Aruba JL002A

Datasheet

Product Overview

- The HPE Aruba Networking 5400R zl2 Series is a modular Layer 3 switch platform built for resilient, high-performance enterprise campus networks.
- Designed for mobile-first digital workplaces, it aggregates wired and wireless access for midsize and large organizations across education, healthcare, and business.
- Powered by the ProVision ASIC, it delivers up to 2 Tbps switching fabric, low microsecond latency, and scalable 10GbE and 40GbE connectivity for dense edge deployments.
- VSF stacking, hitless failover, and Fast Software Upgrade provide non-disruptive scale-out, while dynamic segmentation and rich QoS enable secure traffic separation.
- Centralized control via Aruba Central, AirWave, and ClearPass simplifies provisioning, monitoring, and policy enforcement across access and aggregation layers.
- Ideal for campuses modernizing to unified wired and wireless, the 5400R zl2 combines high port density, PoE+ power, and advanced routing to support APs, IoT, and critical apps.

Product Highlights

- **High-Performance Modular Switching:** Layer 3 modular chassis switch with low latency, VSF stacking, and resilient architecture for demanding campus aggregation and core roles.
- **Multi-Gig and PoE+ Access:** HPE Smart Rate multi-gigabit ports deliver high-speed uplinks and up to 288 PoE+ ports to power Wi-Fi 6/6E APs, IP cameras, and IoT endpoints.
- **Scalable 40GbE Aggregation:** Line-rate 40GbE interfaces support high-bandwidth wireless and uplink aggregation, ensuring smooth growth without bottlenecks.
- **SDN-Ready with Strong Security:** REST APIs, OpenFlow, and tight integration with Aruba ClearPass, AirWave, and Central enable software-defined control and advanced access security.

Detailed Features

JL002A

Component	Specification
Chassis Type	HPE 5406R v3 zl2, 4U modular chassis
Fixed Ports	8 × 1/2.5/5/10GBASE-T PoE+ + 8 × 10GbE SFP+
Module Slots	4 open zl2 module slots for expansion
Switching Capacity	Up to 960 Gbps switching, 1015 Gbps fabric

Component	Specification
PoE Capability	Up to 288 PoE+ ports with appropriate modules/PSUs

VSF Virtual Switching and Simplified Topology

Virtual Switching Framework (VSF) allows two 5400R switches to operate as a single logical device, improving resiliency and simplifying network design. Servers and downstream switches can connect with standard LACP, gaining automatic load sharing and fast failover. This design reduces the need for complex protocols such as STP, ECMP, and VRRP in many access and aggregation scenarios, making operations easier and more predictable.

Fast Software Upgrade and Nonstop Operation

Fast Software Upgrade performs sequential upgrades across VSF members, cutting stack downtime to only a few seconds. Combined with nonstop switching, line cards and fabric modules keep forwarding traffic during management module failover. This ensures that key services like voice, video, and mobility remain available while software is updated, supporting strict maintenance windows and minimizing disruption to users and critical applications.

High Availability Routing with VRRP and OSPF

Virtual Router Redundancy Protocol (VRRP) provides gateway redundancy for IPv4 and IPv6, allowing two routers to back each other up dynamically. When combined with OSPFv2 and OSPFv3, the switch maintains Layer 3 forwarding even during control-plane failover. Nonstop routing keeps routing protocols active as control shifts to a standby management module, preserving routing adjacencies and reducing convergence time in complex campus environments.

Redundant Management, Power, and Hot-Swap Design

Dual management modules and redundant power supply support ensure continuity in case of hardware failure or planned replacement. Hot-swappable interface modules, management modules, fan trays, and power supplies can be inserted or replaced without taking the chassis offline. This modular, serviceable design reduces maintenance windows, supports in-service expansion, and lowers operational risk in mission-critical network cores.

Advanced Spanning and Link Aggregation

Support for IEEE 802.1s Multiple Spanning Tree Protocol delivers high link availability across multiple VLANs, while remaining compatible with 802.1D and 802.1w Rapid Spanning Tree. Up to 144 LACP or HPE port trunks are supported, each with up to eight member links, enabling high-bandwidth, resilient uplinks. Distributed trunking further allows dual-homing of servers or access switches to two chassis without relying on classic STP.

Comprehensive Link and Power Resilience Tools

Optional redundant power supplies provide uninterrupted power delivery and support hot-swap replacement when needed. SmartLink and Uplink Failure Detection give simple, effective active-standby path redundancy for servers and upstream links. These features help maintain connectivity during partial failures and simplify design for networks that do not require full dynamic routing or advanced redundancy protocols.

High-Capacity Architecture and QoS Flexibility

The 5400R zl2 delivers a 2 Tbps crossbar switching fabric with up to 785.7 million packets per second throughput on ProVision ASICs, supporting wire-speed performance for mixed 1G, 10G, and 40G traffic. Selectable queue configurations let administrators tune the number of queues and buffer allocation per port. This flexibility enables precise QoS behavior, ensuring latency-sensitive services such as voice, video, and real-time control receive consistent priority.

SDN and Automation-Ready Interfaces

Multiple programmatic interfaces, including REST APIs and OpenFlow 1.0/1.3, allow integration with SDN controllers and automation tools. Network teams can orchestrate provisioning, monitoring, and troubleshooting workflows programmatically instead of relying only on manual CLI operations. This prepares the campus for intent-based networking, enables faster rollout of policy changes, and improves consistency across large, multi-site switch deployments.

Technical Specifications

Product Specifications

Feature	Value
Type	HPE 5406R 8-port 1/2.5/5/10GBASE-T PoE+/8-port SFP+ (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 8-port 1G/10GbE SFP+ MACsec v3 zl2 Module (J9993A)
Included accessories	1 HPE 8-port 1/2.5/5/10GBASE-T PoE+ MACsec v3 zl2 Module (J9995A)
I/O ports and slots	8 RJ-45 HPE Smart Rate Multi-Gigabit ports
I/O ports and slots	8 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
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);

Feature	Value
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
Environment	Altitude
Environment	Up to 10,000 ft (3 km)
Environment	Acoustic
Environment	Power: 44 dB, Pressure: 31.7 dB ISO 7779, ISO 9296

Feature	Value
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
Notes	Idle power is the actual power consumption of the device with no ports connected. Heat dissipation
Notes	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
Immunity	Conducted
Immunity	Power frequency magnetic field
Immunity	Harmonics
Immunity	Flicker
Immunity	EN 55024, CISPR 24

Feature	Value
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
Management	(serial 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 “B” or later;
Notes	For example, J9142B, J8177C). HPE Smart Rate Multi-Gigabit Cabling; 1000BASE-T, 2.5 Gigabit, and
Notes	5 Gigabit Ethernet: Category 5e or better UTP or STP; 10GBASE-T: Category 6 or better
Notes	(CAT6A recommended) UTP or STP

Product Comparison

Feature	JL002A	JL703A	JL708A
Product Type	HPE 5406R v3 zl2 modular switch chassis	Aruba fixed-configuration campus access/aggregation switch	Aruba fixed-configuration campus aggregation/core switch
Fixed / Modular Design	Modular, 4 open zl2 module slots	Fixed ports, non-modular	Fixed ports, high-density design
Max Port Density	Up to 144 × 1G or 48 × SFP+ or 48 × Smart Rate or 12 × 40GbE	Typically 24/48 × 1G with 10G uplinks (model dependent)	Higher 10G/25G/40G density (model dependent)
PoE Capability	Up to 288 PoE+ ports with appropriate line cards and PSUs	PoE/PoE+ on access models for APs and IP phones	PoE/PoE+ (and possible PoE++) on certain models for dense AP and IoT
Switching Capacity	960 Gbps switching, 1015 Gbps fabric	Lower total switching capacity than JL002A	Higher or comparable switching capacity for aggregation/core
Stacking / VSF	Supports VSF chassis stacking (virtual single switch)	Supports VSF stacking for fixed switches	Supports VSF or similar virtualization, multi-chassis
Deployment Role	Campus core/aggregation with modular expansion	Access or light aggregation in branch and campus	Aggregation/core in larger campus networks
Management and SDN	Managed via Aruba Central, AirWave, IMC, CLI, Web; REST and OpenFlow 1.0/1.3	Managed by Aruba Central/ AirWave, cloud-ready	Managed by Aruba Central/ AirWave with advanced automation options

Accessories

Category	Accessories
Included Accessories	- 1 × HPE 5400R zl2 Management Module (J9827A) - 1 × HPE 5406R zl2 Switch Fan Tray (J9831A) - 1 × 8-port 1G/10GbE SFP+ MACsec v3 zl2 Module (J9993A)
Optional Accessories	- Hot-plug AC power supplies for 5400R zl2 chassis - Additional zl2 interface modules (1G/10G/40G, PoE+) - SFP/SFP+/QSFP+ transceivers and compatible copper/fiber cables

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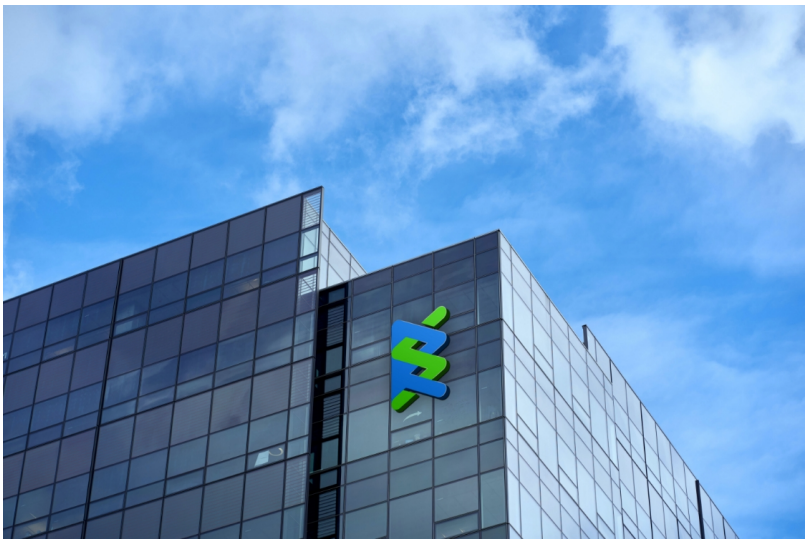

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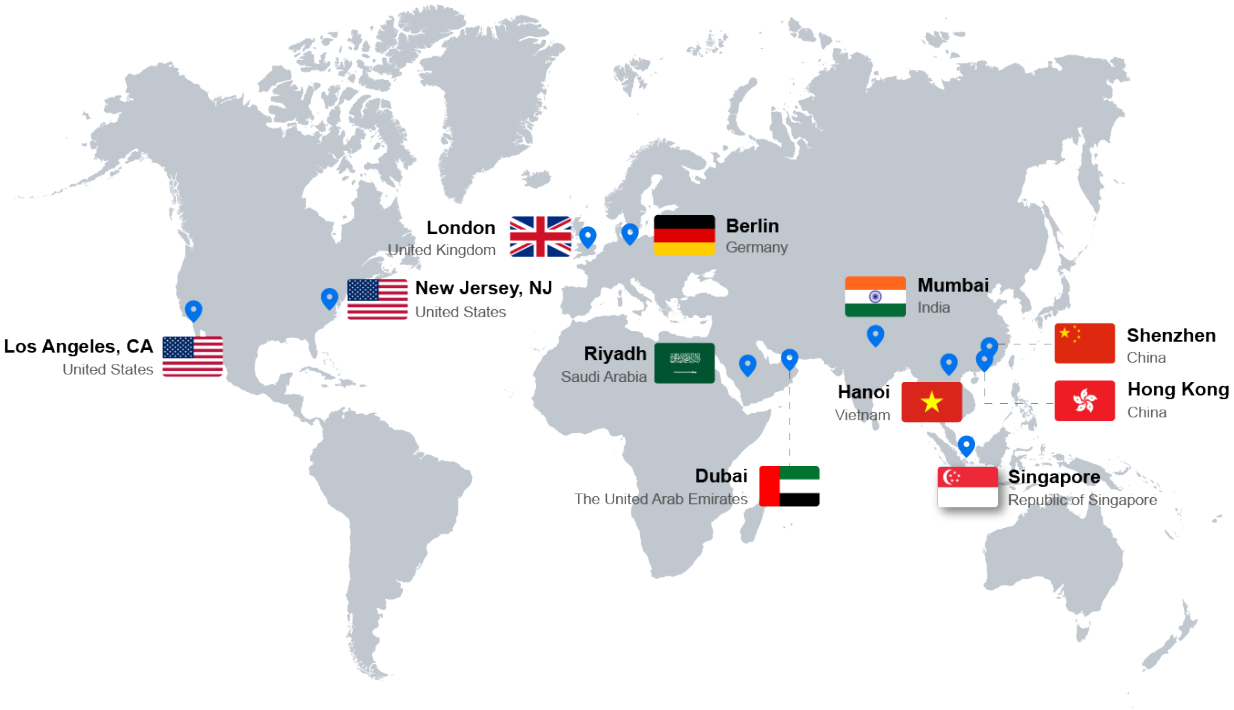

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References

[1] Hewlett Packard Enterprise. (2015). HPE 5400R zl2 Switch Series 8-port 1/2.5/5/10GBASE-T PoE+/8-port SFP+ (No PSU) v3 zl2 Switch Datasheet. Retrieved from https://www.hpe.com/psnow/doc/c04293383