Aruba JL003A

Datasheet

Product Overview

- The HPE Aruba Networking 5400R zl2 Series is a modular Layer 3 switch family built for resilient, high-performance campus and aggregation networks.
- Designed for smart digital workplaces, it serves mobile-first enterprises, education campuses, healthcare, and large branch or regional data center environments.
- It delivers a 2 Tbps crossbar switching fabric, low latency forwarding, and supports up to 96 multigigabit or 10GbE ports plus high-density 40GbE uplinks.
- Key differentiation includes Aruba VSF stacking with hitless failover, Fast Software Upgrade, and rich IPv4/IPv6 Layer 3 features without extra licenses.
- Centralized wired and wireless management is enabled through Aruba AirWave or Aruba Central, with ClearPass providing policy-based access control and guest portal.
- Ideal for PoE-heavy deployments, the 5406R with JL003A simplifies growth, protects existing cabling, and keeps critical services running even during failures.

Product Highlights

- **High-Performance Modular Switching:** Enterprise-class Layer 3 modular switch with VSF stacking, low latency forwarding, and built-in resiliency for campus core and aggregation roles.
- **Multigigabit and PoE+ at Scale:** HPE Smart Rate technology delivers high-speed multigigabit access with PoE+ support and up to 288 PoE+ ports to power dense AP, camera, and IoT deployments.
- **40GbE-Ready Aggregation:** Line-rate 40GbE interfaces provide ample headroom for wireless traffic aggregation and future bandwidth growth without chassis replacement.
- **SDN and Secure Management:** Software-defined ready with REST APIs and OpenFlow, plus advanced security and centralized control via Aruba ClearPass, AirWave, and Aruba Central.

Detailed Features

JL003A

Component	Specification
Chassis Type	HPE 5406R v3 zl2, 4 open module slots, 4U height
Fixed Ports	44 × 10/100/1000BASE-T PoE+ (MACsec) + 4 × 10GbE SFP+
Switching / Routing Capacity	1015 Gbps fabric, 960 Gbps switching, up to 571.4 Mpps
Latency	<2.8 µs (1G), <1.8 µs (10G), <1.5 µs (40G), 64-byte packets

Component	Specification
Environment	0°C to 45°C operating, up to 10,000 ft altitude, 15–95% RH

Virtual Switching Framework (VSF)

VSF enables two 5400R switches to operate as one virtual device, simplifying network design and operations. Using standard LACP, servers and downstream switches can dual-home to the VSF pair for automatic load balancing and path redundancy. This reduces dependency on complex protocols such as STP, ECMP, and VRRP, while still offering high availability at the aggregation or core layer for converged campus networks.

Fast Software Upgrade (FSU)

Fast Software Upgrade minimizes service disruption during software updates on a VSF stack. Members in the stack are upgraded sequentially while forwarding continues, shrinking downtime to a few seconds. This is critical for environments running voice, video, or real-time applications, where extended maintenance windows are not acceptable. FSU helps operators keep firmware current without sacrificing user experience or application uptime.

Nonstop Switching and Routing

Nonstop switching allows interface and fabric modules to continue forwarding traffic during a management module failover, preserving data-plane continuity for critical services. Nonstop routing extends this resilience to Layer 3 by maintaining OSPFv2/v3 and VRRP operation through control-plane switchover. Together, these features deliver carrier-grade availability for unified communications, mobility, and latency-sensitive applications across IPv4 and IPv6 networks.

Redundant Power and Hot-Swap Design

The 5406R chassis supports redundant management and dual power supply slots, ensuring continuous operation if a single component fails. Optional redundant power supplies can be hot-swapped without taking the system offline, and interface modules are also hot-swappable. This design shortens maintenance windows, reduces planned downtime, and enables gradual capacity expansion using a common set of zl2 modules and accessories for simpler sparing.

Advanced Spanning and Link Resiliency

Support for IEEE 802.1s Multiple Spanning Tree Protocol allows independent spanning trees per VLAN group, improving link utilization and failover behavior in multi-VLAN environments. Legacy 802.1D and Rapid STP (802.1w) are also encompassed for compatibility. Distributed trunking and IEEE 802.3ad LACP enable loop-free topologies without relying solely on STP, while providing up to 144 trunks with as many as eight physical links each for redundancy and aggregated bandwidth.

High-Capacity ProVision Architecture

The switch leverages a purpose-built ProVision ASIC with a 2 Tbps crossbar architecture, delivering up to 785.7 million packets per second of throughput in the series. Administrators can tune selectable queue configurations and buffer allocations to match specific application profiles, such as VoIP, video, or data bursts. This hardware platform is optimized for low-latency forwarding and supports rich QoS and policy features at scale, ensuring consistent performance under heavy multi-tenant or multi-service loads.

Flexible PoE and Access Design

With support for up to 288 PoE+ ports in the 5400R family, the platform can power large numbers of access points, IP cameras, phones, and IoT sensors from a centralized chassis. Uplink Failure Detection and SmartLink features simplify configuration of active-standby links for server or aggregation connectivity, providing fast failover without complex routing changes. This combination of PoE density and link resiliency makes the solution well-suited for surveillance, WLAN, and building automation networks.

SDN-Ready with Open APIs

The 5400R series provides multiple programmable interfaces, including REST APIs and OpenFlow 1.0 and 1.3, enabling deep integration with software-defined networking controllers and automation frameworks. Operators can orchestrate provisioning, monitoring, and troubleshooting tasks programmatically, reducing manual configuration overhead. This SDN readiness helps future-proof the network, making it easier to adopt intent-based operations, centralized policy enforcement, and advanced traffic engineering over time.

Technical Specifications

Product Specifications

Feature	Value
Product Name	JL003A Specification
Type	HPE 5406R 44GT PoE+/4SFP+ (No PSU) v3 zl2 Switch
Included accessories	1 HPE 5400R zl2 Management Module (J9827A)
Included accessories	1 HPE 5406R zl2 Switch Fan Tray (J9831A)

Feature	Value
Included accessories	1 HPE 24-port 10/100/1000BASE-T PoE+ MACsec v3 zl2 Module (J9986A)
Included accessories	1 HPE 20-port 10/100/1000BASE-T PoE+/4-port 1G/10GbE SFP+ MACsec v3 zl2 Module (J9990A)
I/O ports and slots	44 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u
I/O ports and slots	Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX;
I/O ports and slots	Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
I/O ports and slots	4 open 10GbE SFP+ transceiver slots
I/O ports and slots	4 open module slots
I/O ports and slots	Supports a maximum of 144 autosensing 10/100/1000 ports or 144 SFP ports or 48 SFP+ ports or
I/O ports and slots	48 HPE Smart Rate Multi-Gigabit or 12 40GbE ports, or a combination
Power supplies	2 power supply slots
Power supplies	1 minimum power supply required (ordered separately)
Fan Tray	Includes: 1 x J9831A
Fan Tray	1 fan tray slot
Dimensions (W x D x H)	17.5(w) x 17.75(d) x 6.9(h) in. (44.45 x 45.09 x 17.53 cm) (4U height)
Weight	28.11 lb (12.75 kg)
Memory and processor	v3 Gigabit Module
Memory and processor	Dual ARM® Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
Memory and processor	v2 Gigabit Module
Memory and processor	ARM 11 @ 450 MHz; Packet buffer size: 18 MB internal
Memory and processor	v3 10G Module
Memory and processor	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
Memory and processor	v2 10G Module
Memory and processor	ARM 11 @ 550 MHz; Packet buffer size: 18 MB internal
Memory and processor	v3 40G Module
Memory and processor	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal

Feature	Value
Memory and processor	Management Module
Memory and processor	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
Mounting and enclosure	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included);
Mounting and enclosure	Horizontal surface mounting only
Performance (IPv6 Ready Certified)	1000 Mb Latency
Performance (IPv6 Ready Certified)	< 2.8 µs (FIFO 64-byte packets)
Performance (IPv6 Ready Certified)	10 Gbps Latency
Performance (IPv6 Ready Certified)	< 1.8 µs (FIFO 64-byte packets)
Performance (IPv6 Ready Certified)	40 Gbps Latency
Performance (IPv6 Ready Certified)	< 1.5 µs (FIFO 64-byte packets)
Performance (IPv6 Ready Certified)	Throughput
Performance (IPv6 Ready Certified)	up to 571.4 Mpps
Performance (IPv6 Ready Certified)	Routing/Switching capacity
Performance (IPv6 Ready Certified)	960 Gbps
Performance (IPv6 Ready Certified)	Switch fabric speed
Performance (IPv6 Ready Certified)	1015 Gbps
Performance (IPv6 Ready Certified)	Routing table size
Performance (IPv6 Ready Certified)	10000 entries (IPv4), 5000 entries (IPv6)
Performance (IPv6 Ready Certified)	MAC address table size
Performance (IPv6 Ready Certified)	64000 entries
Environment	Operating temperature
Environment	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with
Environment	FIPS Opacity Shield installed
Environment	Operating relative humidity
Environment	15% to 95% @ 113°F (45°C), noncondensing
Environment	Nonoperating/Storage temperature
Environment	-40°F to 158°F (-40°C to 70°C)
Environment	Nonoperating/Storage relative humidity
Environment	15% to 95% @ 149°F (65°C), noncondensing

Feature	Value
Environment	Altitude
Environment	Up to 10,000 ft (3 km)
Environment	Acoustic
Environment	Power: 44 dB, Pressure: 31.7 dB ISO 7779, ISO 9296
Electrical characteristics	Frequency
Electrical characteristics	50/60 Hz
Electrical characteristics	80plus.org Certification
Electrical characteristics	Gold
Electrical characteristics	Description
Electrical characteristics	Does not come with power supply. Two power supply slots are available; three different power supplies
Electrical characteristics	are available. See power supply products for additional specifications.
Electrical characteristics	Maximum heat dissipation
Electrical characteristics	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE);
Electrical characteristics	3700 BTU/hr (3903 kJ/hr), (max. using PoE)
Electrical characteristics	Voltage
Electrical characteristics	110–127/200–240 VAC, rated (depending on power supply chosen)
Electrical characteristics	Idle power
Electrical characteristics	215 W
Electrical characteristics	Notes
Electrical characteristics	Idle power is the actual power consumption of the device with no ports connected. Heat dissipation
Electrical characteristics	does not include heat dissipated by the PoE-powered devices themselves
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950
Emissions	FCC part 15 Class A; EN 55022/CISPR 22 Class A
Immunity	EN
Immunity	ESD
Immunity	Radiated
Immunity	EFT/Burst
Immunity	Surge

Feature	Value
Immunity	Conducted
Immunity	Power frequency magnetic field
Immunity	Harmonics
Immunity	Flicker
Immunity	EN 55024, CISPR 24
Immunity	IEC 61000-4-2; 4 kV CD, 8 kV AD;
Immunity	HPE ENV. 765.002
Immunity	IEC 61000-4-3; 3 V/m
Immunity	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line) IEC 61000-4-5; 1 kV/2 kV AC, 1 kV signal, 0.5 kV DC
Immunity	IEC 61000-4-6; 3 Vrms
Immunity	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
Immunity	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
Immunity	EN 61000-3-2, IEC 61000-3-2
Immunity	EN 61000-3-3, IEC 61000-3-3
Management	IMC—Intelligent Management Center; Command-line interface; Web browser; Configuration menu;
Management	Out-of-band management (RJ-45 Ethernet); SNMP Manager; Out-of-band management (serial
Management	RS-232C or micro USB)
Management	AirWave Network Management
Notes	Supported 1G SFP transceivers are revision “B” or later (product number ends with the letter
Notes	“B” or later; For example, J9142B, J8177C).

Product Comparison

Feature	JL003A	JL709A	R8Q68A
Product Type	HPE 5406R 44GT PoE+/4SFP+ (No PSU) v3 zl2 Switch	Aruba switch, fixed-configuration (details per JL709A spec)	Aruba CX/5400R-family switch (details per R8Q68A spec)
Fixed Ports	44 × 10/100/1000BASE-T PoE+ + 4 × 10GbE SFP+	Fixed GE/10GE port mix optimized for access/ aggregation	Port mix optimized for higher-density access or aggregation
Chassis / Slots	Modular 6-slot chassis, 4 open module slots	Fixed chassis, no line-card slots	Fixed or limited modular design depending on model
PoE Capability	PoE+ on 44 ports; up to 288 PoE+ ports per 5400R system	PoE/PoE+ on selected access ports (model-dependent)	High PoE/PoE+ or possibly UPoE budget for dense AP/IP camera use
Switching Performance	1015 Gbps fabric, 960 Gbps switching, up to 571.4 Mpps	High-performance ASICs sized for top-of-rack or access roles	Higher switching capacity aligned with next-generation campus designs
Stacking / Virtualization	VSF stacking, nonstop switching and routing, VRRP support	Supports Aruba stacking/VSF or VSX depending on platform	Supports Aruba VSX/VSF and modern virtualization features
Management	IMC, CLI, Web, SNMP, Aruba AirWave, Aruba Central	Managed via Aruba Central, AirWave, and full-featured CLI	Cloud-centric management with Aruba Central and advanced telemetry
Ideal Deployment	Campus aggregation / core with high PoE density and modular growth	Enterprise access or distribution with simpler footprint	Modern campus or large branch needing higher scale and automation

Accessories

Category	Accessories
Included Accessories	- 1 × HPE 5400R zl2 Management Module (J9827A) - 1 × HPE 5406R zl2 Switch Fan Tray (J9831A) - Preinstalled PoE+ interface modules (J9986A, J9990A)
Optional Accessories	- HPE 5400R zl2 power supplies (various wattages) - Additional 5400R v3 zl2 interface modules (1G/10G/40G, Smart Rate, PoE+) - Aruba SFP/SFP+ transceivers and direct-attach cables

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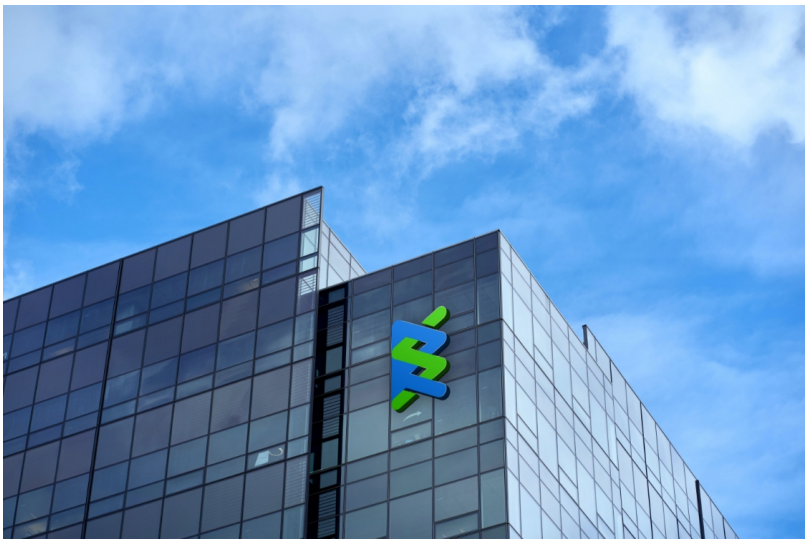

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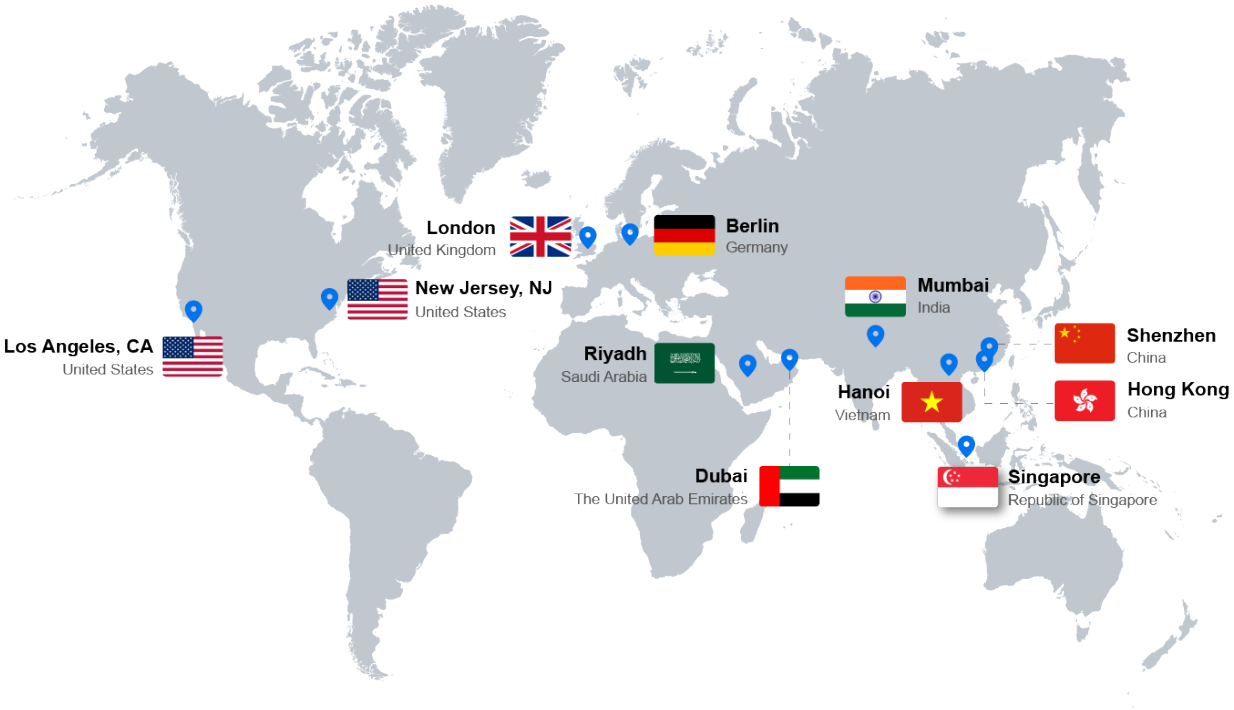

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References

[1] HPE Aruba Networking. (n.d.). JL003A Specification: HPE 5406R 44GT PoE+/4SFP+ (No PSU) v3 zl2 Switch. Retrieved from https://www.hpe.com/psnow/doc/c04293383