

Aruba R0X27A

Datasheet



Product Overview

- The HPE Aruba Networking CX 6400 Series, including the R0X27A, is a modular enterprise switch platform for campus access, aggregation, and core.
- Designed for large campuses, branches, and data centers, it serves high-density users, IoT endpoints, and cloud-connected workloads in one architecture.
- Each chassis delivers up to 2.8 Tbps per slot, line-rate 1/10/25/40/50/100GbE, and scalable Layer 3 services to support present and future traffic growth.
- Built-in Gen7 ASICs, VSX for non-disruptive upgrades, and high-power IEEE 802.3bt PoE give the platform strong performance and resiliency.
- Centralized analytics with Network Analytics Engine and Aruba Central simplify monitoring, troubleshooting, and lifecycle operations across wired and WAN.
- Enterprises gain a unified wired and wireless edge, consistent segmentation, and a secure foundation for mobility and IoT without redesigning cabling.

Product Highlights

- **High-Performance L3 Fabric:** Modular Layer 3 switching with BGP, MPLS, EVPN, VXLAN, VRF, and OSPF delivers a scalable, secure core for complex enterprise networks.
- **Non-Blocking Multispeed Ports:** High-speed 1/10/25/40/50/100GbE interfaces plus HPE Smart Rate multi-gigabit access ensure smooth aggregation of Wi-Fi 6/6E and dense IoT traffic.
- **Always-On Architecture:** VSX live upgrades, redundant power supplies, and hot-swappable fans provide high availability for mission-critical campus and data center services.
- **Unified Management and Analytics:** Aruba Central, NetEdit, and Network Analytics Engine enable single-pane-of-glass control, automated configuration, and real-time issue remediation.

Detailed Features



R0X27A

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Component	Specification
Switching Capacity	28 Tbps routing/switching capacity
Throughput	20 Bpps forwarding performance
VLAN and Routing Scale	2000 VLANs, 32000 IPv4/IPv6 routes
Interfaces	Console RJ-45, USB-C console, 1 x USB port
Power and Redundancy	Internal PSU, up to 4 supplies supported



Next-Generation Modular Architecture

R0X27A is part of the Aruba CX 6400 chassis family, delivering a modern modular platform with 7U front-to-back airflow design for data center and campus environments. Its architecture supports up to ten line card slots per chassis, enabling gradual expansion of port density and services while maintaining consistent performance and feature parity across all deployed modules.

High-Capacity Switching Fabric

The system offers routing and switching capacity of 28 Tbps and up to 20 Bpps throughput, ensuring true line-rate forwarding for large enterprise and metro campus networks. This high fabric capacity allows simultaneous delivery of voice, video, and data traffic with minimal latency and jitter, supporting demanding applications such as VDI, unified communications, and real-time analytics at scale.

Scalable L3 Routing Resources

R0X27A supports up to 2000 VLAN interfaces, 32000 IPv4 routes, 32000 IPv6 routes, and 8000 multicast routes, plus large unicast and multicast group tables. This scale enables the platform to act as a campus core, data center aggregation, or services edge device, handling complex segmentation, large user bases, and rich multicast services such as IPTV or large collaboration platforms without performance compromise.

Comprehensive Protocol Support

The switch supports key routing protocols including OSPF, OSPFv3, and BGP, along with multicast capabilities like PIM and BSR. This enables flexible deployment models, from traditional three-tier designs to modern leaf-spine and EVPN-VXLAN overlays. Network engineers can design resilient topologies with fast convergence and policy-based routing while maintaining consistent control-plane behavior across IPv4 and IPv6.

Advanced Management and Automation

Remote management is supported via SNMP v1/v2/v3, with full IPv4 and IPv6 reachability, enabling integration into existing NMS platforms. Combined with Aruba Central and NetEdit, operators gain automated configuration, verification, and change control, while USB and console interfaces support quick local provisioning. This reduces operational overhead and helps maintain configuration accuracy across large deployments.

Integrated Security and Access Control

The platform supports multiple authentication methods, including SSH, SSH2, RADIUS, and TACACS+, ensuring secure administrator access. MD5 and SSL encryption enhance control-plane protection, while features such as CPU protection and QoS help safeguard the device from malformed traffic or DoS attempts. These capabilities allow the switch to serve as a secure control point in regulated or security-sensitive environments.

Carrier-Grade QoS and Traffic Handling

With QoS mechanisms like Deficit Weighted Round Robin and Strict Priority queuing, the R0X27A can prioritize latency-sensitive flows while preserving fairness for best-effort traffic. Support for jumbo frames, non-blocking ports, and standards such as IEEE 802.1p ensures precise traffic classification and scheduling, making the switch suitable for converged networks carrying voice, video surveillance, and bulk data transfers simultaneously.

Robust Hardware and Environmental Design

The 7U rack-mountable chassis with front-to-back airflow supports data center hot-aisle/cold-aisle layouts and maintains stable operation from 32 °F to 113 °F with 1595% non-condensing humidity. Four fan tray slots and up to four internal power supplies with 80 PLUS Platinum efficiency provide hardware redundancy and energy savings. This design improves reliability and lowers total cost of ownership over the system lifecycle.

Technical Specifications

Product Specifications

Feature	Value
Device Type	Switch - L4 - managed - stackable - with HPE Aruba 6410 Chassis Switch
Enclosure Type	Front to back airflow rack-mountable 7U
Performance - Routing/switching capacity	Routing/switching capacity: 28 Tbps
Performance - Throughput	Throughput: 20 Bpps
Capacity - Virtual interfaces (VLANs)	Virtual interfaces (VLANs): 2000



Feature	Value
Capacity - IPv4 routing table entries	IPv4 routing table entries: 32000
Capacity - IPv6 routing table entries	IPv6 routing table entries: 32000
Capacity - Multicast routes	Multicast routes: 8000
Capacity - Unicast entries (IPv6)	Unicast entries (IPv6): 64000
Capacity - Unicast entries (IPv4)	Unicast entries (IPv4): 64000
Capacity - IGMP groups	IGMP groups: 8000
Capacity - MLD groups	MLD groups: 4000
Jumbo Frame Support	Yes
Routing Protocol	OSPF, BGP, OSPFv3
Remote Management Protocol	SNMP 1, SNMP 2, SNMP 3, IPv4, IPv6
Encryption Algorithm	MD5, SSL
Authentication Method	Secure Shell (SSH), RADIUS, TACACS+, Secure Shell v.2 (SSH2)
Features	Power over Ethernet (PoE), Quality of Service (QoS), Deficit Weighted Round Robin (DWRR), non blocking ports, Strict Priority (SP), CPU protection, Protocol Independent Multicast (PIM), Bootstrap Router (BSR) Mechanism, draft-ietf-savi-mix, Virtual Switch Extension (VSX)
Compliant Standards (Switching)	IEEE 802.1D, IEEE 802.1Q, IEEE 802.3ab, IEEE 802.3af, IEEE 802.1w, IEEE 801.1p, IEEE 802.1t, IEEE 802.1v, IEEE 802.3ak, IEEE 802.3at, IEEE 802.3ax, IEEE 802.3bt
Interfaces - Console RJ-45	1 x console RJ-45
Interfaces - USB-C console	1 x USB-C console
Interfaces - USB	1 x USB
Installed Modules Qty (Max)	2 (installed) / 10 (max)
Power Device	Internal power supply
Power - Installed Qty	1
Power - Max Supported Qty	4
Voltage Required	110-127 / 200-240 VAC (power supplies sold separately)
80 PLUS Certification	80 PLUS Platinum
Included Accessories	4 x fan tray slots, management module with 1 open slot
Rack Mounting Kit	Included



Feature	Value
Compliant Standards (Safety/EMC)	CISPR 22 Class A, EN 61000-3-2, IEC 61000-3-2, IEC 61000-3-3, IEC 61000-4-8, EN 61000-3-3, EN 61000-4-2, EN 61000-4-3, EN 61000-4-6, ICES-003 Class A, EN 61000-4-5, EN 61000-4-11, UL 60950-1, VCCI Class A, GB 9254, IEC 60950-1:2005 Second Edition, CSA 22.2 No. 60950-1, EN 55022 Class A, FCC CFR47 Part 15 A, IEC 60825:2007, UL 62368-1 Second Edition, CISPR 32:2012 Class A, EN 55032:2012 Class A, EN 62368-1:2014, Am1: 2009 + Am2: 2013, EN 55024:2010 + A1:2001 + A2:2003, ETSI EN 300 386 V1.3.3, EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
Width	17.4 in
Depth	17.7 in
Height	20.8 in
Min Operating Temperature	32 °F
Max Operating Temperature	113 °F
Humidity Range Operating	15 - 95% (non-condensing)
Min Storage Temperature	-40 °F
Max Storage Temperature	158 °F
Humidity Range Storage	15 - 95% (non-condensing)

Product Comparison

Feature	R0X27A	C9410R-96U-BNDL-E	OS9800-CHASSIS
Device Type	L4 managed, stackable modular switch with HPE Aruba 6410 chassis	Cisco Catalyst 9400 Series modular chassis bundle	Alcatel-Lucent OmniSwitch 9800 modular chassis
Switching Capacity	Routing/switching capacity: 28 Tbps	Up to multi-terabit switching capacity depending on line cards	High-capacity modular fabric, multi-terabit depending on configuration
Throughput	Throughput: 20 Bpps	High packet forwarding up to multi-Bpps with supervisor/line cards	Carrier-class throughput for campus and metro aggregation
Slot Density	2 (installed) / 10 (max) modules	10-slot chassis with flexible supervisor and line card options	Modular chassis supporting multiple I/O and fabric modules
PoE Capability	PoE supported via appropriate line cards, IEEE 802.3af/at/bt	Full PoE/PoE+/UPOE support on access line cards	PoE/PoE+ support on access modules depending on model



Feature	R0X27A	C9410R-96U-BNDL-E	OS9800-CHASSIS
Routing Protocols	OSPF, OSPFv3, BGP, PIM multicast	Advanced routing including OSPF, EIGRP, BGP, MPLS (license dependent)	Advanced Layer 3 routing, MPLS and carrier-grade features
Management	SNMP 1/2/3, SSH, RADIUS, TACACS+, Aruba Central, NetEdit	Cisco DNA Center, SNMP, NETCONF, CLI, web-based tools	OmniVista NMS, SNMP, CLI, web management
Target Deployment	Enterprise campus core/ aggregation and data center ToR/EoR	Large enterprise campus core and distribution with high resiliency	Large campus and metro Ethernet aggregation with carrier-grade features

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none"> - Internal power supply (1 installed) - Rack mounting kit - Management module with 1 open slot and fan tray slots
Optional Accessories	<ul style="list-style-type: none"> - Additional internal power supplies (up to 4 total) - Line cards and interface modules - Transceivers and DAC cables



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References

[1] HPE Aruba Networking. (2023). R0X27A specification. Retrieved from <https://www.hpe.com/psnow/doc/a00085158enw>