

Aruba JL095A

Datasheet

Product Overview

- Aruba 5400R z12 Switch Series is an HPE Aruba Networking modular platform built for resilient, high-performance enterprise Layer 3 switching.
- Designed for digital workplaces, it serves campus cores, aggregation layers, and high-density access for mobile-first and IoT-heavy environments.
- Key performance includes a 2 Tbps switching fabric, ultra-low latency on ProVision ASICs, and scalable 40GbE, multigigabit, and PoE+ port options.
- Differentiators include Virtual Switching Framework (VSF) stacking, Fast Software Upgrade for near hitless updates, and Smart Rate multigigabit access.
- Aruba Central, AirWave, and ClearPass provide unified deployment, visibility, policy control, and security without extra feature licenses.
- Ideal for enterprises standardizing on wired and wireless convergence, 5400R z12 delivers scalable, always-on connectivity for APs, cameras, and IoT.

Product Highlights

- **Enterprise-Grade Modular Switching:** Layer 3 modular chassis with VSF stacking, dynamic segmentation, and low latency delivers resilient core or aggregation switching for modern campus networks.
- **High-Density Multigigabit and PoE+:** Supports HPE Smart Rate multigigabit ports, line-rate 40GbE uplinks, and up to 288 PoE+ ports to power access points, IP cameras, phones, and IoT devices.
- **Resilient Architecture:** Redundant management modules and hot-swappable power supplies help keep services online during failures or maintenance, protecting critical applications.
- **SDN-Ready with Centralized Control:** Built-in REST APIs, OpenFlow support, and integration with ClearPass, AirWave, and Aruba Central enable software-defined control and advanced security.

Detailed Features



JL095A

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Component	Specification
Chassis Options	6-slot or 12-slot compact modular chassis
Switching Fabric	2 Tbps crossbar switching architecture
Uplink Capacity	Line-rate 40GbE for high-speed aggregation
Access Ports	Up to 96 Smart Rate multigig or 10GbE ports
PoE Capability	Up to 288 ports of IEEE 802.3af/at PoE+

Virtual Switching Framework (VSF)

VSF allows two 5400R switches to operate as a single logical device, simplifying network design and management. Using standard LACP, servers and downstream switches can connect with aggregated links for both load balancing and high availability. This reduces reliance on complex redundancy protocols such as STP, ECMP, and VRRP, while still providing a resilient, loop-free topology for campus cores and aggregation.

Fast Software Upgrade (FSU)

Fast Software Upgrade minimizes downtime when updating a VSF stack by upgrading members sequentially. Traffic is redirected within the stack, shrinking service disruption to only a few seconds. This capability is especially valuable for 24/7 environments where maintenance windows are short, enabling IT teams to keep firmware current, close security gaps, and deploy new features without extended outages.

Nonstop Switching and Routing

Nonstop switching ensures that interface and fabric modules continue forwarding traffic during a failover from the active to the standby management module. Nonstop routing extends this concept to Layer 3, allowing protocols such as OSPFv2/v3 and VRRP to maintain routing adjacencies and continue forwarding routes. Together, these features provide high service continuity for latency-sensitive and real-time applications like voice, video, and wireless access.

Redundancy and High Link Availability

Redundant management and power modules increase overall system uptime and support continuous operations during hardware failures or power module replacements. IEEE 802.1s Multiple Spanning Tree Protocol supports multiple spanning trees across VLANs, while encompassing legacy 802.1D and 802.1w RSTP. This combination provides flexible loop prevention and high link availability in complex VLAN environments, without sacrificing convergence speed or stability.

Advanced Link Aggregation and Trunking

IEEE 802.3ad LACP and HPE port trunking support up to 144 trunks, each with up to eight member ports. This delivers both redundancy and higher aggregated bandwidth between switches, servers, and storage systems. Distributed trunking further enables active-active uplinks to two chassis without relying on spanning tree, allowing one logical trunk to span dual switches for improved load sharing and fault tolerance.

Hot-Swappable and Modular Design

The 5400R platform supports hot-swappable interface modules and power supplies, so components can be added, replaced, or upgraded without impacting live traffic. Shared zL common accessories across the series simplify spares management and inventory. Optional redundant power supplies ensure uninterrupted operation during a PSU failure or replacement, making the solution suitable for mission-critical campus and branch deployments.

High-Performance Architecture

A 2 Tbps crossbar switching fabric provides wire-speed intra-module and inter-module forwarding. The ProVision ASIC delivers up to 785.7 million packets per second of throughput, supporting rich Layer 2 and Layer 3 services without performance penalties. Selectable queue configurations and advanced buffering options allow administrators to tune QoS for different application mixes, from bulk data transfer to latency-sensitive collaboration and multimedia.

SDN and Automation-Ready

The switch offers multiple programmatic interfaces, including REST APIs and OpenFlow 1.0/1.3, enabling integration into software-defined network designs and automation workflows. These interfaces support centralized policy control, real-time monitoring, and automated troubleshooting. By exposing granular telemetry and configuration hooks, the 5400R can fit into modern orchestration platforms, helping reduce manual tasks and improving operational consistency across large networks.

Technical Specifications

Product Specifications

Feature	Value
Product Series	HPE Aruba Networking 5400R zL2 Switch Series
Switching Fabric Capacity	2 Tbps crossbar switching fabric with low 2.1μ latency
Layer 2 and 3 Features	OSPF, IPv6, IPv4 BGP, dynamic segmentation, robust QoS, policy-based routing
Connectivity Options	6 or 12 slot chassis, line rate 40GbE, up to 96 Smart Rate multigigabit or 10GbE ports
PoE Capability	Up to 288 ports of PoE+ for APs, cameras and IoT devices



Feature	Value
Management Platforms	HPE Aruba Networking AirWave, Aruba Central, ClearPass Policy Manager support
SDN Interfaces	REST APIs, OpenFlow support for software-defined networking
Deployment Model	Integrated wired and wireless approach for smart digital workplaces
Use Cases	Aggregation for wireless traffic, mobile-optimized campus core, IoT-ready access
Security Features	Centralized security and external captive portal via HPE Aruba Networking ClearPass
Architecture ASIC	Purpose-built ProVision ASIC with high-speed, high-capacity design
Traffic Aggregation	Scalable aggregation with VSF stacking technology
Upgrade Mechanism	Fast Software Upgrade for 5400R VSF stacks
Resiliency Features	Hitless failover, redundant management, hot-swappable power supplies
Chassis Density	Compact 6-slot or 12-slot modular chassis options
PoE Applications	Powering wireless access points, surveillance cameras, and IoT sensors
Management Style	Easy to deploy, use and manage via centralized tools
Warranty Exclusion Note	Limited Lifetime Warranty (excluded from core parameter table by requirement)

Product Comparison

Feature	JL095A	C9300L-48P-4X-E	C9200L-24P-4X-E
Product Type	Modular Layer 3 campus switch chassis	Fixed Layer 3 access switch	Fixed Layer 3 access switch
Form Factor	6/12-slot modular chassis	1RU fixed, 48-port model	1RU fixed, 24-port model
Switching Capacity	Up to 2 Tbps crossbar fabric	Up to 176 Gbps (platform dependent)	Up to 128 Gbps (platform dependent)
Access Ports	Up to 96 multigig or 10GbE, 288 PoE+	48 × 10/100/1000BASE-T PoE+	24 × 10/100/1000BASE-T PoE+
Uplink Ports	Line-rate 40GbE modules	4 × 1G/10G SFP+ uplinks	4 × 1G/10G SFP+ uplinks
PoE Budget	Chassis-level, scalable with PSUs, up to 288 PoE+ ports	PoE+ with fixed power supply options	PoE+ with fixed power supply options
Stacking / Virtualization	VSF stacking, hitless failover, nonstop routing	StackWise stacking support	StackWise stacking support



Feature	JL095A	C9300L-48P-4X-E	C9200L-24P-4X-E
Target Deployment	Campus core/aggregation and high-density access	Enterprise access/aggregation	Small to medium enterprise access

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none">- AC Power Supply (base unit configuration)- Rack Mounting Kit- Console/Management Cable
Optional Accessories	<ul style="list-style-type: none">- Additional Hot-Swap Power Supply Modules- 40GbE and 10GbE Interface Modules- SFP/SFP+ Transceivers and DAC Cables



Support & Warranty



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References

[1] HPE Aruba Networking. (n.d.). HPE Aruba 5400R z12 Switch Series Data Sheet. Retrieved from <https://www.hpe.com/psnow/doc/c04293383>