HPE aruba networking

Data sheet

HPE Aruba Networking 2930M Switch Series

HPE

Key features

— Enterprise Layer 3 access switches with support for ACLs, robust QoS and common protocols like static, RIP and Access OSPF routing

— Scalability with 10-member backplane VSF stacking up to 480 downlink ports, and models that support 1GbE, 10GbE, and HPE Smart Rate 1/2.5/5/10GbE multi-gigabit Ethernet

— Modular uplink options include 4-port 10GbE SFP+ with MACsec, 4-port 1/2.5/5/10GbE HPE Smart Rate (IEEE 802.3bz), and 1-port 40GbE QSFP+ modules for seamless expansion as the network grows

— Convenient powering with field replaceable power supplies and industry standard Power over Ethernet (PoE), supporting up to 30W of Class 4 and 60W of Class 6 PoE per port

— Simple deployment with zero touch provisioning (ZTP)

— Secure and simple access for users and IoT with HPE Aruba Networking dynamic segmentation

— Management flexibility with support for HPE Aruba Networking Central, easy to use Web GUI, and CLI

— Ready for software defined networking with programmable ASIC, REST APIs, and OpenFlow support, enabling greater flexibility and control

Product overview

The HPE Aruba Networking 2930M Switch Series is designed for customers creating smart digital workplaces that are optimized for mobile users with an integrated wired and wireless approach. These Layer 3 network switches include built-in uplinks and PoE power. They are simple to deploy and manage with advanced security and network management tools like ClearPass Policy Manager and cloud-based HPE Aruba Networking Central.

A powerful HPE Aruba Networking ProVision ASIC delivers performance, robust feature support, and value with flexible programmability for the latest applications. High performance modular stacking for up to 10 switches provides pay-as-you-grow scalability and simplicity. The flexible 2930M supports wire speed 10GbE and 40GbE uplinks, redundant dual modular power supplies for up to 1440W of PoE, and new models with industry-standard IEEE 802.3bt Class 6 that provide up to 60W of PoE per port. HPE Smart Rate multi-gigabit Ethernet models pave the way for high-speed APs and IoT devices by delivering fast connectivity and PoE power using existing campus cabling.

The feature rich 2930M supports a robust QoS, RIP, Access OSPF routing, PIM, VRRP, IPv6 and dynamic segmentation for unified and secure access.

The HPE Aruba Networking 2930M Switch Series provides a simple and powerful access layer solution that can be quickly set up at branch offices with little or no IT support using zero touch deployment. The switches include a limited lifetime warranty.

Enhanced capabilities

Software-defined networks

— Supports multiple programmatic interfaces, including REST APIs and OpenFlow 1.0 and 1.3, to enable automation of network operations, monitoring, and troubleshooting

Unified wired and wireless support

— Supports unified wired and wireless policies using HPE Aruba Networking NAC

— Switch auto-configuration automatically configures switch settings such as VLAN, CoS, PoE max power, and PoE priority when an HPE Aruba Networking access point is detected

— User role defines a set of switch-based policies in areas such as security, authentication, and QoS. A user role can be assigned to a group of users or devices, using switch-based local user role or download from HPE Aruba Networking NAC

— For improved network simplicity and security, HPE Aruba Networking dynamic segmentation automatically enforces user, device, and application-aware policies on HPE Aruba Networking wired and wireless networks. Automated device profiling, role-based access control, and Layer 7 firewall features deliver enhanced visibility and performance for a better overall experience for both IT and end-users alike

— Dynamic segmentation provides a secure tunnel that transports network traffic on a per-port or per-user role basis to an HPE Aruba Networking Controller. In a per-user role Tunnel Node, users are authenticated by the HPE Aruba Networking NAC which directs traffic to be tunneled to a controller or switch locally

Quality of Service (QoS)

— Traffic prioritization (IEEE 802.1p) for real-time classification into eight priority levels mapped to eight queues

— Layer 4 prioritization based on TCP/UDP port numbers

— Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ

— Rate limiting sets per-port ingress enforced maximums and per-port, per-queue minimums

— Large buffers provide graceful congestion management

— Unknown Unicast Rate Limiting throttles unicast packets with unknown destination addresses and limits flooding on the VLAN

Connectivity

— HPE Smart Rate multi-gigabit (IEEE 802.3bz) Ethernet supports high speed wireless access points. Flexible configurations include:

- Switch with 24 Smart Rate ports supporting high power IEEE 802.3bt Class 6 (60W)
- Switch with 40 gigabit ports and 8 Smart Rate ports supporting high power IEEE 802.3bt Class 6 (60W)
- All 2930M switches support optional 4 port Smart Rate module

— Flexible 10 Gbps Ethernet connectivity — Modular 4 port 10 Gigabit (SFP+) available

— Models with IEEE 802.3bt Class 6 PoE provides up to 60W per port for IEEE 802.3bt compatible devices

— 40 Gbps Uplink port connectivity — Modular 40 Gbps QSFP+ port available

— Auto-MDIX provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports

— IEEE 802.3at Power over Ethernet (PoE+) provides up to 30W per port that allows support of the latest PoE+-capable devices such as IP phones, wireless access points, and security cameras, as well as any IEEE 802.3af-compliant end device; eliminates the cost of additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments

— Support for pre-standard PoE detects and provides power to pre-standard PoE devices

— IPv6

- IPv6 host enables switches to be managed in an IPv6 network
- Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, supporting connectivity for both protocols
- MLD snooping forwards IPv6 multicast traffic to the appropriate interface
- IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
- IPv6 Routing supports Static, RIPng and OSPFv3 protocols
- Security provides RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping

Performance and efficiency

— Energy-efficient design

- 80 PLUS Gold and Platinum Certified power supplies increase power efficiency and savings
- Energy-efficient Ethernet (EEE) support reduces power consumption in accordance with IEEE 802.3az

— Designed with the latest HPE Aruba Networking ProVision ASIC, providing very low latency, increased packet buffering, and adaptive power consumption

— Selectable queue configurations allow for increased performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications

— VSF Stacking — scale and simplicity
  • The HPE Aruba Networking Virtual Switching Framework (VSF) on the 2930M series allows you to quickly grow your network using resilient, stacking with the following benefits:
  • High performance stacking — up to 100 Gbps of stacking throughput per switch. Each 2-port stacking module can support up to 25 Gbps in each direction per port.
  • Support for ring and chain topology with a stack of up to 10 switch members
  • Simplified configuration and management as the switches act as a single chassis when stacked

Convergence

— IP multicast snooping and data-driven IGMP automatically prevent flooding of IP multicast traffic
— LLDP-MED (Media Endpoint Discovery) defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to configure automatically network devices such as IP phones
— IEEE 802.1AB Link Layer Discovery Protocol (LLDP) facilitates easy mapping using network management applications with LLDP automated device discovery protocol
— PoE and PoE+ allocations support multiple methods (automatic, IEEE 802.3 at dynamic, LLDP-MED fine grain, IEEE 802.3af device class, or user-specified) to allocate and manage PoE/PoE+ power for more efficient energy savings
— PoE Class 6 allocations support increased dynamic power up to 60W with new IEEE 802.3bt LLDP type, length, and value (TLV) information extended to 29 octets
— Local MAC Authentication assigns attributes such as VLAN and QoS using locally configured profile that can be a list of MAC prefixes
— IP multicast routing includes PIM sparse and dense modes to route IP multicast traffic
— Protocol Independent Multicast for IPv6 supports one-to- many and many-to-many media casting use cases such as IPTV over IPv6 networks

Resiliency and high availability

— Virtual Router Redundancy Protocol (VRRP) allows groups of two routers to back each other up dynamically to create highly available routed environments in IPv4 and IPv6 networks
— IEEE 802.1s Multiple Spanning Tree provides high link availability in multiple VLAN environments by allowing multiple Spanning Trees; provides legacy support for IEEE 802.1d and IEEE 802.1w
— IEEE 802.3ad Link Aggregation Control Protocol (LACP) and port trunking supports up to 60 static and dynamic trunks with each trunk having up to eight links (ports) per static trunk
— SmartLink provides easy-to-configure link redundancy of active and standby links
— Dual hot-swappable power supplies
  • Increased resiliency provides secondary power supply to enable complete switch power redundancy in case or power line or supply failure
  • Increased PoE power provides secondary power supply to increase the total available PoE power

Simplified configuration and management

— HPE Aruba Networking Central cloud-based management platform offers simple, secure, and cost-effective way to manage switches
— Zero touch provisioning (ZTP) simplifies day zero deployment and installation
— Built-in programmable and easy to use REST API interface provides configuration automation for campus networks
— Out-of-band Ethernet management port enables management on a separate physical management network, and keeps management traffic segmented from network data traffic
— SNMPv1, v2, and v3 provide complete support of SNMP; provide full support of industry-standard management information base (MIB) plus private extensions; SNMPv3 supports increased security using encryption

Manageability

— Dual flash images provide independent primary and secondary operating system files for backup while upgrading
— Friendly port names allow assignment of descriptive names to ports
— Find-Fix-Inform feature finds and fixes common network problems automatically, then informs administrator
— Supports multiple configuration files to be stored to a flash image
— RMON, XRMON, and sFlow® provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
— Troubleshooting ingress and egress port monitoring enable more efficient network problem solving
— Unidirectional link detection (UDLD) monitors the link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices
— Power down mode delivers power savings by allowing the switch to power down most of the switch, except a clock which will boot up the switch when scheduled

Layer 2 switching

— IEEE802.1ad QinQ — Increases the scalability of an Ethernet network by providing a hierarchical structure; connects multiple LANs on a high-speed campus or metro network

— VLAN Support and Tagging supports IEEE 802.1Q (4094 VLAN IDs) and 2K VLANs simultaneously

— Jumbo packet support improves the performance of large data transfers; supports frame size of up to 9220 bytes

— IEEE 802.1v protocol VLANs isolate select non-IPv4 protocols automatically into their own VLANs

— Rapid per VLAN Spanning Tree (RPVST+) allows each VLAN to build a separate Spanning Tree to improve link bandwidth usage; is compatible with PVST+

— GVRP and MVRP allows automatic learning and dynamic assignment of VLANs

— VLAN encapsulation (tunneling) protocol for overlay network that enables a more scalable virtual network deployment

— IEEE 1588v2 transparent clock Mode[1] — step and end-to-end delay mode support critical timing applications

Layer 3 services

— DHCP server centralizes and reduces the cost of IPv4 address management

Layer 3 routing

— Static IP routing provides manually configured routing; includes ECMP capability

— Routing Information Protocol (RIP) provides RIPv1, RIPv2, and RIPng routing

— Access OSPF provides OSPFv2 and OSPFv3 protocols for routing between access and the next layer on the LAN. One OSPF area and up to eight interfaces are supported

— Policy-based routing uses a classifier to select traffic that can be forwarded based on policy set by the network administrator (limited to 16 next-hop routes)

Security

— Multiple user authentication methods

- Uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards
- Supports web-based authentication
- Supports MAC-based client authentication

— TPM-based security

- Includes a Trusted Platform Module (TPM) for secure hardware-based generation and storage of cryptographic keys that can be used for a variety of authentication purposes

— Authentication flexibility

- Multiple IEEE 802.1X users per port provides authentication of multiple devices on a single port; prevents a user from "piggybacking" on another user's IEEE 802.1X authentication
- Concurrent IEEE 802.1X, web, and MAC authentication schemes per port switch port will accept up to 32 sessions of IEEE 802.1X, web, and MAC authentications

— Open Authentication Role simplifies first-time deployment of AAA in brownfield deployments by allowing full network access for failed clients and provides instant connectivity as soon as a client is plugged-in

— Critical Authentication Role ensures that important infrastructure devices such as IP phones are allowed network access even in the absence of a RADIUS server

— MAC Pinning allows non-chatty legacy devices to stay authenticated by pinning client MAC addresses to the port until the clients log off or get disconnected

— Access control lists (ACLs) provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number

— Source-port filtering allows only specified ports to communicate with each other

— Control Plane Policing: Set rate limit on control protocols to protect CPU overload

— RADIUS/TACACS+ eases switch management security administration by using a password authentication server

— Secure shell encrypts all transmitted data for secure remote CLI access over IP networks

— Secure Sockets Layer (SSL) encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch

— Port security allows access only to specified MAC addresses, which can be learned or specified by the administrator

— Radius over TLS (RadSec) allows users to use a more secure and reliable mode of communications between switch and RADIUS servers over unsecure networks

[1] IEEE 1588v2 (PTP) is not supported on the following 2930M models: JL323A, JL324A, R0M67A, R0M68A or 2930M modules: JL325A, JL078A, JL081A, JL083A

— MAC address lockout prevents particular configured MAC addresses from connecting to the network
— Secure FTP allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file
— Switch management logon security helps secure switch CLI logon by optionally requiring either RADIUS or TACACS+ authentication
— Custom banner displays security policy when users log in to the switch
— STP BPDU port protection blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
— DHCP protection blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
— Dynamic ARP protection blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
— STP root guard protects the root bridge from malicious attacks or configuration mistakes
— Identity-driven ACL enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
— Per-port broadcast throttling configures broadcast control selectively on heavy traffic port uplinks
— Private VLAN provides network security by restricting peer-to-peer communication to prevent a variety of malicious attacks; typically a switch port can only communicate with other ports in the same community and/or an uplink port, regardless of VLAN ID or destination MAC address
— IEEE 802.1AE MACsec provides security on a link between two switch ports (1 Gbps or 10 Gbps or HPE Smart Rate) using standard encryption and authentication
— Enrollment over Secure Transport (EST) enhances the switch PKI infrastructure with a simpler, scalable, and more secure method of certificate provisioning, re-enrollment, and renewal

Monitor and diagnostics

— Digital optical monitoring of SFP+ and 1000Base-T transceivers allows detailed monitoring of the transceiver settings and parameters

Customer first, customer last support

When your network is important to your business, then your business needs the backing of HPE Aruba Networking Support Services. Partner with HPE Aruba Networking product experts to increase your team's productivity, keep pace with technology advances, software releases, and obtain break-fix support.

HPE Aruba Networking Foundational Care support services include priority access to HPE Aruba Networking Technical Assistance Center (TAC) engineers 24x7x365, flexible hardware and On-site support options, and total coverage for HPE Aruba Networking products. HPE Aruba Networking Switches with an assigned HPE Aruba Networking Central Subscription are eligible for additional hardware support and replacement options for purchase.

HPE Aruba Networking Pro Care adds fast access to senior TAC engineers, who are assigned as a single point of contact for case management, reducing the time spent addressing and resolving issues.

For complete details on Foundational Care and Pro Care, please visit: arubanetworks.com/support-services/

Warranty, services, and support

— Limited lifetime warranty, see arubanetworks.com/support-services/product-warranties/ for warranty and support information included with your product purchase
— For software releases and documentation, refer to networkingsupport.hpe.com/downloads
— For support and services information, visit arubanetworks.com/support-services/

Technical specifications

	JL319A HPE Aruba Networking 2930M 24G 1-slot Switch	JL320A HPE Aruba Networking 2930M 24G PoE+ 1-slot Switch	JL321A HPE Aruba Networking 2930M 48G 1-slot Switch
I/O ports and slots			
	20 Autosensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only	20 Autosensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T IEEE 802.3at PoE+); Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only	44 Autosensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only
	4 Combo 10/100/1000Base-T or 100/1000 Mbps SFP Ports	4 Combo 10/100/1000Base-T PoE+ or 100/1000 Mbps SFP Ports	4 Combo 10/100/1000Base-T or 100/1000 Mbps SFP Ports
Additional ports and slots			
	1 Dual Personality (RJ-45 or USB Micro-B) serial console port	1 Dual Personality (RJ-45 or USB Micro-B) serial console port	1 Dual Personality (RJ-45 or USB Micro-B) serial console port
	1 USB A port for uploading/ downloading files	1 USB A port for uploading/ downloading files	1 USB A port for uploading/ downloading files
	1 100Base-T Out of Band Management Port	1 100Base-T Out of Band Management Port	1 100Base-T Out of Band Management Port
	1 Uplink Slot	1 Uplink Slot	1 Uplink Slot
	1 Stacking Module Slot	1 Stacking Module Slot	1 Stacking Module Slot
	2 Power Supply Slots (power supplies not included)	2 Power Supply Slots (power supplies not included)	2 Power Supply Slots (power supplies not included)
Physical characteristics			
Dimensions	1.73" (Height) x 17.42" (Width) x 12.77" (Depth) (4.39cm x 44.25cm x 32.43cm)	1.73" (Height) x 17.42" (Width) x 12.77" (Depth) (4.39cm x 44.25cm x 32.43cm)	1.73" (Height) x 17.42" (Width) x 12.77" (Depth) (4.39cm x 44.25cm x 32.43cm)
Weight	9.81 lbs 4.45 kg	9.92 lbs 4.50 kg	10.14 lbs 4.60 kg
Memory and processor			
	Dual Core Arm® Cortex A9 @ 1016 MHz	Dual Core Arm Cortex A9 @ 1016 MHz	Dual Core Arm Cortex A9 @ 1016 MHz
	1 GB DDR3 SDRAM	1 GB DDR3 SDRAM	1 GB DDR3 SDRAM
	Packet Buffer Size: 12.38 MB and 4.5 MB Ingress/7.875 MB Egress	Packet Buffer Size: 12.38 MB and 4.5 MB Ingress/7.875 MB Egress	Packet Buffer Size: 12.38 MB and 4.5 MB Ingress/7.875 MB Egress
	4 GB eMMC	4 GB eMMC	4 GB eMMC
Performance			
	IPv6 Ready Certified	IPv6 Ready Certified	IPv6 Ready Certified
10 Mbps latency	<98.5µs (FIFO 64 byte packets)	<98.5µs (FIFO 64 byte packets)	<98.5µs (FIFO 64 byte packets)
100 Mbps latency	<11.8µs (FIFO 64-byte Packets)	<11.8µs (FIFO 64-byte Packets)	<11.8µs (FIFO 64-byte Packets)
1000 Mbps latency	<3.1µs (FIFO 64-byte packets)	<3.1µs (FIFO 64-byte packets)	<3.1µs (FIFO 64-byte packets)
10 Gbps latency	<3.4µs (FIFO 64-byte packets)	<3.4µs (FIFO 64-byte packets)	<3.4µs (FIFO 64-byte packets)
Throughput	95.2 Mpps	95.2 Mpps	112 Mpps
Stacking performance	100 Gbps	100 Gbps	100 Gbps
Switching capacity	128 Gbps	128 Gbps	176 Gbps
Switching capacity (Including stacking)	228 Gbps	228 Gbps	276 Gbps

Technical specifications (continued)

	JL319A HPE Aruba Networking 2930M 24G 1-slot Switch	JL320A HPE Aruba Networking 2930M 24G PoE+ 1-slot Switch	JL321A HPE Aruba Networking 2930M 48G 1-slot Switch
Performance			
Routing table size	2,000 IPv4, 1000 IPv6 in hardware, 200 OSPF, 256 Static, 10,000 RIP	2,000 IPv4, 1000 IPv6 in hardware, 200 OSPF, 256 Static, 10,000 RIP	2,000 IPv4, 1000 IPv6 in hardware, 200 OSPF, 256 Static, 10,000 RIP
Mac address table size	32,768 entries	32,768 entries	32,768 entries
Environment			
Operating temperature[1]	32°F to 131°F (0°C to 55°C) up to 5000 ft, 32°F to 122°F (0°C to 50°C). Derate –1°C for every 1000 ft from 5000 ft to 10,000 ft	32°F to 131°F (0°C to 55°C) up to 5000 ft, 32°F to 122°F (0°C to 50°C). Derate –1°C for every 1000 ft from 5000 ft to 10,000 ft	32°F to 131°F (0°C to 55°C) up to 5000ft, 32°F to 122°F (0°C to 50°C). Derate –1°C for every 1000 ft from 5000 ft to 10,000 ft
Operating relative humidity	15% to 95% (non-condensing) 10,000 ft	15% to 95% (non-condensing) 10,000 ft	15% to 95% (non-condensing) 10,000 ft
Non-operating/ storage temperature	−40°C to +70°C up to 15,000 ft	−40°C to +70°C up to 15,000 ft	−40°C to +70°C up to 15,000 ft
Non-operating/storage relative humidity	90% at 65°C (non-condensing); 15,000 ft	90% at 65°C (non-condensing); 15,000 ft	90% at 65°C (non-condensing); 15,000 ft
Acoustic	Sound Power L_{WaD}=4.0 Bel, Sound Pressure L_{pAm}, Bystander=22.8 dB	Sound Power L_{WaD}=4.6 Bel, Sound Pressure L_{pAm}, Bystander=28.8 dB	Sound Power L_{WaD}=4.1 Bel, Sound Pressure L_{pAm}, Bystander=23.7 dB
Primary airflow direction	Port to Power	Port to Power	Port to Power
Electrical characteristics			
Frequency	50/60Hz	50/60Hz	50/60Hz
Maximum heat dissipation	168 BTU/hr 177 kJ/hr	168 BTU/hr 177 kJ/hr	263 BTU/hr 278 kJ/hr
Voltage	JL085A PSU: 100-127/200-240	JL086A PSU: 100-127/200-240 VAC JL087A PSU: 110-127/200-240 VAC	JL085A PSU: 100-127/200-240
Current	JL085A PSU: 0.5A/0.3A	JL086A PSU (each): 4.8A/2.4A JL087A PSU (each): 8.6A/4.3A	JL085A PSU: 1A/0.5A
Maximum power rating	49W	JL086A PSU (each): 450W JL087A PSU (each): 810W	78W
Idle power	34W	63W	52W
PoE power (max possible)	N/A	840W	N/A
Hibernate power	11W	23W	11W
Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst case theoretical maximum numbers provide for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst case theoretical maximum numbers provide for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst case theoretical maximum numbers provide for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.

[1] IEEE 1588v2 (PTP) is not supported on the following 2930M models: JL323A, JL324A, R0M67A, R0M68A or 2930M modules: JL325A, JL078A, JL081A, JL083A

Technical specifications (continued)

	JL322A HPE Aruba Networking 2930M 48G PoE+ 1-slot Switch	JL323A HPE Aruba Networking 2930M 40G 8 HPE Smart Rate PoE+ 1-slot Switch	ROM67A HPE Aruba Networking 2930M 40G 8 HPE Smart Rate PoE Class 6 1-slot Switch
I/O ports and slots			
	44 Autosensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T, IEEE 802.3at PoE+); Duplex: 10Base-T/ 100Base-TX: half or full; 1000Base-T: full only	36 Autosensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T PoE+); Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only	36 Autosensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T PoE Class 6); Duplex: 10Base-T/ 100Base-TX: half or full; 1000Base-T: full only
	4 Combo 10/100/1000Base-T PoE+ or 100/1000 Mbps SFP Ports	4 Combo 10/100/1000Base-T PoE+ or 100/1000 Mbps SFP Ports	4 Combo 10/100/1000Base-T PoE Class 6 or 100/1000 Mbps SFP Ports
		8 802.3bz 100M, 1/2.5/5 GBase-T and 10 GBase-T copper PoE+ ports	8 802.3bz 100M, 1/2.5/5 GBase-T and 10 GBase-T PoE Class 6 ports
Additional ports and slots			
	1 Dual Personality (RJ-45 or USB Micro-B) serial console port	1 Dual Personality (RJ-45 or USB Micro-B) serial console port	1 Dual Personality (RJ-45 or USB Micro-B) serial console port
	1 USB A port for uploading/ downloading files	1 USB A port for uploading/ downloading files	1 USB A port for uploading/ downloading files
	1 100Base-T Out of Band Management Port	1 100Base-T Out of Band Management Port	1 100Base-T Out of Band Management Port
	1 Uplink Slot	1 Uplink Slot	1 Uplink Slot
	1 Stacking Module Slot	1 Stacking Module Slot	1 Stacking Module Slot
	2 Power Supply Slots (power supplies not included)	2 Power Supply Slots (power supplies not included)	2 Power Supply Slots (power supplies not included)
Physical characteristics			
Dimensions	1.73" (Height) x 17.42" (Width) x 12.77" (Depth) (4.39cm x 44.25cm x 32.43cm)	1.73" (Height) x 17.42" (Width) x 12.77" (Depth) (4.39cm x 44.25cm x 32.43cm)	1.73" (Height) x 17.42" (Width) x 12.77" (Depth) (4.39cm x 44.25cm x 32.43cm)
Weight	10.25 lbs 4.65 kg	9.81 lbs 4.45 kg	9.90 lbs 4.49 kg
Memory and processor			
	Dual Core Arm Cortex A9 @ 1016 MHz	Dual Core Arm Cortex A9 @ 1016 MHz	Dual Core Arm Cortex A9 @ 1016 MHz
	1 GB DDR3 SDRAM	1 GB DDR3 SDRAM	1 GB DDR3 SDRAM
	Packet Buffer Size: 12.38 MB and 4.5 MB Ingress/7.875 MB Egress	Packet Buffer Size: 12.38 MB and 4.5 MB Ingress/7.875 MB Egress	Packet Buffer Size: 12.38 MB and 4.5 MB Ingress/7.875 MB Egress
	4 GB eMMC	4 GB eMMC	4 GB eMMC
Performance			
10 Mbps latency	<98.5µs (FIFO 64 byte packets)	<98.5µs (FIFO 64 byte packets	<98.5µs (FIFO 64-byte packets)
100 Mbps latency	<11.8µs (FIFO 64-byte Packets	<11.8µs (FIFO 64-byte Packets)	<11.8µs (FIFO 64-byte packets)
1000 Mbps latency	<3.1µs (FIFO 64-byte packets)	<3.1µs (FIFO 64-byte packets)	<3.1µs (FIFO 64-byte packets)
2.5 Gbps latency	N/A	<6.5µs (FIFO 64-byte packets)	<6.5µs (FIFO 64-byte packets)
5 Gbps latency	N/A	<4.2µs (FIFO 64-byte packets)	<4.2µsv (FIFO 64-byte packets)
10 Gbps latency	<3.4µs (FIFO 64-byte packets)	<3.4µs (FIFO 64-byte packets)	<3.4µs (FIFO 64-byte packets)
Throughput	112 Mpps	112 Mpps	112 Mpps
Stacking performance	100 Gbps	100 Gbps	100 Gbps

Technical specifications (continued)

	JL322A HPE Aruba Networking 2930M 48G PoE+ 1-slot Switch	JL323A HPE Aruba Networking 2930M 40G 8 HPE Smart Rate PoE+ 1-slot Switch	R0M67A HPE Aruba Networking 2930M 40G 8 HPE Smart Rate PoE Class 6 1-slot Switch
Performance			
Switching capacity	176 Gbps	320 Gbps	320 Gbps
Switching capacity (including stacking)	276 Gbps	420 Gbps	420 Gbps
Routing table size	2,000 IPv4, 1000 IPv6 in hardware, 200 OSPF, 256 Static, 10,000 RIP	2,000 IPv4, 1000 IPv6 in hardware, 200 OSPF, 256 Static, 10,000 RIP	2,000 IPv4, 1000 IPv6 in hardware, 200 OSPF, 256 Static, 10,000 RIP
Mac address table size	32,768 entries	32,768 entries	32,768 entries
Environment			
Operating temperature[1]	32°F to 131°F (0°C to 55°C) up to 5000ft, 32°F to 122°F (0°C to 50°C). Derate -1°C for every 1000 ft from 5000 ft to 10,000 ft	32°F to 131°F (0°C to 55°C) up to 5000ft, 32°F to 122°F (0°C to 50°C). Derate -1°C for every 1000 ft from 5000 ft to 10,000 ft	32°F to 131°F (0°C to 55°C) up to 5000ft, 32°F to 122°F (0°C to 50°C). Derate -1°C for every 1000 ft from 5000 ft to 10,000 ft
Operating relative humidity	15% to 95% (Non-condensing) 10,000 ft	15% to 95% (Non-condensing) 10,000 ft	15% to 95% (Non-condensing) 10,000 ft
Non-operating/ storage temperature	–40°C to +70°C up to 15,000 ft	–40°C to +70°C up to 15,000 ft	–40°C to +70°C up to 15,000 ft
Non-operating/storage relative humidity	90% at 65°C (non-condensing); 15,000 ft	90% at 65°C (non-condensing); 15,000 ft	90% at 65°C (non-condensing); 15,000 ft
Acoustic	Sound Power L_{WaD}=4.6 Bel, Sound Pressure L_{pAm}, Bystander=28.9 dB	Sound Power L_{WaD}=4.4 Bel, Sound Pressure L_{pAm}, Bystander=26.0 dB	Sound Power LWaD=4.5 Bel, Sound Pressure LpAm, Bystander = 27.1 dB
Primary airflow direction	Port to Power	Port to Power	Port to Power
Electrical characteristics			
Frequency	50/60Hz	50/60Hz	50/60Hz
Maximum heat dissipation	355 BTU/hr 375 kJ/hr	457 BTU/hr 482 kJ/hr	457 BTU/hr 482 kJ/hr
Voltage	JL086A PSU: 100-127/200-240 VAC JL087A PSU: 110-127/200-240 VAC	JL086A PSU: 100-127/200-240 VAC JL087A PSU: 110-127/200-240 VAC	JL086A PSU: 100-127/200-240 VAC JL087A PSU: 110-127/200-240 VAC
Current	JL086A PSU (each): 5A/2.5A JL087A PSU (each): 9A/4.5A	JL086A PSU (each): 5.3/2.6A JL087A PSU (each): 9A/4.5A	JL086A PSU (each): 5.3A/2.6A JL087A PSU (each): 9A/4.5A
Maximum power rating	JL086A PSU (each): 470W JL087A PSU (each): 860W	JL086A PSU (each): 495W JL087A PSU (each): 855W	JL086A PSU (each): 495W JL087A PSU (each): 855W
Idle power	73W	90W	90W
PoE power (max possible)	1440W	1440W	1440W
Hibernate power	23W	25W	25W

[1] IEEE 1588v2 (PTP) is not supported on the following 2930M models: JL323A, JL324A, R0M67A, R0M68A or 2930M modules: JL325A, JL078A, JL081A, JL083A

Technical specifications (continued)

	JL322A HPE Aruba Networking 2930M 48G PoE+ 1-slot Switch	JL323A HPE Aruba Networking 2930M 40G 8 HPE Smart Rate PoE+ 1-slot Switch	R0M67A HPE Aruba Networking 2930M 40G 8 HPE Smart Rate PoE Class 6 1-slot Switch
Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst case theoretical maximum numbers provide for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	Heat dissipation does not include heat dissipated by the PoE-powered devices themselves. Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst case theoretical maximum numbers provide for planning the infrastructure with 100% traffic, all ports plugged in, and all modules populated.	Heat dissipation does not include heat dissipated by the PoE-powered devices themselves. Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst case theoretical maximum numbers provide for planning the infrastructure with 100% traffic, all ports plugged in, and all modules populated.

Technical specifications (continued)

	JL324A HPE Aruba Networking 2930M 24 HPE Smart Rate PoE+ 1-slot Switch	R0M68A HPE Aruba Networking 2930M 24 HPE Smart Rate PoE Class 6 1-slot Switch
I/O ports and slots		
	24 Autosensing 100M, 1/2.5/5 GBase-T ports PoE+	24 Autosensing 100M, 1/2.5/5 GBase-T PoE Class 6 ports
Additional ports and slots		
	1 Dual Personality (RJ-45 or USB Micro-B) serial console port	1 Dual Personality (RJ-45 or USB Micro-B) serial console port
	1 USB A port for uploading/downloading files	1 USB A port for uploading/downloading files
	1 100Base-T Out of Band Management Port	1 100Base-T Out of Band Management Port
	1 Uplink Slot	1 Uplink Slot
	1 Stacking Module Slot	1 Stacking Module Slot
	2 Power Supply Slots (power supplies not included)	2 Power Supply Slots (power supplies not included)
Physical characteristics		
Dimensions	1.73" (Height) x 17.42" (Width) x 12.77" (Depth) (4.39cm x 44.25cm x 32.43cm)	1.73" (Height) x 17.42" (Width) x 12.77" (Depth) (4.39cm x 44.25cm x 32.43cm)
Weight	9.92 lbs 4.50 kg	9.96 lbs 4.52 kg
Memory and processor		
	Dual Core Arm Cortex A9 @ 1016 MHz	Dual Core Arm Cortex A9 @ 1016 MHz
	1 GB DDR3 SDRAM	1 GB DDR3 SDRAM
	Packet Buffer Size: 12.38 MB and 4.5 MB Ingress/7.875 MB Egress	Packet Buffer Size: 12.38 MB and 4.5 MB Ingress/7.875 MB Egress
	4 GB eMMC	4 GB eMMC
Performance		
10 Mbps latency	N/A	N/A
100 Mbps latency	N/A	N/A
1000 Mbps latency	<3.1µs (FIFO 64-byte packets)	<3.1µs (FIFO 64-byte packets)
2.5 Gbps latency	<6.5µs (FIFO 64-byte packets)	<6.5µs (FIFO 64-byte packets)
5 Gbps latency	<4.2µs (FIFO 64-byte packets)	<4.2µs (FIFO 64-byte packets)
10 Gbps latency	<3.4µs (FIFO 64-byte packets)	<3.4µs (FIFO 64-byte packets)
Throughput	112 Mpps	112 Mpps
Stacking performance	100 Gbps	100 Gbps
Switching capacity	320 Gbps	320 Gbps
Switching capacity (including stacking)	420 Gbps	420 Gbps
Routing table size	2,000 IPv4, 1000 IPv6 in hardware, 200 OSPF, 256 Static, 10,000 RIP	2,000 IPv4, 1,000 IPv6 in hardware, 200 OSPF, 256 Static, 10,000 RIP
Mac address table size	32,768 entries	32,768 entries

Technical specifications (continued)

	JL324A HPE Aruba Networking 2930M 24 HPE Smart Rate PoE+ 1-slot Switch	R0M68A HPE Aruba Networking 2930M 24 HPE Smart Rate PoE Class 6 1-slot Switch
Environment		
Operating temperature[2]	32°F to 113°F (0°C to 45°C) up to 5000ft, 32°F to 104°F (0°C to 40°C). Derate –1°C for every 1000 ft from 5000 ft to 10,000 ft	32°F to 113°F (0°C to 45°C) up to 5000ft, 32°F to 104°F (0°C to 40°C). Derate –1°C for every 1000 ft from 5000 ft to 10,000 ft
Operating relative humidity	15% to 95% (Non-condensing) 10,000 ft	15% to 95% (Non-condensing) 10,000 ft
Non-operating/ storage temperature	–40°C to +70°C up to 15,000 ft	–40°C to +70°C up to 15,000 ft
Non-operating/storage relative humidity	90% at 65°C (non-condensing); 15,000 ft	90% at 65°C (non-condensing); 15,000 ft
Acoustic	Sound Power L_{WaD}=4.8 Bel, Sound Pressure L_{pAm}, Bystander=31.3 dB	Sound Power L_{WaD}=4.9 Bel, Sound Pressure L_{pAm}, Bystander=31.6 dB
Primary airflow direction	Port to Power	Port to Power
Electrical characteristics		
Frequency	50/60Hz	50/60 Hz
Maximum heat dissipation	522 BTU/hr 551 kJ/hr	522 BTU/hr 551 kJ/hr
Voltage	JL086A PSU: 100-127/200-240 VAC JL087A PSU: 110-127/200-240 VAC	JL086A PSU: 100-127/200-240 VAC JL087A PSU: 110-127/200-240 VAC
Current	JL086A PSU (each): 5.4/2.7A JL087A PSU (each): 9.2/4.6A	JL086A PSU (each): 5.4A/2.7A JL087A PSU (each): 9.2A/4.6A
Maximum power rating	JL086A PSU (each): 513W JL087A PSU (each): 873W	JL086A PSU (each): 513W JL087A PSU (each): 873W
Idle power	101W	101W
PoE power (max possible)	840W	1440W
Hibernate power	27W	27W
Notes	Heat dissipation does not include heat dissipated by the PoE-powered devices themselves. Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst case theoretical maximum numbers provide for planning the infrastructure with 100% traffic, all ports plugged in, and all modules populated.	Heat dissipation does not include heat dissipated by the PoE-powered devices themselves. Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst case theoretical maximum numbers provide for planning the infrastructure with 100% traffic, all ports plugged in, and all modules populated.

[2] The operating temperature range for an HPE Aruba Networking 2930M switch is 0°C to 50°C (32°F to 122°F) if any of the following transceivers are installed in the switch:

— J9150A HP X132 10G SFP+ LC SR Transceiver

— J9151A HP X132 10G SFP+ LC LR Transceiver

— J9152A HP X132 10G SFP+ LC LRM Transceiver

— J9153A HP X132 10G SFP+ LC ER Transceiver

Technical specifications (continued)

HPE Aruba Networking 2930M Switch Series	
Safety	
	UL 60950-1, 2nd Edition UL 62368-1: 2nd Edition EN 60950-1:2006 +A11:2009 : A1:2010 +A12:2011 +A2:2013 EN 62368-1: 2nd Edition IEC60950-1:2005 +A1:2009 +A2:2013 IEC62368-1:2014, 2nd Edition CSA 22.2 No. 60950-1-07, 2nd Edition IEC-62368-1: 2nd Edition EN60825-1:2007/IEC 60825-1:2007 Class 1
Emissions	
	EN 55032:2015/CISPR32:2015 Class A CNS 13438: 2006 Class A VCCI Class A FCC Title 47 CFR, Part 15, Class A ICES-003 Class A
Immunity	
Generic	EN 55024:2010/CISPR 24
ESD	IEC 61000-4-2
Radiated	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4
Surge	IEC 61000-4-5
Conducted	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11
Harmonics	EN 61000-3-2, IEC 61000-3-2
Flicker	EN 61000-3-3, IEC 61000-3-3

Standards and protocols (applies to all products in series)

Denial of service protection

— CPU DoS Protection

Device management

— RFC 1155 Structure and Mgmt Information (SMIv1)
— RFC 1157 SNMPv1/v2c
— RFC 1591 DNS (client)
— RFC 1901 (Community based SNMPv2)
— RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II
— RFC 1908 (SNMP v1/2 Coexistence)
— RFC 2576 (Coexistence between SNMP V1, V2, V3)
— RFC 2578-2580 SMIv2
— RFC 2579 (SMIv2 Text Conventions)
— RFC 2580 (SMIv2 Conformance)
— RFC 2819 (RMON groups Alarm, Event, History and Statistics only)
— RFC 3416 (SNMP Protocol Operations v2)
— RFC 3417 (SNMP Transport Mappings)
— HTML and telnet management
— HTTP, SSHv1, and Telnet
— Multiple Configuration Files
— Multiple Software Images
— SNMP v3 and RMON RFC support
— SSHv1/SSHv2 Secure Shell
— TACACS/TACACS+
— Web UI

General protocols

— IEEE 802.1ad Q-in-Q
— IEEE 802.1AX-2008 Link Aggregation
— IEEE 802.1D MAC Bridges
— IEEE 802.1p Priority
— IEEE 802.1Q VLANs
— IEEE 802.1s Multiple Spanning Trees
— IEEE 802.1v VLAN classification by Protocol and Port
— IEEE 802.1w Rapid Reconfiguration of Spanning Tree
— IEEE 802.3ab 1000Base-T
— IEEE 802.3ad Link Aggregation Control Protocol (LACP)
— IEEE 802.3af Power over Ethernet
— IEEE 802.3at PoE+
— IEEE 802.3az Energy Efficient Ethernet
— IEEE 802.3bt 4-pair Power over Ethernet (PoE)
— IEEE 802.3bz 2.5 Gbps and 5 Gbps interfaces
— IEEE 802.3x Flow Control
— RFC 768 UDP
— RFC 783 TFTP Protocol (revision 2)
— RFC 792 ICMP
— RFC 793 TCP
— RFC 826 ARP
— RFC 854 TELNET
— RFC 868 Time Protocol
— RFC 951 BOOTP
— RFC 1058 RIPv1
— RFC 1256 ICMP Router Discovery Protocol (IRDP)
— RFC 1350 TFTP Protocol (revision 2)
— RFC 1519 CIDR
— RFC 1542 BOOTP Extensions
— IEEE 1588v2 Precision Time Protocol (Transparent Clock Mode)[3]
— RFC 1918 Address Allocation for Private Internet
— RFC 2030 Simple Network Time Protocol (SNTP) v4
— RFC 2131 DHCP
— RFC 2236 IGMP Snooping
— RFC 2453 RIPv2
— RFC 2865 Remote Authentication Dial In User Service (RADIUS)
— RFC 2866 RADIUS Accounting
— RFC 3046 DHCP Relay Agent Information Option
— RFC 3411 An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks
— RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
— RFC 3413 Simple Network Management Protocol (SNMP) Applications
— RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
— RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)

[3] IEEE 1588v2 (PTP) is not supported on the following 2930M models: JL323A, JL324A, R0M67A, R0M68A or 2930M modules: JL325A, JL078A, JL081A, JL083A

— RFC 3416 Protocol Operations for SNMP
— RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP)
— RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
— RFC 3575 IANA Considerations for RADIUS
— RFC 3576 Ext to RADIUS (CoA only)
— RFC 4292 IP Forwarding Table MIB
— RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches
— RFC 4675 RADIUS VLAN & Priority
— RFC 4861 Neighbor Discovery for IP version 6 (IPv6)
— RFC 4862 IPv6 Stateless Address Autoconfiguration
— RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification
— UDLD (Uni-directional Link Detection)

IP Multicast

— RFC 1112 IGMP
— RFC 2236 IGMPv2
— RFC 2710 Multicast Listener Discovery (MLD) for IPv6
— RFC 3376 IGMPv3
— RFC 3973 PIM Dense Mode
— RFC 4601 PIM Sparse Mode
— RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches
— RFC 5059 Bootstrap Router — Except for scope zones
— RFC 7761 PIM Sparse Mode

IPv6

— RFC 1981 IPv6 Path MTU Discovery
— RFC 2080 RIPng for IPv6
— RFC 2081 RIPng Protocol Applicability Statement
— RFC 2082 RIP-2 MD5
— RFC 2460 IPv6 Specification
— RFC 2464 Transmission of IPv6 over Ethernet Networks
— RFC 2710 Multicast Listener Discovery (MLD) for IPv6
— RFC 2925 Definitions of Managed Objects for Remote
— Ping, Traceroute, and Lookup Operations (Ping only)
— RFC 2925 Remote Operations MIB (Ping only)
— RFC 3019 MLDv1 MIB
— RFC 3315 DHCPv6 (client and relay)
— RFC 3484 Default Address Selection for IPv6
— RFC 3513 IPv6 Addressing Architecture
— RFC 3596 DNS Extension for IPv6
— RFC 3810 MLDv2 for IPv6
— RFC 4022 MIB for TCP
— RFC 4113 MIB for UDP
— RFC 4251 SSHv6 Architecture
— RFC 4252 SSHv6 Authentication
— RFC 4253 SSHv6 Transport Layer
— RFC 4254 SSHv6 Connection
— RFC 4291 IP Version 6 Addressing Architecture
— RFC 4293 MIB for IP
— RFC 4419 Key Exchange for SSH
— RFC 4443 ICMPv6
— RFC 4541 IGMP & MLD Snooping Switch
— RFC 4861 IPv6 Neighbor Discovery
— RFC 4862 IPv6 Stateless Address Auto-configuration
— RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
— RFC 6620 FCFS SAVI
— draft-ietf-savi-mix

MIBs

— IEEE 802.1ap (MSTP and STP MIB's only)
— IEEE 8021-Bridge-MIB (2008)
— IEEE 8021-Q-Bridge-MIB (2008)
— RFC 1155 Structure & ID of Mgmt Info for TCP/IP Internets
— RFC 1156 (TCP/IP MIB)
— RFC 1157 A Simple Network Management Protocol (SNMP)
— RFC 1213 MIB II
— RFC 1493 Bridge MIB
— RFC 1724 RIPv2 MIB
— RFC 2021 RMONv2 MIB
— RFC 2578 Structure of Management Information Version 2 (SMIv2)
— RFC 2579 Textual Conventions for SMIv2
— RFC 2580 Conformance Statements for SMIv2
— RFC 2613 SMON MIB
— RFC 2618 RADIUS Client MIB
— RFC 2620 RADIUS Accounting MIB
— RFC 2665 Ethernet-Like-MIB
— RFC 2668 802.3 MAU MIB
— RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
— RFC 2737 Entity MIB (Version 2)
— RFC 2819 RMON MIB
— RFC 2863 The Interfaces Group MIB

— RFC 2925 Ping MIB
— RFC 2932 IP (Multicast Routing MIB)
— RFC 2933 IGMP MIB
— RFC 3414 SNMP-User based-SM MIB
— RFC 3415 SNMP-View based-ACM MIB
— RFC 3417 Simple Network Management Protocol (SNMP) over IEEE 802 Networks
— RFC 3418 MIB for SNMPv3
— RFC 4836 Managed Objects for 802.3 Medium Attachment Units (MAU)

Network management

— IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
— RFC 1155 Structure of Management Information
— RFC 1157 SNMPv1
— RFC 2021 Remote Network Monitoring Management Information Base Version 2 using SMIv2
— RFC 2576 Coexistence between SNMP versions
— RFC 2578 Structure of Management Information Version 2 (SMIv2)
— RFC 2579 Textual Conventions for SMIv2
— RFC 2580 Conformance Statements for SMIv2
— RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
— RFC 2819 Remote Network Monitoring Management Information Base
— RFC 2856 Textual Conventions for Additional High Capacity Data Types
— RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations
— RFC 3164 BSD syslog Protocol
— RFC 3176 sFlow
— RFC 3411 SNMP Management Frameworks
— RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
— RFC 3413 Simple Network Management Protocol (SNMP) Applications
— RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
— RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
— RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
— RFC 5424 Syslog Protocol
— ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
— SNMPv1/v2c/v3
— XRMON

QoS/CoS

— IEEE 802.1p (CoS)
— RFC 2474 DiffServ Precedence, including 8 queues port
— RFC 2475 DiffServ Architecture
— RFC 2597 DiffServ Assured Forwarding (AF)
— RFC 2598 DiffServ Expedited Forwarding (EF)
— Ingress Rate Limiting

Security

— IEEE 802.1X Port Based Network Access Control
— RFC 1321 The MD5 Message-Digest Algorithm
— RFC 1334 PPP Authentication Protocols (PAP)
— RFC 1492 An Access Control Protocol, Sometimes Called TACACS
— RFC 1492 TACACS+
— RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
— RFC 2082 RIP-2 MD5 Authentication
— RFC 2104 Keyed-Hashing for Message Authentication
— RFC 2138 RADIUS Authentication
— RFC 2139 RADIUS Accounting
— RFC 2246 Transport Layer Security (TLS)
— RFC 2548 Microsoft Vendor-specific RADIUS Attributes
— RFC 2618 RADIUS Authentication Client MIB
— RFC 2620 RADIUS Accounting Client MIB
— RFC 2698 A Two Rate Three Color Marker
— RFC 2716 PPP EAP TLS Authentication Protocol
— RFC 2818 HTTP Over TLS
— RFC 2865 RADIUS (client only)
— RFC 2865 RADIUS Authentication
— RFC 2866 RADIUS Accounting
— RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
— RFC 2868 RADIUS Attributes for Tunnel Protocol Support
— RFC 2869 RADIUS Extensions
— RFC 2882 NAS Requirements: Extended RADIUS Practices
— RFC 3162 RADIUS and IPv6
— RFC 3576 Dynamic Authorization Extensions to RADIUS
— RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)
— RFC 3580 IEEE 802.1X RADIUS
— RFC 3580 IEEE 802.1X Remote Authentication Dial In User Service (RADIUS) Usage Guidelines

— RFC 4576 RADIUS Attributes
— Access Control Lists (ACLs)
— draft-grant-tacacs-02 (TACACS)
— Guest VLAN for 802.1X
— MAC Authentication
— MAC Lockdown
— MAC Lockout
— Port Security
— Secure Sockets Layer (SSL)
— SSHv2 Secure Shell
— Web Authentication
— RFC 7030 Enrollment over Secure Transport
— RFC 6614 Transport Layer Security (TLS) Encryption over Radius (RadSec)

HPE Aruba Networking 2930M Switch Series accessories

Modules

— HPE Aruba Networking 2930M 2-port Stacking Module (JL325A)
— HPE Aruba Networking 3810M/2930M 1QSFP+ 40GbE Module (JL078A)
— HPE Aruba Networking 3810M/2930M 4SFP+ MACsec Module (JL083A)
— HPE Aruba Networking 3810M/2930M 4 1/2.5/5/10GbE HPE Smart Rate Module (JL081A)

TAA-Compliant Transceivers

— HPE Aruba Networking 1G SFP LC SX 500m MMF TAA XCVR (JL745A)
— HPE Aruba Networking 1G SFP LC LX 10km SMF TAA XCVR (JL746A)
— HPE Aruba Networking 1G SFP RJ45 T 100m Cat5e TAA XCVR (JL747A)
— HPE Aruba Networking 10G SFP+ LC SR 300m MMF TAA XCVR (JL748A)
— HPE Aruba Networking 10G SFP+ LC LR 10km SMF TAA XCVR (JL749A)

Transceivers

— HPE Aruba Networking 100M SFP LC FX 2km MMF XCVR (J9054D)
— HPE Aruba Networking 1G SFP RJ45 T 100m Cat5e XCVR (J8177D)
— HPE Aruba Networking 1G SFP LC SX 500m MMF XCVR (J4858D)
— HPE Aruba Networking 1G SFP LC LX 10km SMF XCVR (J4859D)
— HPE Aruba Networking 1G SFP LC LH 70km SMF XCVR (J4860D)
— HPE Aruba Networking 10G SFP+ LC SR 300m MMF XCVR (J9150D)
— HPE Aruba Networking 10G SFP+ LC LR 10km SMF XCVR (J9151E)
— HPE Aruba Networking 10G SFP+ LC LRM 220m MMF XCVR (J9152D)
— HPE Aruba Networking 10G SFP+ LC ER 40km SMF XCVR (J9153D)
— HPE Aruba Networking 10G SR SFP+ LC 400m OM4 C-XCVR (S2P30A)
— HPE Aruba Networking 10G LR SFP+ LC 10km SMF C-XCVR (S2P31A)
— HPE Aruba Networking 10G ER SFP+ LC 40km SMF C-XCVR (S2P32A)
— HPE Aruba Networking 10G SFP+ to SFP+ 1m DAC Cable (J9281D)
— HPE Aruba Networking 10G SFP+ to SFP+ 3m DAC Cable (J9283D)
— HPE Aruba Networking 10G SFP+ to SFP+ 7m DAC Cable (J9285D)
— HPE Aruba Networking 40G QSFP+ LC BiDi 150m MMF XCVR (JL308A)
— HPE X142 40G QSFP+ MPO SR4 Transceiver (JH231A)
— HPE X142 40G QSFP+ LC LR4 SM Transceiver (JH232A)
— HPE X142 40G QSFP+ MPO eSR4 300M XCVR (JH233A)
— HPE X242 40G QSFP+ to QSFP+ 1m DAC Cable (JH234A)
— HPE X242 40G QSFP+ to QSFP+ 3m DAC Cable (JH235A)
— HPE X242 40G QSFP+ to QSFP+ 5m DAC Cable (JH236A)

Stacking cables

— HPE Aruba Networking 2920/2930M 0.5m Stacking Cable (J9734A)
— HPE Aruba Networking 2920/2930M 1m Stacking Cable (J9735A)
— HPE Aruba Networking 2920/2930M 3m Stacking Cable (J9736A)

Power supplies

— HPE Aruba Networking X371 12VDC 250W 100-240VAC Power Supply (JL085A)
— HPE Aruba Networking X372 54VDC 680W 100-240VAC Power Supply (JL086A)
— HPE Aruba Networking X372 54VDC 1050W 110-240VAC Power Supply (JL087A)

Mounting kit

— HPE X410 1U Universal 4-post Rack Mounting Kit (J9583A)
— HPE Aruba Networking X414 1U Universal 4-post Rack Mounting Kit (J9583B)

Cables

— HPE Aruba Networking X2C2 RJ45 to DB9 Console Cable (JL448A)

Licenses

— HPE Aruba Networking Central Switch 6200/29xx Foundational 1-Year Subscription E-STU (Q9Y73AAE)
— HPE Aruba Networking Central Switch 6200/29xx Foundational 3-Year Subscription E-STU (Q9Y74AAE)
— HPE Aruba Networking Central Switch 6200/29xx Foundational 5-Year Subscription E-STU (Q9Y75AAE)
— HPE Aruba Networking Central Switch 6200/29xx Foundational 7-Year Subscription E-STU (Q9Y76AAE)
— HPE Aruba Networking Central Switch 6200/2 Foundational 10-Year Subscription E-STU (Q9Y77AAE)
— HPE Aruba Networking Central On-Premises 62xx or 29xx Switch Foundational 1-Year Subscription E-STU (R6U78AAE)
— HPE Aruba Networking Central On-Premises 62xx or 29xx Switch Foundational 3-Year Subscription E-STU (R6U79AAE)
— HPE Aruba Networking Central On-Premises 62xx or 29xx Switch Foundational 5-Year Subscription E-STU (R6U80AAE)
— HPE Aruba Networking Central On-Premises 62xx or 29xx Switch Foundational 7-Year Subscription E-STU (R6U81AAE)
— HPE Aruba Networking Central On-Premises 62xx or 29xx Switch Foundational 10-Year Subscription E-STU (R6U82AAE)

For details and complete listing of HPE Aruba Networking Central licensing options, please refer to the HPE Aruba Networking Central Data Sheet

Support

— JL319A: 4 Hour On-site 3-Year (H1TQ7E)
— JL320A: 4 Hour On-site 3-Year (H1TZ8E)
— JL321A: 4 Hour On-site 3-Year (H2BS5E)
— JL322A: 4 Hour On-site 3-Year (H2CB6E)
— JL323A: 4 Hour On-site 3-Year (HT6V1E)
— JL324A: 4 Hour On-site 3-Year (HT6V1E)
— R0M67A: 4 Hour On-site 3-Year (HT6V1E)
— R0M68A: 4 Hour On-site 3-Year (HT6V1E)

For HPE Aruba Networking Central hardware only support, 24x7 TAC support, and many other support options, go to Support Services Central SKU lookup tool.

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