate a large number of endpoints, including Wi-Fi 6/6E access points, IP cameras, and VoIP phones. This density is ideal for enterprise campus floors or wiring closets that require both high user capacity and robust uplink bandwidth without oversubscription.

Programmable Gen7 ASIC Architecture

Built on HPE Aruba Networking Gen7 ASIC silicon, the switch provides wire-speed forwarding with low latency while keeping power consumption efficient. The programmable nature of the ASIC enables support for advanced features such as VXLAN, EVPN, and granular QoS without hardware upgrades, helping protect investments as network requirements and overlay designs evolve.

Comprehensive Layer 3 Feature Set

As a true Layer 3 platform, R0X29A supports core routing protocols including OSPF, BGP, MPLS, EVPN, VXLAN, and VRF. This allows the switch to operate as a campus core, distribution, or data center leaf/spine node. It can host multiple virtual routing instances, isolate departments, and participate in complex multi-tenant architectures while maintaining predictable forwarding performance.

Resilient VSX High Availability

With Virtual Switching Extension (VSX), two chassis can act as an active-active pair, preserving independent control planes while presenting a resilient system to downstream devices. This design supports non-disruptive software upgrades, fast convergence during failures, and simplified Layer 2/Layer 3 designs. It reduces the need for legacy spanning tree and improves overall application uptime.

Intelligent Network Analytics

The integrated Network Analytics Engine (NAE) runs directly on the switch, continuously inspecting telemetry and operational data. Administrators can deploy scripts and policies to detect anomalies, track KPIs, and automatically trigger remediation workflows. This reduces mean time to resolution and gives operations teams deeper visibility into path performance and device health without external probes.

Dynamic Segmentation and Security

HPE Aruba Networking dynamic segmentation extends wireless-style role-based access to the wired network. Users and IoT devices receive consistent policies regardless of connection type, and traffic is automatically tunneled or segmented based on identity and posture. This simplifies access control design, reduces manual VLAN configuration, and strengthens security across distributed campus and branch environments.

Multi-Gigabit and High-Power PoE Support

HPE Smart Rate technology enables 1/2.5/5/10GbE over existing cabling, allowing organizations to upgrade endpoint speeds without full cable replacement. Combined with 60W to 90W PoE, the platform can power advanced access points, LED lighting, and specialized IoT devices. This makes R0X29A a practical choice for modernizing buildings while controlling installation costs.

Centralized and Automated Operations

Tight integration with HPE Aruba Networking Central and NetEdit provides a single pane of glass for wired, wireless, and WAN management. Teams can automate configuration deployment, validate compliance, and roll out changes at scale across sites. The result is a consistent operational model that supports both small IT teams and large distributed networks, lowering operational overhead and configuration risk.

Technical Specifications

Product Specifications

Feature	Value
Product Type	Layer 3 Switch
Manageable	Yes
Ethernet Technology	Gigabit Ethernet; 50 Gigabit Ethernet
Number of Total Expansion Slots	4
Product Family	6400
Media Type Supported	Optical Fiber; Twisted Pair
Total Number of Network Ports	96



Feature	Value
Redundant Power Supply Supported	Yes
Expansion Slot Type	SFP56
Form Factor	Rack-mountable
Power Source	Power Supply
Layer Supported	3
Environmentally Friendly	Yes
Modular	Yes
Uplink Port	Yes
Port / Expansion Slot Details	96 x Gigabit Ethernet PoE+; 4 x 50 Gigabit Ethernet Expansion Slot
Height	12.1"
Width	17.4"
Depth	17.7"
Network Technology	10/100/1000Base-T; 50GBase-X

Product Comparison

Feature	R0X29A	R8Q69A	R8Q71A
Product Family	Aruba CX 6400 Series	Aruba CX 6400 Series	Aruba CX 6400 Series
Role	Modular access/aggregation with 96 PoE+ ports	Core/aggregation chassis with high 25/100G density	Core/aggregation with mixed 10/25/40/100G
Access Ports	96 × 10/100/1000Base-T PoE+	High-density multi-gig and 1G access (model specific)	Mixed 1G/10G access and uplink interfaces
Uplink / Expansion	4 × 50G SFP56 slots	Multiple 25/40/100G module options	25/40/100G uplinks and fabric modules
PoE Capability	PoE+ on all 96 access ports	High-power 60W–90W PoE on selected line cards	High-power PoE on select access modules
High Availability	Redundant PSUs/fans, VSX support	Redundant PSUs/fans, VSX, chassis supervisor redundancy	Redundant PSUs/fans, VSX, supervisor redundancy
Deployment Focus	High-density campus wiring closet or IoT aggregation	Campus/distributed core and large aggregation layers	Enterprise core and data center aggregation
Form Factor	Rack-mountable modular switch	Chassis-based system	Chassis-based system



Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none">- AC power supply module (pre-installed, model dependent)- Rack mounting kit and screws- Quick installation guide and safety documentation
Optional Accessories	<ul style="list-style-type: none">- Additional hot-swappable power supply units- SFP/SFP+/SFP56/QSFP optical transceivers and DAC cables- Dedicated fan trays or airflow-specific fan modules



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References

[1] HPE Aruba Networking. (2023). HPE Aruba Networking CX 6400 Switch Series R0X29A Specification. Retrieved from <https://www.hpe.com/psnow/doc/a00085158enw>