

Overview

Models

HP ProCurve 2910al-24G Switch

J9146A

HP ProCurve 2910al-48G Switch

J9148A

Introduction

- High-performance Gigabit access switch
 - Four optional 10-Gigabit ports (CX4 and/or SFP+)
 - IEEE 802.3af/802.3at functionality (PoE/PoE+)
 - Layer 2 switching with static and RIP IP routing
 - Lifetime Warranty, sFlow, ACLs, and rate limiting
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Introduction

The HP ProCurve 2910al Switch Series consists of four switches: the HP ProCurve 2910al-24G and 2910al-24G-PoE+ Switches with 24 10/100/1000 ports, and the HP ProCurve 2910al-48G and 2910al-48G-PoE+ Switches with 48 10/100/1000 ports. Each switch has four dual-personality ports for 10/100/1000 or mini-GBIC connectivity. In addition, the 2910al switch supports up to four optional 10-Gigabit (CX4 and/or SFP+) ports, thereby offering the most flexible and easy-to-deploy uplinks in its class. Together with static and RIP IPv4 routing, robust security and management, enterprise-class features, free lifetime warranty, and free software updates, the 2910 series is a cost-effective, scalable solution for customers who are building high-performance networks. These switches can be deployed at enterprise edge and remote branch offices, converged networks, and data center top of rack.

Features and Benefits

Industry-leading warranty

- Exclusive Lifetime* Warranty

Connectivity

- **10 Gbps Ethernet connectivity:** Up to four optional and flexible 10-Gigabit ports (CX4 and/or SFP+)—with optional interconnect kit for short-distance connectivity
- **IPv6:**
 - **IPv6 host:** the switches can 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 802.3af Power over Ethernet:** provides up to 15.4 W per port to IEEE 802.3af compliant PoE powered devices such as IP phones, wireless access points, and security cameras
- **IEEE 802.3at Power Over Ethernet Plus:** provides up to 30 W per port to IEEE 802.3at compliant PoE/PoE+ powered devices such as video IP phones, IEEE 802.11n wireless access points, and advanced pan/zoom/tilt security cameras
- **Pre-standard PoE support:** detects and provides power to pre-standard PoE devices; see list of supported devices in the product FAQ at www.ProCurve.com
- **Auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100/1000 ports
- **Dual-personality functionality:** four 10/100/1000 ports or SFP slots for optional fiber connectivity such as Gigabit-SX, -LX, -LH, 100-FX, 100-BX, and 1000-BX
- **Stacking capability:** single IP address management for a virtual stack of up to 16 switches, including the HP ProCurve Switch 2500 Series, 2510 Series, 2600 Series, 2610 Series, 2800 Series, 2810 Series, 2900 Series, 2910al Series, 3400cl Series, 3500yl Series, 4200vl Series, 6108, 6200yl-24G-mGBIC, and 6400cl Series

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Performance

- **High-performance architecture:** 128 Gbps switching fabric with up to 95 million pps (24-port switches) and 176 Gbps switching fabric with up to 131 million pps (48-port switches)
- **Selectable queue configurations:** increase performance by selecting the number of queues and associated memory buffering that best meet the requirements of your network applications

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 Protocol (LACP) and ProCurve trunking:** support up to 24 trunks, each with up to 8 links (ports) per trunk
- **Optional redundant power supply:** supplies backup power in case of power failure (Note: HP ProCurve 620 Redundant/External Power Supply provides only RPS functionality for the 2910al series)

Manageability

- **RMON, XRMON, and sFlow:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **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
- **Command authorization:** leverages RADIUS to link a custom list of CLI commands to individual network administrator's login; also provides an audit trail
- **Dual flash images:** provides independent primary and secondary operating system files for backup while upgrading
- **Multiple configuration files:** allow multiple configuration files to be stored to flash image
- **Friendly port names:** allow assignment of descriptive names to ports
- **Find-Fix-and-Inform:** finds and fixes common network problems automatically, then informs administrator
- **Software updates:** free downloads from the Web
- **Troubleshooting:** ingress/egress port monitoring enables network problem-solving

Layer 2 switching

- **VLAN support and tagging:** supports the 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:** supports up to 9,220-byte frame size to improve performance of large data transfers

Layer 3 routing

- **Static IP routing:** provides manually configured routing; includes ECMP capability
- **RIP:** provides RIPv1 and RIPv2 routing

Security

- **Multiple user authentication methods:**
 - **IEEE 802.1X:** industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
 - **Web-based authentication:** similar to IEEE 802.1X, provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
 - **MAC-based authentication:** client is authenticated with the RADIUS server based on the client's MAC address
- **Authentication flexibility:**
 - **Multiple IEEE 802.1X users per port:** provides authentication of up to eight IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication
 - **Concurrent IEEE 802.1X and Web or MAC authentication schemes per port:** switch port will accept any of IEEE 802.1X and either Web or 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
- **Identity-driven ACL:** enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
- **Dynamic ARP protection:** blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of

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network data

- **DHCP protection:** blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **Port monitoring for network threats:** provides sampled port traffic using sFlow technology to the HP ProCurve Network Immunity Manager application for Network Behavior Anomaly Detection (NBAD) analysis to detect threats and mitigate threats at the port where the threat originated
- **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
- **Secure Shell (SSHv2):** encrypts all transmitted data for secure, remote command-line interface (CLI) access over IP networks
- **Secure FTP:** allows secure file transfer to/from the switch; protects against unwanted file downloads or unauthorized copying of switch configuration file
- **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 configured particular MAC addresses from connecting to the network
- **Switch management logon security:** can require either RADIUS or TACACS+ authentication for secure switch CLI logon
- **STP BPDU port protection:** blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **USB Secure Autorun** (requires HP ProCurve Manager Plus): deploys, diagnoses, and updates switch using USB flash drive; works with secure credential to prevent tampering
- **STP Root Guard:** protects root bridge from malicious attack or configuration mistakes
- **Custom banner:** displays security policy when users log in to the switch
- **Per-port broadcast throttling:** selectively configures broadcast control on heavy traffic port uplinks

Convergence

- **IP multicast snooping and data-driven IGMP:** automatically prevents flooding of IP multicast traffic
- **LLDP-MED** (Media Endpoint Discovery): 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):** automated device discovery protocol for easy mapping by network management applications
- **PoE/PoE+ allocations:** supports 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

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), L3 protocol, TCP/UDP port number, source port, and DiffServ
- **Rate Limiting:** per-port ingress enforced maximums

Monitor and diagnostics

- **Port mirroring:** enables traffic on a port to be simultaneously sent to a network analyzer for monitoring

Warranty and support

- **ProCurve Lifetime Warranty:** for as long as you own the product, with next-business-day advance replacement (available in most countries)
- **Electronic and telephone support:** limited electronic and telephone support is available from HP; refer to the HP Web site at www.procurve.com/support for details on the support provided and the period during which support is available
- **Software releases:** refer to the HP Web site at www.procurve.com/support for details on the software releases provided and the period during which software releases are available

* For as long as you own the product, with next-business-day advance replacement (available in most countries). The

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Following hardware products and their related series modules have a one-year hardware warranty with extensions available: HP ProCurve Routing Switch 9300m Series, HP ProCurve Switch 8100fl Series, HP ProCurve Network Access Controller 800, and HP ProCurve DCM Controller. The following hardware mobility products have a one-year hardware warranty with extensions available: HP ProCurve M111 Client Bridge, HP ProCurve MSM3xx-R Access Points, HP ProCurve MSM7xx Mobility and Access Controllers, HP ProCurve RF Manager IDS/IPS Systems, HP ProCurve MSM Power Supplies, HP ProCurve 1-Port Power Injector, and HP ProCurve CNMS Appliances. Disk drives in the HP ProCurve ONE Services zI Modules have a five year hardware warranty. Standalone software, upgrades, or licenses may have a different warranty duration. For details, refer to the ProCurve Software License, Warranty, and Support booklet at www.procurve.com/warranty.

Services

HP ProCurve 2910al-24G Switch

3-year, 4-hour onsite, 13x5 coverage for hardware	U2855E
3-year, 4-hour onsite, 24x7 coverage for hardware	U2856E
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support	U6304E
3-year, 24x7 SW phone support, software updates	UE262E
Installation with minimum configuration, system-based pricing	U4826E
Installation with HP-provided configuration, system-based pricing	U4830E

HP ProCurve 2910al-48G Switch

3-year, 4-hour onsite, 13x5 coverage for hardware	H4496E
3-year, 4-hour onsite, 24x7 coverage for hardware	H2893E
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support	U6319E
3-year, 24x7 SW phone support, software updates	UE264E
Installation with minimum configuration, system-based pricing	U4826E
Installation with HP-provided configuration, system-based pricing	U4830E

Refer to the HP Web site at www.procurve.com/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.

Technical Specifications

HP ProCurve 2910al-24G-PoE+ Switch (J9146A)

Ports	20 auto-sensing 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 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a mini-GBIC slot (for use with mini-GBIC transceivers)
	1 RJ-45 serial console port
	Supports a maximum of 4 10-GbE ports, with optional module
Physical characteristics	Dimensions 14.4(d) x 17.4(w) x 1.73(h) in. (36.58 x 44.2 x 4.39 cm) (1U height)
	Weight 12.34 lb. (5.6 kg)
Memory and processor	Dual ARM1156T2S @ 515 MHz, 4 MB flash ROM, 1 GB flash, 512 MB SDRAM; packet buffer size: 6 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance	1000 Mb Latency < 2.9 μ s (FIFO)
	10 Gbps Latency < 1.3 μ s (FIFO)
	Throughput up to 95 million pps
	Switching capacity 128 Gbps
	Routing table size 2,000 entries
	MAC address table size 16,000 entries
Environment	Operating temperature 32°F to 131°F (0°C to 55°C)
	Operating relative humidity 15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/Storage temperature -40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity 15% to 95% @ 149°F (65°C), non-condensing
	Altitude up to 10,000 ft. (3 km)
	Acoustic Power: 51.5 dB, Pressure: 38.1 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Description The switch automatically adjusts to any voltage between 100-127 and 200-240 volts and either 50 or 60 Hz
	Maximum heat dissipation 447 BTU/hr (472 kJ/hr), max. using PoE+
	Voltage 100-127 / 200-240 VAC
	Current 6.1 / 3.1 A
	Idle power 65 W
	Power consumption 490 W
	Frequency 50 / 60 Hz
	Notes Idle power is the power consumption of the base system with no traffic. 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	EN 60950/IEC 60950; CAN/CSA 22.2 No. 60950; EN 60825; UL 60950

Technical Specifications

Emissions	FCC part 15 Class A; EN 55022/CISPR-22 Class A; VCCI Class A	
Immunity	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV / 2 kV AC, 1 kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m
	Voltage dips and interruptions	IEC 61000-4-11; > 95% reductions, 0.5 period; 30% reduction, 25 periods
	Harmonics	IEC 61000-3-2
	Flicker	IEC 61000-3-3
Management	HP ProCurve Manager Plus; HP ProCurve Manager; command-line interface; Web browser; out-of-band management (serial RS-232C)	
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required.	
Standards and protocols	<p>Device Management RFC 1591 DNS (client) HTML and telnet management</p> <p>General Protocols 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 802.3ad Link Aggregation Control Protocol (LACP) 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 1350 TFTP Protocol (revision 2) RFC 2030 Simple Network Time Protocol (SNTP) v4 RFC 2131 DHCP RFC 2453 RIPv2 RFC 3046 DHCP Relay Agent Information Option</p> <p>IP Multicast RFC 3376 IGMPv3 (host joins only)</p>	<p>MIBs RFC 1213 MIB II RFC 1493 Bridge MIB RFC 1724 RIPv2 MIB RFC 2021 RMONv2 MIB 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 2863 The Interfaces Group MIB</p> <p>Network management IEEE 802.1AB Link Layer Discovery Protocol (LLDP) RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events) RFC 3176 sFlow ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3 XRMON</p> <p>QoS/Cos RFC 2474 DiffServ Precedence, including 8 queues/port RFC 2597 DiffServ Assured Forwarding (AF) RFC 2598 DiffServ Expedited Forwarding (EF) Ingress Rate Limiting</p> <p>Security IEEE 802.1X Port Based Network Access Control RFC 1492 TACACS+ RFC 2138 RADIUS Authentication</p>

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IPv6	RFC 1981 IPv6 Path MTU Discovery RFC 2460 IPv6 Specification RFC 2710 Multicast Listener Discovery (MLD) for IPv6 RFC 2925 Remote Operations MIB (Ping only) RFC 3019 MLDv1 MIB RFC 3315 DHCPv6 (client only) 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	RFC 2866 RADIUS Accounting Secure Sockets Layer (SSL)
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HP ProCurve 2910al-48G-PoE+ Switch (J9148A)

Ports	44 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T); Media Type: Auto-MDIX; Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only
	4 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or as a mini-GBIC slot (for use with mini-GBIC transceivers)
	1 RJ-45 serial console port
	Supports a maximum of 4 10-GbE ports, with optional module
Physical characteristics	Dimensions 14.4(d) x 17.42(w) x 1.73(h) in. (36.58 x 44.25 x 4.39 cm) (1U height) Weight 12.96 lb. (5.88 kg)
Memory and processor	Dual ARM1156T2S @ 515 MHz, 4 MB flash ROM, 1 GB flash, 512 MB SDRAM; packet buffer size: 6 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance	1000 Mb Latency < 2.9 µs (FIFO) 10 Gbps Latency < 1.3 µs (FIFO) Throughput up to 131 million pps Switching capacity 176 Gbps Routing table size 2,000 entries MAC address table size 16,000 entries
Environment	Operating temperature 32°F to 131°F (0°C to 55°C)

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	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing	
	Non-operating/ Storage temperature	-40°F to 158°F (-40°C to 70°C)	
	Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing	
	Altitude	up to 10,000 ft. (3 km)	
	Acoustic	Power: 51.5 dB, Pressure: 38.1 dB; DIN 45635T.19 per ISO 7779	
Electrical characteristics	Description	The switch automatically adjusts to any voltage between 100-127 and 200-240 volts and either 50 or 60 Hz	
	Maximum heat dissipation	667 BTU/hr (704 kJ/hr), max. using PoE+	
	Voltage	100-127 / 200-240 VAC	
	Current	6.4 / 3.2 A	
	Idle power	89 W	
	Power consumption	556 W	
	Frequency	50 / 60 Hz	
	Notes	Idle power is the power consumption of the base system with no traffic. 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 Emissions Immunity		EN 60950/IEC 60950; CAN/CSA 22.2 No. 60950; EN 60825; UL 60
			FCC part 15 Class A; EN 55022/CISPR-22 Class A; VCCI Class A
EN		EN 55024, CISPR 24	
ESD		IEC 61000-4-2; 4 kV CD, 8 kV AD	
Radiated		IEC 61000-4-3; 3 V/m	
EFT/Burst		IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)	
Surge		IEC 61000-4-5; 1 kV / 2 kV AC, 1 kV signal, 0.5 kV DC	
Conducted		IEC 61000-4-6; 3 V	
Power frequency magnetic field		IEC 61000-4-8; 1 A/m	
Voltage dips and interruptions		IEC 61000-4-11; > 95% reductions, 0.5 period; 30% reduction, 25 periods	
Harmonics		IEC 61000-3-2	
Flicker		IEC 61000-3-3	
Management		HP ProCurve Manager Plus; HP ProCurve Manager; command-line interface; Web browser; out-of-band management (serial RS-232C)	
Notes	When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required.		
Standards and protocols	Device Management	MIBs	
	RFC 1591 DNS (client) HTML and telnet management	RFC 1213 MIB II RFC 1493 Bridge MIB RFC 1724 RIPv2 MIB RFC 2021 RMONv2 MIB 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	
	General Protocols		
	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		

Technical Specifications

and	RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
Port	RFC 2737 Entity MIB (Version 2)
IEEE 802.1w Rapid Reconfiguration of Spanning Tree	RFC 2863 The Interfaces Group MIB
IEEE 802.3ad Link Aggregation Control Protocol (LACP)	Network management
IEEE 802.3x Flow Control	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 768 UDP	RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 783 TFTP Protocol (revision 2)	RFC 3176 sFlow
RFC 792 ICMP	ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
RFC 793 TCP	SNMPv1/v2c/v3
RFC 826 ARP	XRMON
RFC 854 TELNET	
RFC 868 Time Protocol	QoS/Cos
RFC 951 BOOTP	RFC 2474 DiffServ Precedence, including 8 queues/port
RFC 1058 RIPv1	RFC 2597 DiffServ Assured Forwarding (AF)
RFC 1350 TFTP Protocol (revision 2)	RFC 2598 DiffServ Expedited Forwarding (EF) Ingress Rate Limiting
RFC 2030 Simple Network Time Protocol (SNTP) v4	
RFC 2131 DHCP	Security
RFC 2453 RIPv2	IEEE 802.1X Port Based Network Access Control
RFC 3046 DHCP Relay Agent Information Option	RFC 1492 TACACS+
IP Multicast	RFC 2138 RADIUS Authentication
RFC 3376 IGMPv3 (host joins only)	RFC 2866 RADIUS Accounting
IPv6	Secure Sockets Layer (SSL)
RFC 1981 IPv6 Path MTU Discovery	
RFC 2460 IPv6 Specification	
RFC 2710 Multicast Listener Discovery (MLD) for IPv6	
RFC 2925 Remote Operations MIB (Ping only)	
RFC 3019 MLDv1 MIB	
RFC 3315 DHCPv6 (client only)	
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	

Accessories

HP ProCurve 2910al Switch Series accessories	HP ProCurve 620 Redundant/External Power Supply	J8696A
	HP ProCurve Network Immunity Manager 1.0 50-device license	J9060A
	HP ProCurve Network Immunity Manager 1.0 +100-device license	J9061A
	HP ProCurve Gigabit-LH-LC Mini-GBIC	J4860C
	HP ProCurve Gigabit-SX-LC Mini-GBIC	J4858C
	HP ProCurve Gigabit-LX-LC Mini-GBIC	J4859C
	HP ProCurve 100-FX SFP-LC Transceiver	J9054B
	HP ProCurve Identity Driven Manager 2.3 base product--500-user license	J9012A
	HP ProCurve Identity Driven Manager 2.3--add 2,000 users license	J9014A
	HP ProCurve Identity Driven Manager 2.3 base product (upgrade from 1.0)	J9013A
	HP ProCurve Manager Plus 2.3 50-device license	J9057A
	HP ProCurve Manager Plus 2.3 upgrade +100-device license	J9058A
	HP ProCurve Manager Plus 2.3 unlimited-device license	J9059A
	HP ProCurve Manager 2.3	
	NEW HP ProCurve Identity Driven Manager 3.0 software--500-user license	J9438A
	NEW HP ProCurve Identity Driven Manager 3.0 software--unlimited-user license	J9439A
	NEW HP ProCurve Identity Driven Manager 3.0 software--additional 1,000-user license	J9440A
	HP ProCurve 1000-BX-D SFP-LC Mini-GBIC	J9142B
	HP ProCurve 1000-BX-U SFP-LC Mini-GBIC	J9143B
	HP ProCurve 100-BX-D SFP-LC Transceiver	J9099B
	HP ProCurve 100-BX-U SFP-LC Transceiver	J9100B
	HP ProCurve 10-GbE 2-Port CX4 al Module	J9149A
	HP ProCurve 10-GbE 2-Port SFP+ al Module	J9008A
	HP ProCurve 10-GbE al Interconnect	J9165A
	HP ProCurve 10-GbE SFP+ SR Transceiver	J9150A
	HP ProCurve 10-GbE SFP+ LR Transceiver	J9151A
	HP ProCurve 10-GbE SFP+ LRM Transceiver	J9152A
	HP ProCurve 10-GbE SFP+ 1m Direct Attach Cable	J9281A
	HP ProCurve 10-GbE SFP+ 3m Direct Attach Cable	J9283A
	HP ProCurve 10-GbE SFP+ 7m Direct Attach Cable	J9285A

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