Data sheet

HP 2920 Switch Series

Key features

- High-performance Gigabit Ethernet access switch
- Four optional 10GbE (SFP+ and/or 10GBASE-T) ports
- Stacking capability with a total of four switches
- Layer 2 and Layer 3 plus static and RIP routing, PoE and PoE+ support
- Lifetime warranty, sFlow, ACLs, OpenFlow, and rate limiting

Product overview

The HP 2920 Switch Series consists of five switches: the HP 2920-24G and 2920-24G-PoE+ Switches with 24 10/100/1000 ports, and the HP 2920-48G and 2920-48G-PoE+ and 2920-48G 740W PoE+ Switches with 48 10/100/1000 ports. Each switch has four dual-personality ports for 10/100/1000 or SFP connectivity.

In addition, the 2920 switch series supports up to four optional 10 Gigabit Ethernet (SFP+ and/or 10GBASE-T) ports, as well as a two-port stacking module. These options provide you with flexible and easy-to-deploy uplinks and stacking.

Together with static and RIP routing, robust security and management, enterprise-class features, free lifetime warranty, and free software updates, the HP 2920 Switch Series is a cost-effective, scalable solution for customers who are building high-performance networks. These switches can be deployed at the enterprise edge, in remote branch offices, and in converged networks.

Features and benefits

Quality of Service (QoS)

- **Traffic prioritization (IEEE 802.1p)**
  allows real-time traffic classification into eight priority levels mapped to eight queues
- **Layer 4 prioritization**
  enables 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

Connectivity

- **Flexible 10 Gbps Ethernet connectivity**
  up to four optional 10-Gigabit ports (SFP+ and/or 10GBASE-T)
- **Two-port stacking module with up to 40 Gbps/port**
  optional two-port stacking module 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 transition mechanism from IPv4 to IPv6; supports connectivity for both protocols
  - **MLD snooping**
    forwards IPv6 multicast traffic to the appropriate interface; prevents IPv6 multicast traffic from flooding the network
- **IEEE 802.3at Power over Ethernet (PoE+)**
  provides up to 30 W 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
- **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**
  - **High-efficiency power supplies**
    80 PLUS Silver Certified power supply increases power savings
  - **Energy-efficient Ethernet (EEE) support**
    reduces power consumption in accordance with IEEE 802.3az
- **HP ProVision ASIC architecture**
  is designed with the latest HP ProVision ASIC, providing very low latency, increased packet buffering, and adaptive power consumption
- **Selectable queue configurations**
  allows for increased performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications

Software-defined networking

- **NEW OpenFlow**
  is a key technology that enables software-defined networking by allowing the separation of data (packet forwarding) and control (routing decision) paths

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 automatically configure 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 802.3at dynamic, LLDP-MED fine grain, IEEE 802.3af device class, or user specified) to allocate and manage PoE/PoE+ power for more efficient energy savings

Resiliency and high availability

- **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 HP 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; support trunking across stack members
- **Ring and chain stacking topology**
  allows failure of a link or switch in the ring of stacked switches, while the remaining connected switches continue operation

Management

- **SNMPv1, v2, and v3**
  provides complete support of SNMP; provide full support of industry-standard Management Information Base (MIB) plus private extensions; SNMPv3 supports increased security using encryption
- **Out-of-band Ethernet management port**
  enables management over a separate physical management network, keeping management traffic segmented from network data traffic

Manageability

- **Dual flash images**
  provides independent primary and secondary operating system files for backup while upgrading
- **Friendly port names**
  allow assignment of descriptive names to ports
- **Find-Fix-Inform**
  finds and fixes common network problems automatically, then informs administrator
- **Multiple configuration files**
  allow multiple configuration files to be stored to a flash image
- **Software updates**
  free downloads from the Web
- **RMON, XRMON, and sFlow**
  provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **Troubleshooting**
  ingress and egress port monitoring enable network problem solving
- **Uni-Directional Link Detection (UDLD)**
  monitors a 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

Layer 2 switching

- **VLAN support and tagging**
  supports IEEE 802.1Q (4,094 VLAN IDs) and 256 VLANs simultaneously
- **GARP VLAN Registration Protocol**
  allows automatic learning and dynamic assignment of VLANs
- **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+

Layer 3 routing

- **Static IP routing**
  provides manually configured routing; includes ECMP capability
- **Routing Information Protocol (RIP)**
  provides RIPv1 and RIPv2 routing
- **256 static and 2,048 RIP routes**
  facilitate segregation of user data without adding external hardware

Security

- **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 the 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; 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
- **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
- **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**
  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**
  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**
  selectively configures broadcast control 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

- **Lifetime warranty**
  for as long as you own the product with advance replacement and next-business-day delivery (available in most countries)†
- **Electronic and telephone support**
  limited electronic and telephone support is available from HP; to reach our support centers, refer to **www.hp.com/networking/contact-support**; for details on the duration of support provided with your product purchase, refer to **www.hp.com/networking/warrantysummary**
- **Software releases**
  to find software for your product, refer to **www.hp.com/networking/support**; for details on the software releases available with your product purchase, refer to **www.hp.com/networking/warrantysummary**

†HP warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Extended zl Module with Riverbed Steelhead, HP MSM765zl Mobility Controller and HP Survivable Branch Communication zl Module powered by Microsoft Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at **www.hp.com/networking/warranty**.

HP 2920 Switch Series

Specifications

			
	HP 2920-24G Switch (J9726A)	**HP 2920-24G-PoE+ Switch (J9727A)**	**HP 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	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	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)	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+)	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	2 module slots	2 module slots
	1 stacking module slot	1 stacking module slot	1 stacking module slot
	1 dual-personality (RJ-45 or USB micro-B)	1 dual-personality (RJ-45 or USB micro-B)	1 dual-personality (RJ-45 or USB micro-B)
	1 USB 1.1	1 USB 1.1	1 USB 1.1
	1 RJ-45 out-of-band management port	1 RJ-45 out-of-band management port	1 RJ-45 out-of-band management port
Power supplies	1 power supply slot 1 minimum power supply required includes: 1 x J9739A (HP X331 165W 100-240VAC to 12VDC Modular Power Supply)	1 power supply slot 1 minimum power supply required includes: 1 x J9738A (HP X332 575W 100-240VAC to 54VDC Modular Power Supply)	1 power supply slot 1 minimum power supply required includes: 1 x J9739A (HP X331 165W 100-240VAC to 12VDC Modular Power Supply)
Physical characteristics			
	17.42(w) x 13.23(d) x 1.75(h) in (44.25 x 33.6 x 4.45 cm) (1U height)	17.42(w) x 13.23(d) x 1.73(h) in (44.25 x 33.6 x 4.4 cm) (1U height)	17.42(w) x 13.23(d) x 1.73(h) in (44.25 x 33.6 x 4.4 cm) (1U height)
Weight	11.57 lb (5.25 kg)	12.04 lb (5.46 kg)	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)
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 Achieved Miercom Certified Green Award
80plus.org Certification	Silver	Silver	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	100-240 VAC	100-240 VAC	100-240 VAC
Maximum power rating	58 W	475 W	70 W
Idle power	26 W	42 W	27 W
PoE power		370 W	

HP 2920 Switch Series

Specifications (continued)

	HP 2920-24G Switch (J9726A)	HP 2920-24G-PoE+ Switch (J9727A)	HP 2920-48G Switch (J9728A)
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.
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	HP PCM+; 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)	HP PCM+; 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)	HP PCM+; 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)
Services	Refer to the HP website at **www.hp.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 HP sales office.	Refer to the HP website at **www.hp.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 HP sales office.	Refer to the HP website at **www.hp.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 HP sales office.

HP 2920 Switch Series

Specifications (continued)

		
	HP 2920-48G-PoE+ Switch (J9729A)	**HP 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 (HP X332 575W 100-240VAC to 54VDC Modular Power Supply)	1 power supply slot 1 minimum power supply required includes: 1 x J9737A (HP 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: -53 dB, Pressure: -38.3 dB
Electrical characteristics		
Frequency	50/60 Hz	50/60 Hz
80plus.org Certification	Silver	Gold
Maximum heat dissipation	399 BTU/hr (420.95 kJ/hr)	399 BTU/hr (420.95 kJ/hr)
Voltage	100-240 VAC	110-240 VAC
Maximum power rating	487 W	487 W
Idle power	46 W	46 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). 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+A1:2010+A12:2011; IEC 60950-1 (ed.2): am1

HP 2920 Switch Series

Specifications (continued)

	HP 2920-48G-PoE+ Switch (J9729A)	HP 2920-48G-PoE+ 740W Switch (J9836A)
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
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	HP PCM+; 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)	HP PCM+; 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)
Services	Refer to the HP website at **www.hp.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 HP sales office.	Refer to the HP website at **www.hp.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 HP sales office.

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 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+
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 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 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)
IP multicast	RFC 1112 IGMP	RFC 2236 IGMPv2 RFC 2710 Multicast Listener Discovery (MLD) for IPv6	RFC 3376 IGMPv3 (host joins only)
IPv6	RFC 1981 IPv6 Path MTU Discovery RFC 2460 IPv6 Specification 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 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 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
MIBs	IEEE 802.1ap (MSTP and STP MIB's only) 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
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 SNMPv3 Message Processing RFC 3414 SNMPv3 User-based Security Model (USM) RFC 3415 SNMPv3 View-based Access Control Model VACM) ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3 XRMON

Standards and Protocols (continued)

(applies to all products in series)

QoS/CoS	IEEE 802.1P (CoS)	RFC 2474 DiffServ Precedence, including 8 queues/port	RFC 2598 DiffServ Expedited Forwarding (EF)
		RFC 2597 DiffServ Assured Forwarding (AF)	Ingress Rate Limiting
Security	IEEE 802.1X Port Based Network Access Control	RFC 2618 RADIUS Authentication Client MIB	RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)
	IEEE 802.1X:Port-Based Network Access Control (2001)	RFC 2620 RADIUS Accounting Client MIB	RFC 3580 IEEE 802.1X RADIUS
	RFC 1321 The MD5 Message-Digest Algorithm	RFC 2716 PPP EAP TLS Authentication Protocol	RFC 3580 IEEE 802.1X Remote Authentication Dial In User Service (RADIUS) Usage Guidelines
	RFC 1334 PPP Authentication Protocols (PAP)	RFC 2818 HTTP Over TLS	RFC 4576 RADIUS Attributes
	RFC 1492 An Access Control Protocol, Sometimes Called TACACS	RFC 2865 RADIUS (client only)	Access Control Lists (ACLs)
	RFC 1492 TACACS+	RFC 2865 RADIUS Authentication	draft-grant-tacacs-02 (TACACS)
	RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)	RFC 2866 RADIUS Accounting	Guest VLAN for 802.1x
	RFC 2082 RIP-2 MD5 Authentication	RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support	MAC Authentication
	RFC 2104 Keyed-Hashing for Message Authentication	RFC 2868 RADIUS Attributes for Tunnel Protocol Support	MAC Lockdown
	RFC 2138 RADIUS Authentication	RFC 2869 RADIUS Extensions	MAC Lockout
	RFC 2139 RADIUS Accounting	RFC 2882 NAS Requirements: Extended RADIUS Practices	Port Security
	RFC 2246 Transport Layer Security (TLS)	RFC 3162 RADIUS and IPv6	Secure Sockets Layer (SSL)
	RFC 2548 Microsoft Vendor-specific RADIUS Attributes	RFC 3576 Dynamic Authorization Extensions to RADIUS	SSHv2 Secure Shell
			Web Authentication

HP 2920 Switch Series accessories

Modules

NEW HP 2920 2-Port 10GbE SFP+ Module (J9731A)

NEW HP 2920 2-port 10GBASE-T Module (J9732A)

NEW HP 2920 2-Port Stacking module (J9733A)

Transceivers

HP X121 1G SFP LC SX Transceiver (J4858C)

HP X121 1G SFP LC LX Transceiver (J4859C)

HP X122 1G SFP LC BX-D Transceiver (J9142B)

HP X122 1G SFP LC BX-U Transceiver (J9143B)

HP X121 1G SFP LC LH Transceiver (J4860C)

HP X121 1G SFP RJ45 T Transceiver (J8177C)

HP X111 100M SFP LC FX Transceiver (J9054C)

HP X112 100M SFP LC BX-D Transceiver (J9099B)

HP X112 100M SFP LC BX-U Transceiver (J9100B)

HP X132 10G SFP+ LC SR Transceiver (J9150A)

HP X132 10G SFP+ LC LR Transceiver (J9151A)

HP X132 10G SFP+ LC LRM Transceiver (J9152A)

HP X132 10G SFP+ LC ER Transceiver (J9153A)

HP X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable (J9281B)

HP X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable (J9283B)

HP X242 10G SFP+ to SFP+ 7m Direct Attach Copper Cable (J9285B)

HP X242 10G SFP+ to SFP+ 10m Direct Attach Copper Cable (J9286B)

HP X242 10G SFP+ to SFP+ 15m Direct Attach Copper Cable (J9287B)

HP X244 10G XFP to SFP+ 1m Direct Attach Copper Cable (J9300A)

HP X244 10G XFP to SFP+ 3m Direct Attach Copper Cable (J9301A)

HP X244 10G XFP to SFP+ 5m Direct Attach Copper Cable (J9302A)

Cables

HP 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A)

HP 1 m Multimode OM3 LC/LC Optical Cable (AJ834A)

HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A)

HP 5 m Multimode OM3 LC/LC Optical Cable (AJ836A)

HP 15 m Multimode OM3 LC/LC Optical Cable (AJ837A)

HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A)

HP 50 m Multimode OM3 LC/LC Optical Cable (AJ839A)

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable (QK732A)

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable (QK733A)

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A)

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A)

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable (QK736A)

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable (QK737A)

HP 2920 0.5m Stacking Cable (J9734A)

HP 2920 1.0m Stacking Cable (J9735A)

HP 2920 3.0m Stacking Cable (J9736A)

Mounting Kit

HP X410 1U Universal 4-post Rack Mounting Kit (J9583A)

HP 2920-24G Switch (J9726A)

NEW HP X331 165W 100-240VAC to 12VDC Modular Power Supply (J9739A)

HP 2920-24G-PoE+ Switch (J9727A)

NEW HP X332 575W 100-240VAC to 54VDC Modular Power Supply (J9738A)

NEW HP X332 1050W 110-240VAC to 54VDC Power Supply (J9737A)

HP 2920-48G Switch (J9728A)

NEW HP X331 165W 100-240VAC to 12VDC Modular Power Supply (J9739A)

HP 2920-48G-PoE+ Switch (J9729A)

NEW HP X332 575W 100-240VAC to 54VDC Modular Power Supply (J9738A)

NEW HP X332 1050W 110-240VAC to 54VDC Power Supply (J9737A)

HP 2920-48G-PoE+ 740W Switch (J9836A)

NEW HP X332 575W 100-240VAC to 54VDC Modular Power Supply (J9738A)

NEW HP X332 1050W 110-240VAC to 54VDC Power Supply (J9737A)

Products within this series have achieved sufficient scores in each of the rated criteria to achieve the Miercom Certified Green distinction Award. See the Specifications section of this series for more information.

To learn more, visit hp.com/networking

4AA4-5213ENW, Created February 2013; Updated August 2013, Rev. 2