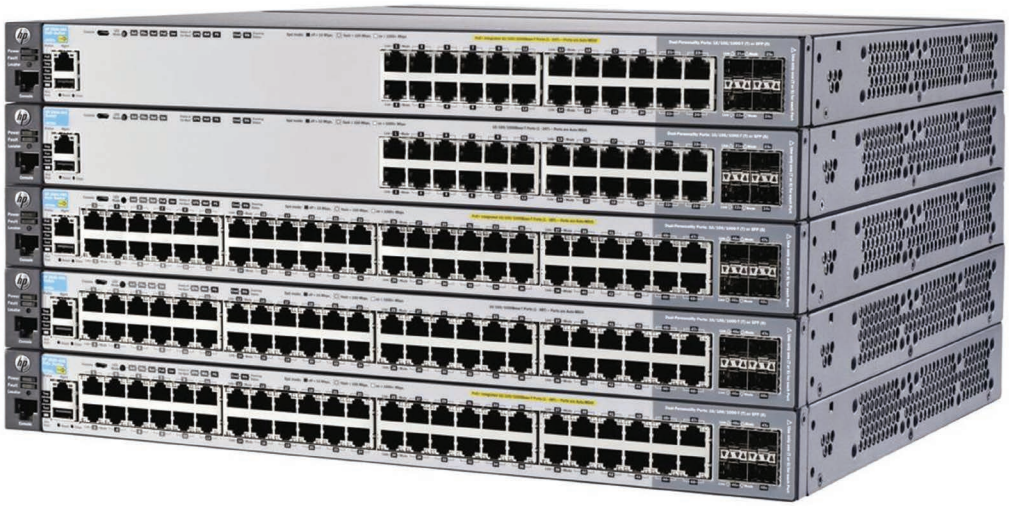
Hewlett Packard Enterprise

Data sheet

Aruba 2920 Switch Series



Product overview

The Aruba 2920 Switch Series provides security, scalability, and ease of use for enterprise edge, SMB and branch office networks. A powerful ProVision ASIC delivers low latency, more packet buffering, and adaptive power consumption. This Basic Layer 3 switch series supports modular stacking, 10 GbE, static and RIP routing, PoE+, ACLs, sFlow®, and IPv6. The Aruba 2920 Switch Series delivers a consistent wired/wireless user experience with unified management tools such as ClearPass Policy Manager and AirWave Network Management and is ready for software-defined networking (SDN) with OpenFlow support.

The Aruba 2920 Switch Series provides cost-effective pay as you grow modular stacking with a 2-port stacking module, support for up to four 10GBASE-T (or SFP+) uplinks and upgradeable power supplies so your network can quickly scale when needed. The robust Basic Layer 3 feature set requires no licensing and includes a limited lifetime warranty.

Key features

- Aruba Basic Layer 3 switch series with stacking, static & RIP routing, IPv6, ACLs, and sFlow
- Modular 10 GbE uplinks (SFP+ and 10GBASE-T)
- Removable and upgradeable power supplies for up to 1440 W PoE+
- Software-defined networking (SDN) ready with OpenFlow support
- Supports ClearPass Policy Manager and AirWave Network Management

Features and benefits

Software-defined networking (SDN)

- OpenFlow

  Is a key technology that enables SDN by allowing separation of the data (packet forwarding) and control (routing decision) paths

Unified Wired and Wireless

- **New** ClearPass Policy Manager

  Supports unified wired and wireless policies using Aruba ClearPass Policy Manager

- HTTP redirect function

  Supports HPE Intelligent Management Center (IMC) bring your own device (BYOD) solution

- Switch auto-configuration

  Automatically configures switch for different settings such as VLAN, CoS, PoE max power, and PoE priority when Aruba AP is detected

- **New** User Role

  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 configuration or ClearPass

- **New** Per-port Tunneled Node

  Provide secured tunnel to transport network traffic on a per-port basis to Aruba Controller. Authentication and network policies will be applied and enforced at the Controller

Quality of service (QoS)

- Traffic prioritization (IEEE 802.1p)

  Allows real-time traffic classification into eight priority levels that are mapped to eight queues

- L4 prioritization

  Enables prioritization based on TCP/UDP port numbers

- Class of service (CoS)

  Sets the IEEE 802.1p priority tag based on the IP address, IP type of service (ToS), L3 protocol, TCP/UDP port number, source port, and DiffServ

- Rate limiting

  Establishes per-port ingress-enforced maximums and per-port per-queue minimums

- Large buffers

  Provide graceful congestion management

Connectivity

- Flexible 10 Gb/s Ethernet connectivity

  Up to four optional 10 Gigabit ports (SFP+ and/or 10GBASE-T)

- Optional two-port stacking module with up to 40 Gb/s per port

  Allows stacking of up to four switch units into a single virtual device

- Auto-MDIX

  Provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports

- IPv6
  - IPv6 host

    Allows the switches to be managed and deployed at the edge of IPv6 networks
  - Dual stack (IPv4/IPv6)

    Provides the transition mechanism from IPv4 to IPv6; and supports connectivity for both protocols
  - MLD snooping

    Forwards IPv6 multicast traffic to the appropriate interface; and helps prevent IPv6 multicast traffic from flooding the network
  - IPv6 ACL/QoS

    Supports ACL and QoS for IPv6 network traffic
  - IPv6 routing

    Supports static and RIPng routing
  - Security

    Provides RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping
- IEEE 802.3at PoE+

  Provides up to 30 W per port, allowing 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; and mitigates the cost of additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments
- Pre-standard PoE support

  Detects and provides power to pre-standard PoE devices
- Dual-personality functionality

  Includes four 10/100/1000 ports or SFP slots for optional fiber connectivity such as Gigabit SX, LX, and LH or 100 FX

Performance

- Energy-efficient design
  - 80 PLUS Silver Certified power supply

    Increases power efficiency and savings
  - Energy-efficient Ethernet (EEE) support

    Reduces power consumption in accordance with IEEE 802.3az
- Aruba ProVision ASIC architecture

  Is designed with the latest ProVision ASIC, providing very low latency, increased packet buffering, and adaptive power consumption
- Selectable queue configurations

  Increases performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications

Convergence

- IP multicast snooping (data-driven IGMP)

  Mitigates flooding of IP multicast traffic automatically

- Media endpoint discovery (MED) enabled by the Link Layer Discovery Protocol (LLDP)

  Defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones

- IEEE 802.1ab LLDP

  Facilitates easy mapping, using network management applications with the LLDP automated device discovery protocol

- PoE and PoE+ allocations

  Support multiple methods—automatic, IEEE 802.3at dynamic, LLDP-MED fine grain, IEEE 802.3af device class, or user specified—to allocate and manage PoE/PoE+ power for more efficient energy use

- Local MAC authentication

  Assigns attributes such as VLAN and QoS, using a locally configured profile that can be a list of MAC prefixes

Resiliency and high availability

- Multiple spanning tree protocol (STP) and IEEE 802.1s

  Offers high link availability in multiple VLAN environments by allowing multiple spanning trees; and provides legacy support for IEEE 802.1d and IEEE 802.1w

- IEEE 802.3ad Link Aggregation Control Protocol (LACP) and Hewlett Packard Enterprise port trunking

  Support up to 60 static, dynamic, or distributed trunks active across a stack, with each trunk having up to eight links (ports) per static trunk; and offer support for trunking across stack members

- Ring and chain stacking topology

  Allows failure of a link or switch in a ring of stacked switches, while the remaining connected switches continue operation

- SmartLink

  Provides easy-to-configure link redundancy of active and standby links

Management

- **New** Zero-Touch Provisioning (ZTP)

  Simplifies installation of the switch infrastructure using Aruba Activate-based or

  DHCP-based process with AirWave Network Management

- SNMPv1, v2, and v3

  Provide complete support of SNMP and an industry-standard management information base (MIB) as well as private extensions; SNMPv3 supports increased security using encryption

- Out-of-band Ethernet management port

  Enables management of a separate physical management network, keeping management traffic segmented from network data traffic

- TR-069 support

  Enables zero-touch configuration for switches

Manageability

- Dual flash images

  Provides independent primary and secondary operating system files for backup while upgrading

- Friendly port names

  Allows assignment of descriptive names to ports

- Find, fix, and inform

  Finds and fixes common network problems automatically, and then informs the administrator

- Multiple configuration files

  Are easily stored with a flash image

- Software updates

  Are offered as free downloads from the Web

- Remote monitoring (RMON), extended RMON (XRMON), and sFlow

  Provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events

- Troubleshooting

  Accelerates network problem solving with ingress and egress port monitoring

- Unidirectional link detection (UDLD)

  Supports Hewlett Packard Enterprise UDLD and DLDP protocols to monitor a cable between two switches and shut down the ports on both ends if the cable is broken.

L2 switching

- VLAN support and tagging

  Supports IEEE 802.1Q (4,094 VLAN IDs) and 1022 VLANs simultaneously

- **New** GVRP and MVRP

  Enables automatic learning and dynamic assignment of VLANs

- Jumbo packet support

  Improves the performance of large data transfers; and supports frame sizes of up to 9,220 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, improving link bandwidth usage in network environments with PVST+

L3 services

- DHCP server

  Centralizes and reduces the cost of IPv4 address management

L3 routing

- Access OSPF

  Provides OSPFv2 and OSPFv3 protocols for routing between access and the next layer on the LAN. Only one OSPF area and up to 8 interfaces are supported

- Static IP routing

  Provides manually configured routing; includes ECMP capability

- RIP

  Includes RIPv1, RIPv2, and RIPng routing

- 256 static and 2,048 RIP routes

  Facilitate segregation of user data, without adding external hardware

Security

- **New** 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

- Multiple user authentication methods

  – IEEE 802.1X

    Uses an IEEE 802.1X supplicant on the client, in conjunction with a RADIUS server, to authenticate in accordance with industry standards

  – Web-based authentication

    Provides a browser-based environment, similar to IEEE 802.1X, to authenticate clients that do not support the IEEE 802.1X supplicant

  – MAC-based authentication

    Authenticates the client with a RADIUS server, based on the client's MAC address

- Authentication flexibility

  – Multiple IEEE 802.1X users per port

    Provides authentication of multiple IEEE 802.1X users per port; and helps prevent a user from "piggybacking" on another user's IEEE 802.1X authentication

  – Concurrent IEEE 802.1X, Web, and MAC authentication schemes per port

    Allows a switch port to accept up to 32 sessions of IEEE 802.1X, Web, and MAC authentications

- Access Control Lists (ACLs)

  Provide IP L3 filtering, based on the source/destination IP address/subnet and source/destination TCP/UDP port number

- Source-port filtering

  Allows only specified ports to communicate with each other

- RADIUS/TACACS+

  Eases switch management security administration by using a password authentication server

- IEEE 802.1X, MAC, or Web authentication

  Provides concurrent network access control and Web authentication of up to 24 clients per port

- Secure shell (SSH)

  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

- MAC address lockout

  Helps prevent certain configured MAC addresses from connecting to the network

- Secure FTP

  Allows secure file transfer to and from the switch; and 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 the security policy when users log in to the switch

- STP bridge protocol data units (BPDUs) port protection

  Blocks BPDUs on ports that do not require BPDUs, mitigating forged BPDU attacks

- DHCP protection

  Blocks DHCP packets from unauthorized DHCP servers, mitigating denial-of-service attacks

- Dynamic ARP protection

  Blocks ARP broadcasts from unauthorized hosts, helping prevent 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

Monitor and diagnostics

- Digital optical monitoring of SFP+ and 1000BASE-T transceivers

  Allows detailed monitoring of the transceiver settings and parameters

Warranty and support

- Limited Lifetime Warranty:

  See **hpe.com/networking/warrantysummary** for warranty and support information included with your product purchase.

- Software releases

  To find software for your product, visit **hpe.com/networking/support**; for details on the software releases available with your product purchase, visit **hpe.com/networking/warrantysummary**

Aruba 2920 Switch Series

Specifications

	Aruba 2920-24G Switch (J9726A)	**Aruba 2920-24G-PoE+ Switch (J9727A)**	**Aruba 2920-48G Switch (J9728A)**
Ports	20 RJ-45 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 RJ-45 dual-personality 10/100/ 1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 2 module slots 1 stacking module slot 1 dual-personality (RJ-45 or USB micro-B) 1 USB 1.1 1 RJ-45 out-of-band management port	20 RJ-45 autosensing 10/100/1000 PoE+ 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 4 RJ-45 dual-personality 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+) 2 module slots 1 stacking module slot 1 dual-personality (RJ-45 or USB micro-B) 1 USB 1.1 1 RJ-45 out-of-band management port	44 RJ-45 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 RJ-45 dual-personality 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 2 module slots 1 stacking module slot 1 dual-personality (RJ-45 or USB micro-B) 1 USB 1.1 1 RJ-45 out-of-band management port
Power supplies	1 power supply slot 1 minimum power supply required includes: 1 x J9739A (HPE X331 165W 100-240VAC to 12VDC Modular Power Supply) 11.57 lb (5.25 kg)	1 power supply slot 1 minimum power supply required includes: 1 x J9738A (HPE X332 575W 100-240VAC to 54VDC Modular Power Supply)	1 power supply slot 1 minimum power supply required includes: 1 x J9739A (HPE X331 165W 100-240VAC to 12VDC Modular Power Supply)
Physical characteristics Weight	17.42(w) x 13.23(d) x 1.75(h) in. (44.25 x 33.6 x 4.45 cm) (1U height) 11.57 lb (5.25 kg)	17.42(w) x 13.23(d) x 1.73(h) in. (44.25 x 33.6 x 4.4 cm) (1U height) 12.04 lb (5.46 kg)	17.42(w) x 13.23(d) x 1.73(h) in. (44.25 x 33.6 x 4.4 cm) (1U height) 11.95 lb (5.42 kg)
Memory and processor	Tri Core ARM1176 @ 625 MHz, 512 MB SDRAM, 1 GB flash MB; packet buffer size: 11.25 MB (6.75 MB dynamic egress + 4.5 MB ingress)	Tri Core ARM1176 @ 625 MHz, 512 MB SDRAM, 1 GB flash; packet buffer size: 11.25 MB (6.5 MB dynamic egress + 4.5 MB ingress)	Tri Core ARM1176 @ 625 MHz, 512 MB SDRAM, 1 GB flash; packet buffer size: 11.25 MB (6.75 MB dynamic egress + 4.5 MB ingress)

Aruba 2920 Switch Series

Specifications (continued)

	Aruba 2920-24G Switch (J9726A)	Aruba 2920-24G-PoE+ Switch (J9727A)	Aruba 2920-48G Switch (J9728A)
Performance			
100 Mb Latency	< 9.0 µs (FIFO 64-byte packets)	< 9.0 µs (FIFO 64-byte packets)	< 9.0 µs (FIFO 64-byte packets)
1000 Mb Latency	< 3.3 µs (FIFO 64-byte packets)	< 3.3 µs (FIFO 64-byte packets)	< 3.3 µs (FIFO 64-byte packets)
10 Gb/s Latency	< 3.3 µs (FIFO 64-byte packets)	< 3.3 µs (FIFO 64-byte packets)	< 3.2 µs (FIFO 64-byte packets)
Throughput	95.2 million pps	95.2 million pps	130.9 million pps
Switching capacity	128 Gb/s	128 Gb/s	176 Gb/s
Routing table size	2048 entries (IPv4), 256 entries (IPv6)	2048 entries (IPv4), 256 entries (IPv6)	2048 entries (IPv4), 256 entries (IPv6)
MAC address table size	16000 entries	16000 entries	16000 entries
Environment			
Operating temperature	32°F to 131°F (0°C to 55°C)	32°F to 131°F (0°C to 55°C)	32°F to 131°F (0°C to 55°C)
Operating relative humidity	15% to 95%, noncondensing	15% to 95%, noncondensing	15% to 95%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	15% to 95%, noncondensing	15% to 95%, noncondensing	15% to 95%, noncondensing
Altitude	Up to 10,000 ft (3 km)	Up to 10,000 ft (3 km)	Up to 10,000 ft (3 km)
Acoustic	Power: 57 dB, Pressure: 41.4 dB	Power: 61 dB, Pressure: 44.9 dB	Power: 57 dB, Pressure: 41.8 dB
Electrical characteristics			
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
80plus.org Certification	Silver	Silver	Achieved Miercom Certified Green Award Silver
Maximum heat dissipation	198 BTU/hr (208.89 kJ/hr)	358 BTU/hr (377.69 kJ/hr)	239 BTU/hr (252.15 kJ/hr)
Voltage	100–240VAC	100–240VAC	100–240VAC
Maximum power rating	58 W	475 W	70 W
Idle power	26 W	42 W	27 W
PoE power		370 W	
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 provided 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 provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS). 370 W of PoE+ power is available using the internal default power supply.	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 provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.

Aruba 2920 Switch Series

Specifications (continued)

	Aruba 2920-24G Switch (J9726A)	Aruba 2920-24G-PoE+ Switch (J9727A)	Aruba 2920-48G Switch (J9728A)
Safety	CE Labeled; EN 60825-1 Safety of Laser Products-Part 1; FCC Part 15, Subpart B; GOST; EU RoHS Compliant; EN 55022 Class A; EN 55024: 1998; C-Tick; ICES-003, Class A; VCCI Class A; IEC 60950-1, Second Edition; IEC 60825-1; EN62479:2010; CSA C22.2 No. 60950-1-07 2nd Edition; EN 60950-1:2006+A11:2009+A1:2010 +A12:2011; IEC 60950-1 (ed.2): am1	CE Labeled; EN 60825-1 Safety of Laser Products-Part 1; FCC Part 15, Subpart B; GOST; EU RoHS Compliant; EN 55022 Class A; EN 55024: 1998; C-Tick; ICES-003, Class A; VCCI Class A; IEC 60825-1; IEC 60950-1, Second Edition; EN62479:2010; CSA C22.2 No. 60950-1-07 2nd Edition; EN 60950-1:2006+A11:2009+A1:2010 +A12:2011; IEC 60950-1 (ed.2): am1	CE Labeled; EN 60825-1 Safety of Laser Products-Part 1; FCC Part 15, Subpart B; GOST; EU RoHS Compliant; EN 55022 Class A; EN 55024: 1998; C-Tick; ICES-003, Class A; VCCI Class A; IEC 60825-1; IEC 60950-1, Second Edition; EN62479:2010; CSA C22.2 No. 60950-1-07 2nd Edition; EN 60950-1:2006+A11:2009+A1:2010 +A12:2011; IEC 60950-1 (ed.2): am1
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022/CISPR 22 Class A	FCC part 15 Class A; VCCI Class A; EN 55022/CISPR 22 Class A	FCC part 15 Class A; VCCI Class A; EN 55022/CISPR 22 Class A
Immunity			
EN	EN 55024, CISPR 24	EN 55024, CISPR 24	EN 55024, CISPR 24
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC 61000-3-2	IEC 61000-3-2	IEC 61000-3-2
Flicker	IEC 61000-3-3	IEC 61000-3-3	IEC 61000-3-3
Management	**AirWave Network Management** IMC—Intelligent Management Center; command-line interface; Web browser; configuration menu; out-of-band management (RJ-45 Ethernet); SNMP Manager; TELNET; RMON1; FTP; in-line and out-of-band; out-of-band management (serial RS-232C or Micro USB) AirWave Network Management	**AirWave Network Management** IMC—Intelligent Management Center; command-line interface; Web browser; configuration menu; out-of-band management (RJ-45 Ethernet); SNMP Manager; TELNET; RMON1; FTP; in-line and out-of-band; out-of-band management (serial RS-232C or Micro USB) AirWave Network Management	**AirWave Network Management** IMC—Intelligent Management Center; command-line interface; Web browser; configuration menu; out-of-band management (RJ-45 Ethernet); SNMP Manager; TELNET; RMON1; FTP; in-line and out-of-band; out-of-band management (serial RS-232C or Micro USB) AirWave Network Management
Services	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

Aruba 2920 Switch Series

Specifications (continued)

	Aruba 2920-48G-PoE+ Switch (J9729A)	**Aruba 2920-48G-PoE+ 740W Switch (J9836A)**
Ports	44 RJ-45 autosensing 10/100/1000 PoE+ 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 4 RJ-45 dual-personality 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+) 2 module slots 1 stacking module slot 1 dual-personality (RJ-45 or USB micro-B) 1 USB 1.1 1 RJ-45 out-of-band management port	44 RJ-45 autosensing 10/100/1000 PoE+ 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 4 RJ-45 dual-personality 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+) 2 module slots 1 stacking module slot 1 dual-personality (RJ-45 or USB micro-B) 1 USB 1.1 1 RJ-45 out-of-band management port
Power supplies	1 power supply slot 1 minimum power supply required includes: 1 x J9738A (HPE X332 575W 100-240VAC to 54VDC Modular Power Supply)	1 power supply slot 1 minimum power supply required includes: 1 x J9737A (HPE X332 1050W 110-240VAC to 54VDC Power Supply)
Physical characteristics		
	17.42(w) x 13.23(d) x 1.73(h) in. (44.25 x 33.6 x 4.39 cm) (1U height)	17.42(w) x 13.23(d) x 1.73(h) in. (44.25 x 33.6 x 4.39 cm) (1U height)
Weight	12.57 lb (5.7 kg)	12.86 lb (5.83 kg)
Memory and processor	Tri Core ARM1176 @ 625 MHz, 512 MB SDRAM, 1 GB flash; packet buffer size: 11.25 MB (6.75 MB dynamic egress + 4.5 MB ingress)	Tri Core ARM1176 @ 625 MHz, 512 MB SDRAM, 1 GB flash; packet buffer size: 11.25 MB (6.75 MB dynamic egress + 4.5 MB ingress)
Performance		
100 Mb Latency	< 9.0 µs (FIFO 64-byte packets)	< 9.0 µs (FIFO 64-byte packets)
1000 Mb Latency	< 3.2 µs (FIFO 64-byte packets)	< 3.2 µs (FIFO 64-byte packets)
10 Gb/s Latency	< 3.2 µs (FIFO 64-byte packets)	< 3.2 µs (FIFO 64-byte packets)
Throughput	130.9 million pps	130.9 million pps
Switching capacity	176 Gb/s	176 Gb/s
Routing table size	2048 entries (IPv4), 256 entries (IPv6)	2048 entries (IPv4), 256 entries (IPv6)
MAC address table size	16000 entries	16000 entries
Environment		
Operating temperature	32°F to 131°F (0°C to 55°C)	32°F to 131°F (0°C to 55°C)
Operating relative humidity	15% to 95%, noncondensing	15% to 95%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	15% to 95%, noncondensing	15% to 95%, noncondensing
Altitude	Up to 10,000 ft (3 km)	Up to 10,000 ft (3 km)
Acoustic	Power: 62 dB, Pressure: 45.2 dB	Power: 53dB, Pressure: 38.3 dB

Aruba 2920 Switch Series

Specifications (continued)

	Aruba 2920-48G-PoE+ Switch (J9729A)	Aruba 2920-48G-PoE+ 740W Switch (J9836A)
Electrical characteristics		
Frequency	50/60 Hz	50/60 Hz
80plus.org Certification	Silver	Gold
Maximum heat dissipation	399 BTU/hr (420.95 kJ/hr)	482 BTU/hr (508.51 kJ/hr)
Voltage	100–240VAC	110–240VAC
Maximum power rating	487 W	881 W
Idle power	46 W	52 W
PoE power	370 W	740 W
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 provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS). 370 W of PoE+ power is available using the internal default power supply.	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 provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS). Idle power is the actual power consumption of the device with no ports connected. 740 W of PoE+ power is available using the internal default power supply.
Safety	CE Labeled; EN 60825-1 Safety of Laser Products-Part 1; FCC Part 15, Subpart B; GOST; EU RoHS Compliant; EN 55022 Class A; EN 55024: 1998; C-Tick; ICES-003, Class A; VCCI Class A; IEC 60950-1, Second Edition; IEC 60825-1; EN62479:2010; CSA C22.2 No. 60950-1-07 2nd Edition; EN 60950-1:2006+A11:2009+A1:2010+A12:2011; IEC 60950-1 (ed.2): am1	CE Labeled; EN 60825-1 Safety of Laser Products-Part 1; FCC Part 15, Subpart B; GOST; EU RoHS Compliant; EN 55022 Class A; EN 55024: 1998; C-Tick; ICES-003, Class A; VCCI Class A; IEC 60950-1, Second Edition; IEC 60825-1; EN62479:2010; CSA C22.2 No. 60950-1-07 2nd Edition; EN 60950-1:2006+A11:2009+A 1:2010+A12:2011; IEC 60950-1 (ed.2): am1
Immunity		
EN	EN 55024, CISPR 24	EN 55024, CISPR 24
ESD	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC 61000-3-2	IEC 61000-3-2
Flicker	IEC 61000-3-3	IEC 61000-3-3
Management	IMC—Intelligent Management Center; command-line interface; Web browser; configuration menu; out-of-band management (RJ-45 Ethernet); SNMP Manager; TELNET; RMON1; FTP; in-line and out-of-band; out-of-band management (serial RS-232C or Micro USB) AirWave Network Management	IMC—Intelligent Management Center; command-line interface; Web browser; configuration menu; out-of-band management (RJ-45 Ethernet); SNMP Manager; TELNET; RMON1; FTP; in-line and out-of-band; out-of-band management (serial RS-232C or Micro USB) AirWave Network Management
Services	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

STANDARDS AND PROTOCOLS
(applies to all products in series)

Denial of service protection		CPU DoS Protection	
Device management	1591 DNS (client)	HTML and telnet management	RFC 2576 (Coexistence between SNMP V1, V2, V3) RFC 2579 (SMIv2 Text Conventions) RFC 2580 (SMIv2 Conformance) RFC 3416 (SNMP Protocol Operations v2) RFC 3417 (SNMP Transport Mappings)
General Protocols	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 802.3x 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 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) 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 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 UDLD (Uni-directional Link Detection) RFC 5905 NTP Client
IP multicast	RFC 1112 IGMP	RFC 2236 IGMPv2 RFC 2710 Multicast Listener Discovery (MLD) for IPv6	RFC 3376 IGMPv3
IPv6	RFC 1981 IPv6 Path MTU Discovery RFC 2080 RIPng RFC 2081 RIPng Protocol Applicability 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 (host joins only) 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 Autoconfiguration RFC 5095 Deprecation of Type 0 Routing Headers in IPv6 RFC 6620 FCFS SAVI draft-ietf-savi-mix

STANDARDS AND PROTOCOLS
(applies to all products in series)

MIBs	IEEE 802.1ap (MSTP and STP MIB's only) RFC 1155 Structure and ID of Management Information 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 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) RFC 2819 Remote Network Monitoring Management Information Base 3 (alarm) and 9 (events) 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 SNMPv3 Message Processing RFC 3413 Simple Network Management Protocol (SNMP) Applications RFC 3414 SNMPv3 User-based Security Model (USM) RFC 3415 SNMPv3 View-based Access Control Model (VACM) RFC 3418 Management Information Base (MIB) for Simple Network Management Protocol (SNMP) RFC 5424 Syslog Protocol ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3 XRMON 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)
QoS/CoS	IEEE 802.1P (CoS)	RFC 2474 DiffServ Precedence, including 8 queues/port RFC 2597 DiffServ Assured Forwarding (AF)	RFC 2598 DiffServ Expedited Forwarding (EF) Ingress Rate Limiting RFC 2475 DiffServ Architecture
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 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 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 Protocol (EAP) RFC 2868 RADIUS Attributes for Tunnel Protocol Support RFC 2869 RADIUS Extensions RFC 2882 NAS Requirements: Extended RADIUS Practices RFC 3162 RADIUS and IPv6 Secure Sockets Layer (SSL) RFC 3576 Dynamic Authorization Extensions to RADIUS	RFC 3579 RADIUS support for Extensible Authentication 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 SSHv2 Secure Shell TACACS Web Authentication RFC 1321 The MD5 Message-Digest Algorithm RFC 2818 HTTP Over TLS

Aruba 2920 Switch Series accessories

Modules	Aruba 2920 2-Port 10GbE SFP+ Module (J9731A) Aruba 2920 2-port 10GBASE-T Module (J9732A) Aruba 2920 2-Port Stacking Module (J9733A)
Transceivers	HPE X121 1G SFP LC SX Transceiver (J4858C) HPE X121 1G SFP LC LX Transceiver (J4859C) HPE X122 1G SFP LC BX-D Transceiver (J9142B) HPE X122 1G SFP LC BX-U Transceiver (J9143B) HPE X121 1G SFP LC LH Transceiver (J4860C) HPE X121 1G SFP RJ45 T Transceiver (J8177C) HPE X111 100M SFP LC FX Transceiver (J9054C) HPE X132 10G SFP+ LC SR Transceiver (J9150A) HPE X132 10G SFP+ LC LR Transceiver (J9151A) HPE X132 10G SFP+ LC LRM Transceiver (J9152A) HPE X132 10G SFP+ LC ER Transceiver (J9153A) HPE X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable (J9281B) HPE X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable (J9283B) HPE X242 10G SFP+ to SFP+ 7m Direct Attach Copper Cable (J9285B) HPE X244 10G XFP to SFP+ 1m Direct Attach Copper Cable (J9300A) HPE X244 10G XFP to SFP+ 3m Direct Attach Copper Cable (J9301A) HPE X244 10G XFP to SFP+ 5m Direct Attach Copper Cable (J9302A)
Cables	HPE 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A) HPE 1 m Multimode OM3 LC/LC Optical Cable (AJ834A) HPE 2 m Multimode OM3 LC/LC Optical Cable (AJ835A) HPE 5 m Multimode OM3 LC/LC Optical Cable (AJ836A) HPE 15 m Multimode OM3 LC/LC Optical Cable (AJ837A) HPE 30 m Multimode OM3 LC/LC Optical Cable (AJ838A) HPE 50 m Multimode OM3 LC/LC Optical Cable (AJ839A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable (QK732A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable (QK733A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable (QK736A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable (QK737A) HPE 2920 0.5m Stacking Cable (J9734A) HPE 2920 1.0m Stacking Cable (J9735A) HPE 2920 3.0m Stacking Cable (J9736A) HPE 640 External/Redundant Power Supply 1m Cable (J9806A)

Power Supply	Aruba 640 Redundant/External Power Supply Shelf (J9805A)
Mounting Kit	HPE X410 1U Universal 4-post Rack Mounting Kit (J9583A)
Aruba 2920-24G Switch (J9726A)	HPE X331 165W 100-240VAC to 12VDC Modular Power Supply (J9739A)
Aruba 2920-24G-PoE+ Switch (J9727A)	HPE X332 575W 100-240VAC to 54VDC Modular Power Supply (J9738A) HPE X332 1050W 110-240VAC to 54VDC Power Supply (J9737A)
Aruba 2920-48G Switch (J9728A)	HPE X331 165W 100-240VAC to 12VDC Modular Power Supply (J9739A)
Aruba 2920-48G-PoE+ Switch (J9729A)	HPE X332 575W 100-240VAC to 54VDC Modular Power Supply (J9738A) HPE X332 1050W 110-240VAC to 54VDC Power Supply (J9737A)
Aruba 2920-48G-PoE+ 740W Switch (J9836A)	HPE X332 575W 100-240VAC to 54VDC Modular Power Supply (J9738A) HPE X332 1050W 110-240VAC to 54VDC Power Supply (J9737A)

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