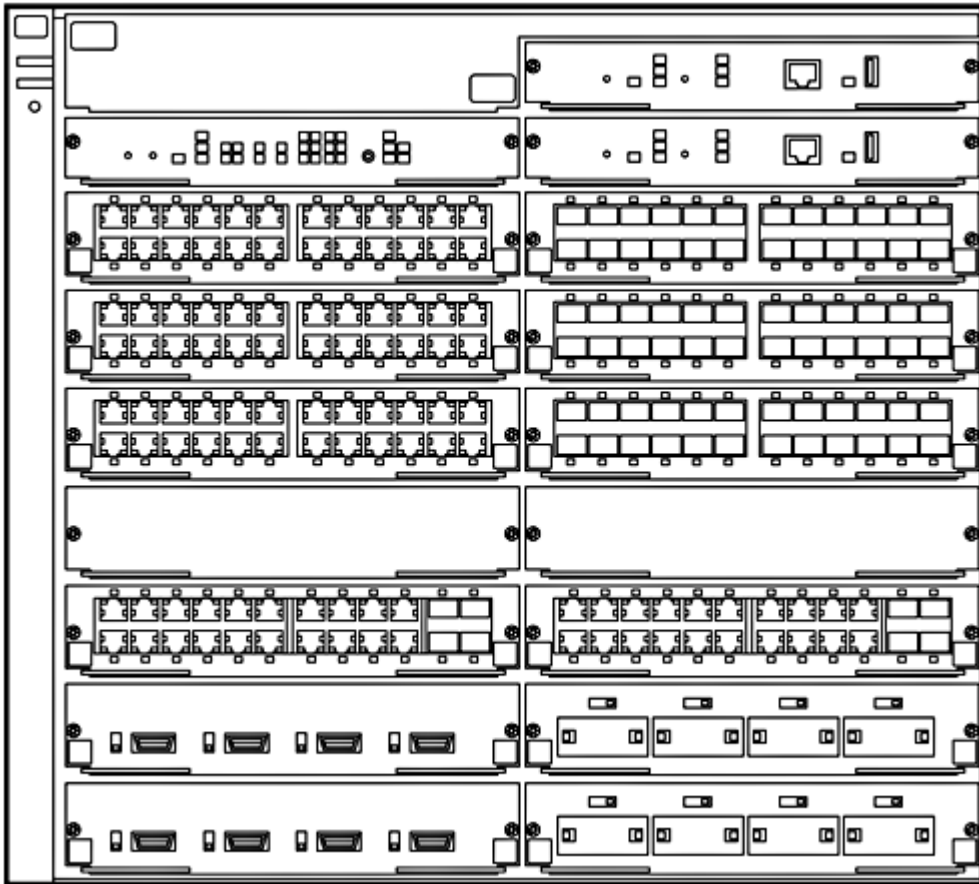


Overview



Models

HP ProCurve Switch 8212zl

J8715B

HP ProCurve 8206zl Switch

J9475A

Key features

- System high availability, ProCurve ONE integrated
- Layer 2-Layer 4 and intelligent edge feature set
- Enterprise-class performance and security
- Scalable 10/100/1000 and 10-GbE connectivity
- HP ProCurve Lifetime Warranty

Overview

Introduction

The HP ProCurve 8200zl Switch Series offers high performance, scalability, and a wide range of features in a high-availability platform that dramatically reduces complexity and provides reduced cost of ownership. As part of a Unified Wired and Wireless Network infrastructure solution, the 8200zl series provides platform technology, system software, system management, application integration, wired and wireless integration, network security, and support that are common across the HP ProCurve ProVision family of modular and fixed-port switches. Together, they deliver an agile, cost-effective, high-availability network solution. With key technologies to provide solution longevity, the 8200zl switch series is built to deliver long-term investment protection without added complexity for network core, aggregation, and high-availability access layer deployments. It provides these capabilities while bringing to market the industry's first highly available switch with a lifetime warranty.

Features and Benefits

Industry-leading warranty

- ProCurve Lifetime* Warranty

Management

- **Remote intelligent mirroring:** mirrors selected ingress/egress traffic based on ACL, port, MAC address, or VLAN to a local or remote 8200zl/6600/6200yl/5400zl/3500yl switch anywhere on the network
- **RMON, XRMON, and sFlow v5:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** automated device discovery protocol for easy mapping by network management applications
- **Uni-Directional Link Detection (UDLD):** monitors cable between two switches and shuts down the ports on both ends if the cable is broken turning the bi-directional link into uni-directional; this prevents network problems such as loops
- **ProCurve Unified Core-to-Edge Device/Network Management tools:** ProCurve portfolio-common device-level tools (CLI, Web GUI, Menu) plus seamless integration into HP ProCurve Manager Plus (PCM+)/Identity Driven Manager (IDM) network management deployments
- **Command authorization:** leverages RADIUS to link a custom list of CLI commands to individual network administrator's login; also provides an audit trail
- **Friendly port names:** allow assignment of descriptive names to ports
- **Dual flash images:** provides independent primary and secondary OS files for backup while upgrading or fine-tuning the switch configuration
- **Multiple configuration files:** multiple configuration files can be stored to the flash image
- **ProCurve Unified Core-to-Edge features:** ProCurve ProVision portfolio-common feature implementation for faster solution deployment

Connectivity

- **High-density port connectivity:** 12 interface module slots, up to 288 wire-speed 10/100/1000 PoE-enabled ports or 48 10-GbE ports per system
- **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 802.3 for PoE/PoE+ powered devices such as video IP phones, IEEE 802.11n wireless access points, and advanced pan/zoom/tilt security cameras
- **Jumbo frames:** on Gigabit and 10-Gb ports, allow high-performance remote backup and disaster-recovery services
- **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

Overview

- the network
- **IPv6 ACL/QoS**: supports ACL and QoS for IPv6 network traffic
- **IPv6 ready**: the switch hardware can support IPv6 routing, tunneling, and security; these features will be available when enabled via software update in follow-on releases
- **ProCurve Unified Core-to-Edge hardware**: ProCurve Intelligent Edge family-common interface and service modules, Gigabit optics/10-GbE transceivers, and power supplies enable sparing simplicity
- **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 and 10/100/1000 ports

Performance

- **High-speed/capacity architecture**: 691.2 Gbps crossbar switching fabric provides intra- and inter-module switching with 480.3 million pps throughput on the purpose-built ProVision ASICs
- **Selectable queue configurations**: increase performance by selecting the number of queues and associated memory buffering that best meet the requirements of your network applications
- **Scalable system design**: chassis architecture/backplane provides built-in performance capacity/headroom to support next-generation high-density/high-speed connectivity

Resiliency and high availability

- **Redundant management, fabric, and power**: provide enhanced system availability and assured continuity of operations
- **Virtual Router Redundancy Protocol** (requires Premium License): VRRP allows groups of two routers to dynamically back each other up to create highly available routed environments
- **IEEE 802.1s Multiple Spanning Tree Protocol**: provides high link availability in multiple VLAN environments by allowing multiple spanning trees; encompasses IEEE 802.1D Spanning Tree Protocol and IEEE 802.1w Rapid Spanning Tree Protocol
- **Server-to-switch distributed trunking**: allows a server to connect to two switches with one logical trunk that consists of multiple physical connections; enables load-balancing and increases resiliency
- **IEEE 802.3ad Link Aggregation Control Protocol (LACP) and ProCurve trunking**: support up to 60 trunks, each with up to 8 links (ports) per trunk
- **Proven ASIC and system architecture**: the ProCurve ProVision ASIC and platform architecture, leveraged from ProCurve's successful 5400zl/3500yl/6200yl families of switches, reduces technology risk and provides reliable support and flexibility
- **ProCurve zl family components**: employs market-proven Intelligent Edge Switch interface modules, optics, and power supplies to reduce technology risk and enhance system reliability
- **Hot-swappable modules**: interface, management, and fabric modules as well as mini-GBIC optics and power supplies can be removed, swapped, or added to the system without interrupting ongoing switch operations
- **Redundant, hot-swappable cooling**: redundant fan design and hot-swappable fan tray provide continuity of operation in case of a single fan failure
- **Passive system design**: passive chassis backplane (no traffic-forwarding active componentry) provides system reliability and reduces impact of component failure

Layer 2 switching

- **IEEE 802.1ad Q-in-Q** (requires Premium License): increases the scalability of Ethernet network by providing a hierarchical structure; connects multiple LANs on high-speed campus or metro network
- **ProCurve switch meshing**: dynamically load-balances across multiple active redundant links to increase available aggregate bandwidth
- **VLAN support and tagging**: supports the IEEE 802.1Q standard and 2,048 VLANs simultaneously
- **IEEE 802.1v protocol VLANs**: isolate select non-IPv4 protocols automatically into their own VLANs
- **GARP VLAN Registration Protocol**: allows automatic learning and dynamic assignment of VLANs

Layer 3 services



Overview

- **UDP helper function:** UDP broadcasts can be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevent server spoofing for UDP services such as DHCP
- **Loopback interface address:** defines an address in RIP and OSPF that can always be reachable, improving diagnostic capability

Layer 3 routing

- **Static IP routing:** provides manually configured routing; includes ECMP capability
- **RIP:** provides RIPv1 and RIPv2 routing
- **OSPF** (requires Premium License): includes host-based ECMP to provide link redundancy/scalable bandwidth and NSSA

Security

- **Access control lists (ACLs):** provide filtering based on the IP field, source/destination IP address/subnet, and source/destination TCP/UDP port number on a per-VLAN or per-port basis
- **Multiple user authentication methods:**
 - **IEEE 802.1X users per port:** provides authentication of multiple IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication
 - **Web-based authentication:** authenticates from Web browser for clients that do not support IEEE 802.1X supplicant; customized remediation can be processed on an external Web server
 - **MAC-based authentication:** client is authenticated with the RADIUS server based on client's MAC address
 - **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
- **Virus throttling:** detects traffic patterns typical of WORM-type viruses and either throttles or entirely prevents the ability of the virus to spread across the routed VLANs or bridged interfaces, without requiring external appliances
- **DHCP protection:** blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **Secure management access:** all access methods-CLI, GUI, or MIB-are securely encrypted through SSHv2, SSL, and/or SNMPv3
- **Management Interface Wizard:** CLI-based step-by-step configuration tool to help ensure that management interfaces such as SNMP, telnet, SSH, SSL, Web, and USB are secured to desired level
- **Switch CPU protection:** provides automatic protection against malicious network traffic trying to shut down the switch
- **ICMP throttling:** defeats ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic
- **Identity-driven ACL:** enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
- **STP BPDU port protection:** blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **Dynamic IP lockdown:** works with DHCP protection to block traffic from unauthorized hosts, preventing IP source address spoofing
- **Dynamic ARP protection:** blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- **Detection of malicious attacks:** monitors 10 types of network traffic and sends a warning when an anomaly that potentially can be caused by malicious attacks is detected
- **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
- **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 Sockets Layer (SSL):** encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- **Secure FTP:** allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of switch configuration file
- **Switch management logon security:** can require either RADIUS or TACACS+ authentication for secure switch CLI logon
- **Security banner:** displays a customized security policy when users log in to the switch

Overview

- **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
- **Integrated Threat Management applications**: Advanced, scalable, switch-integrated security tools such as stateful firewall, intrusion detection/prevention system (IDS/IPS), and VPN concentrator via the Threat Management Services zl Module.

Convergence

- **IP multicast routing** (requires Premium License): includes PIM Sparse and Dense modes to route IP multicast traffic
- **IP multicast snooping** (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
- **RADIUS VLAN for voice**: uses standard RADIUS attribute and LLDP-MED to automatically configure VLAN for IP phones
- **PoE allocations**: supports multiple methods (automatic, IEEE 802.3af class, LLDP-MED, or user specified) to allocate PoE power for more efficient energy savings

Quality of Service (QoS)

- **Advanced classifier-based QoS**: classifies traffic using multiple match criteria based on L2/3/4 information; applies QoS policies such as setting priority level and rate limit to selected traffic per port or per VLAN
- **Layer 4 prioritization**: enables prioritization based on TCP/UDP port numbers
- **Traffic prioritization**: allows real-time traffic classification into eight priority levels mapped to eight queues
- **Bandwidth shaping**:
 - **Port-based rate limiting**: per-port ingress/egress enforced maximum bandwidth
 - **Classifier-based rate limiting**: use ACL to enforce maximum bandwidth for ingress traffic on each port
 - **Guaranteed minimum**: per-port, per-queue egress-based guaranteed minimum bandwidth
- **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

HP ProCurve ONE integration

- **HP ProCurve ONE Services zl Module**: allows customers to embed applications directly into the network, either distributed throughout the network at the network edge, or centralized in the core or distribution layer; for more information about the HP ProCurve ONE solution, visit the ProCurve Web site

Flexibility

- **Unified Wired and Wireless Deployment and Management**: employing the MSM765zl mobility controller, offers secure, advanced wireless services with simplified management and unified wired and wireless operation across the network
- **Complete feature set**: Gigabit PoE for edge VoIP solutions, scalable 10-GbE for enterprise-class distribution-layer implementations, advanced wireless management for comprehensive mobility solutions, and critical high-availability features for midmarket core network deployments
- **Programmable ASIC design**: allows seamless addition of new QoS and security features over time without costly hardware upgrades

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



Overview

* For as long as you own the product, with next-business-day advance replacement (available in most countries). The following hardware products have a five-year hardware warranty for the disk drive and lifetime hardware warranty (for as long as you own the product) for the rest of the module: HP ProCurve ONE Services zl Module, HP ProCurve Threat Management Services zl Module, and HP ProCurve MSM765zl Mobility Controller. The 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 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, HP ProCurve CNMS Appliances, and HP ProCurve MSM317 Access Device. 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.

Technical Specifications

HP ProCurve Switch 8212zl (J8715B)	Included accessories	1 HP ProCurve Switch 8200zl Management Module (J9092A) 2 HP ProCurve Switch 8200zl Fabric Module (J9093A) 1 HP ProCurve Switch 8200zl System Support Module (J9095A)	
	Ports	12 open module slots Supports a maximum of 288 auto-sensing 10/100/1000 ports or 48 10-GbE ports or 288 mini-GBICs, or a combination	
	Power supplies	4 power-supply slots 2 minimum power-supplies required (ordered separately)	
	Physical characteristics	Dimensions	18.7(d) x 17.5(w) x 15.6(h) in. (47.5 x 44.45 x 39.62 cm) (9U height)
		Weight	50.45 lb. (22.88 kg)
		Memory and processor	Gigabit Module
		10G Module	ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM
		Management Module	Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only. Optional 4-post cabinet rail available (see Switch 8212zl Ordering Guide).	
	Performance	1000 Mb Latency	< 3.7 μ s (FIFO 64-byte packets)
		10 Gbps Latency	< 2.1 μ s (FIFO 64-byte packets)
		Throughput	up to 480.3 million pps
		Routing/Switching capacity	645.6 Gbps
		Switch fabric speed	691.2 Gbps
		Routing table size	10,000 entries
		MAC address table size	64,000 entries
	Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
		Operating relative humidity	15% to 95% @ 131°F (55°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: 63.0 dB, Pressure: 47.8 dB; ISO 7779, ISO 9296	
	Electrical characteristics	Achieved Miercom Certified Green Award*	

* 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.

Technical Specifications

	Description	Chassis ships without power supplies. Four power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	4900 BTU/hr (5170 kJ/hr), (max. non-PoE); 7400 BTU/hr (7807 kJ/hr) (max. PoE)
	Voltage	100-127 / 200-240 VAC
	Frequency	50 / 60 Hz
	Notes	Power supplies must be ordered separately. A minimum of two J8712A, J8713A, or J9306A supplies are required to power the system.
Safety		CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950; IEC 60825
Emissions		FCC Class A; FCC part 15 Class A; ICE-003, Canadian Radio Interface Regulation; VCCI Class A; EN 55022/CISPR 22 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
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
Notes		Interface/Service modules, power supplies, and redundant management module ordered separately RS-232C console port via an RJ-45 connector 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.
Services		Refer to the HP website 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.
Standards and protocols (applies to all products in series)	Device management	RFC 1591 DNS (client) HTML and telnet management
	General protocols	IEEE 802.1ad Q-in-Q (Premium License) IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees

Technical Specifications

	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 802.3af Power over Ethernet
	IEEE 802.3x Flow Control
	RFC 768 UDP
	RFC 783 TFTP Protocol (revision 2)
	RFC 792 ICMP
	RFC 793 TCP
	UDLD (Uni-directional Link Detection)
	RFC 826 ARP
	RFC 854 TELNET
	RFC 868 Time Protocol
	RFC 951 BOOTP
	RFC 1058 RIPv1
	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 2453 RIPv2
	RFC 2548 (MS-RAS-Vendor only)
	RFC 3046 DHCP Relay Agent Information Option
	RFC 3576 Ext to RADIUS (CoA only)
	RFC 3768 VRRP (Premium License)
	RFC 4675 RADIUS VLAN & Priority
IP multicast	RFC 3376 IGMPv3 (host joins only)
	RFC 3973 Draft 2 PIM Dense Mode (Premium License)
	RFC 4601 Draft 10 PIM Sparse Mode (Premium License)
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

Technical Specifications

	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	RFC 1213 MIB II
	RFC 1493 Bridge MIB
	RFC 1724 RIPv2 MIB
	RFC 1850 OSPFv2 MIB
	RFC 2021 RMONv2 MIB
	RFC 2096 IP Forwarding Table 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 2787 VRRP MIB
	RFC 2863 The Interfaces Group MIB
	RFC 2925 Ping MIB
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
OSPF	RFC 2328 OSPFv2 (Premium License)
	RFC 3101 OSPF NSSA
QoS/Cos	RFC 2474 DiffServ Precedence, including 8 queues/port
	RFC 2597 DiffServ Assured Forwarding (AF)
	RFC 2598 DiffServ Expedited Forwarding (EF)
Security	IEEE 802.1X Port Based Network Access Control
	RFC 1492 TACACS+
	RFC 2865 RADIUS (client only)
	RFC 2866 RADIUS Accounting
	Secure Sockets Layer (SSL) SSHv2 Secure Shell

HP ProCurve 8206zl
Switch
(J9475A)

Included accessories

1 HP ProCurve Switch 8200zl Management Module (J9092A)
2 HP ProCurve Switch 8200zl Fabric Module (J9093A)
1 HP ProCurve Switch 8200zl System Support Module (J9095A)



Technical Specifications

Ports	6 open module slots	
	Supports a maximum of 144 auto-sensing 10/100/1000 ports or 24 10-GbE ports or 144 mini-GBICs, or a combination	
Power supplies	2 power-supply slots 1 minimum power-supplies required (ordered separately)	
Physical characteristics	Dimensions	17.49(d) x 17.42(w) x 10.35(h) in. (44.42 x 44.25 x 26.29 cm) (6U height)
	Weight	48.1 lb. (21.82 kg)
Memory and processor	Gigabit Module	ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM
	10G Module	ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM
	Management Module	Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 128 MB compact flash, 256 MB DDR SDRAM
Mounting	Mounts in EIA-standard 19 in. telco rack/equipment cabinet (hardware inc); horizontal surface mounting only. Optional 4-post cabinet rail available (see 8200zl/5400zl/3500yl Series Ordering Guide).	
Performance	1000 Mb Latency	< 3.7 μ s (FIFO 64-byte packets)
	10 Gbps Latency	< 2.1 μ s (FIFO 64-byte packets)
	Throughput	up to 240.2 million pps
	Routing/Switching capacity	322.8 Gbps
	Switch fabric speed	345.6 Gbps
	Routing table size	10,000 entries
	MAC address table size	64,000 entries
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	15% to 95% @ 131°F (55°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: 60.0 dB, Pressure: 41.3 dB; ISO 7779, ISO 9296
Electrical characteristics	Achieved Miercom Certified Green Award*	
	* 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.	
	Description	Chassis ships without power supplies. Two power supply slots are available; three different power supplies are available. See power supply products for additional specifications.

Technical Specifications

	Maximum heat dissipation	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3,700 BTU/hr (3,903 kJ/hr) (max. PoE)
	Voltage	100-127 / 200-240 VAC
	Frequency	50 / 60 Hz
	Notes	Power supplies must be ordered separately. A minimum of two J8712A, J8713A, or J9306A supplies are required to power the system.
Safety		CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950; IEC 60825
Emissions		FCC Class A; FCC part 15 Class A; ICE-003, Canadian Radio Interface Regulation; VCCI Class A; EN 55022/CISPR 22 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
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		HP ProCurve Manager Plus; HP ProCurve Manager (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
Notes		Interface/Service modules, power supplies, and redundant management module ordered separately RS-232C console port via an RJ-45 connector 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.
Services		3-year, 4-hour onsite, 13x5 coverage for hardware (UT012E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UT013E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UT014E) 3-year, 24x7 SW phone support, software updates (UT015E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UT016E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UT017E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UT018E) 4-year, 24x7 SW phone support, software updates (UT019E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UT020E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UT021E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UT022E) 5-year, 24x7 SW phone support, software updates (UT023E)

Technical Specifications

Refer to the HP website 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.

Standards and protocols
(applies to all products in series)

Device management

RFC 1591 DNS (client)
HTML and telnet management

General protocols

IEEE 802.1ad Q-in-Q (Premium License)
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 802.3af Power over Ethernet
IEEE 802.3x Flow Control
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 792 ICMP
RFC 793 TCP
UDLD (Uni-directional Link Detection)
RFC 826 ARP
RFC 854 TELNET
RFC 868 Time Protocol
RFC 951 BOOTP
RFC 1058 RIPv1
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 2453 RIPv2
RFC 2548 (MS-RAS-Vendor only)
RFC 3046 DHCP Relay Agent Information Option
RFC 3576 Ext to RADIUS (CoA only)
RFC 3768 VRRP (Premium License)
RFC 4675 RADIUS VLAN & Priority

IP multicast

RFC 3376 IGMPv3 (host joins only)
RFC 3973 Draft 2 PIM Dense Mode (Premium License)
RFC 4601 Draft 10 PIM Sparse Mode (Premium License)

IPv6

RFC 1981 IPv6 Path MTU Discovery
RFC 2460 IPv6 Specification
RFC 2710 Multicast Listener Discovery (MLD) for IPv6



Technical Specifications

	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
MIBs	RFC 1213 MIB II
	RFC 1493 Bridge MIB
	RFC 1724 RIPv2 MIB
	RFC 1850 OSPFv2 MIB
	RFC 2021 RMONv2 MIB
	RFC 2096 IP Forwarding Table 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 2787 VRRP MIB
	RFC 2863 The Interfaces Group MIB
	RFC 2925 Ping MIB
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
OSPF	RFC 2328 OSPFv2 (Premium License)
	RFC 3101 OSPF NSSA
QoS/Cos	RFC 2474 DiffServ Precedence, including 8 queues/port
	RFC 2597 DiffServ Assured Forwarding (AF)
	RFC 2598 DiffServ Expedited Forwarding (EF)

Technical Specifications

Security

IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2865 RADIUS (client only)
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL) SSHv2 Secure Shell

Accessories

HP ProCurve 8200zl Switch Series accessories	Modules	
	HP ProCurve Switch zl 24-Port 10/100/1000 PoE Module	J8702A
	HP ProCurve Switch zl 4-Port 10-GbE CX4 Module	J8708A
	HP ProCurve Switch zl 20-Port 10/100/1000 + 4-Port Mini-GBIC Module	J8705A
	HP ProCurve Switch zl 24-Port Mini-GBIC Module	J8706A
	HP ProCurve Switch zl 4-Port 10-GbE X2 Module	J8707A
	HP ProCurve Switch 8200zl Management Module	J9092A
	HP ProCurve Switch 8200zl Fabric Module	J9093A
	HP ProCurve Switch 8200zl System Support Module	J9095A
	NEW HP ProCurve 24-Port 10/100/1000 PoE+ zl Module	J9307A
	NEW HP ProCurve 24-Port 10/100 PoE+ zl Module	J9478A
	NEW HP ProCurve 20-Port 10/100/1000 PoE+ and 4-Port Mini-GBIC zl Module	J9308A
	NEW HP ProCurve 4-Port 10GbE SFP+ zl Module	J9309A
Appliance		
HP ProCurve ONE Services zl Module	J9289A	
HP ProCurve Threat Management Services zl Module	J9155A	
HP ProCurve Threat Management Services zl Module with 1-year IDS/IPS subscription	J9156A	
Power Supply		
HP ProCurve Switch zl 875 W Power Supply	J8712A	
HP ProCurve Switch zl 1500 W Power Supply	J8713A	
NEW HP ProCurve 1500W PoE+ zl Power Supply	J9306A	
Transceivers		
HP ProCurve 10-GbE X2-SC ER Optic	J8438A	
HP ProCurve 10-GbE CX4 Media Converter	J8439A	
HP ProCurve 10-GbE X2-SC SR Optic	J8436A	
HP ProCurve Switch 8212zl (J8715B)		
HP ProCurve Switch 8212zl Fan Tray	J9094A	
HP ProCurve 8206zl Switch (J9475A)		
8206zl Fan Tray	J9476A	
HP ProCurve 10-GbE X2-CX4 Transceiver	J8440B	
HP ProCurve 100-FX SFP-LC Transceiver	J9054B	
HP ProCurve 10-GbE X2-SC LR Optic	J8437A	
HP ProCurve 10-GbE X2-SC LRM Optic	J9144A	
HP ProCurve 100-BX-D SFP-LC Transceiver	J9099B	
HP ProCurve 100-BX-U SFP-LC Transceiver	J9100B	
HP ProCurve 10-GbE SFP+ SR Transceiver	J9150A	
HP ProCurve 10-GbE SFP+ LR Transceiver	J9151A	
HP ProCurve 10-GbE SFP+ LRM Transceiver	J9152A	
Mini-GBICs		
HP ProCurve Gigabit-LH-LC Mini-GBIC	J4860C	

Accessories

HP ProCurve Gigabit-SX-LC Mini-GBIC	J4858C
HP ProCurve Gigabit-LX-LC Mini-GBIC	J4859C
HP ProCurve Gigabit 1000Base-T Mini-GBIC	J8177C
HP ProCurve 1000-BX-D SFP-LC Mini-GBIC	J9142B
HP ProCurve 1000-BX-U SFP-LC Mini-GBIC	J9143B
Cables	
HP ProCurve 10-GbE SFP+ 1m Direct Attach Cable	J9281B
HP ProCurve 10-GbE SFP+ 3m Direct Attach Cable	J9283B
HP ProCurve 10-GbE SFP+ 7m Direct Attach Cable	J9285B
Software	
Premium License for 8200zl	J9474A
WLAN	
HP ProCurve Wireless Edge Services zl Module	J9051A
HP ProCurve Redundant Wireless Services zl Module	J9052A
NEW HP ProCurve MSM765zl Mobility Controller	J9370A

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