



HP ProCurve 8200zl Switch Series

Brochure

Customers of all sizes and across a wide range of industries are choosing to rely on Ethernet networks to support an ever-broadening range of unified communication applications and services. Traditionally deployed to provide strictly desktop client data/Internet access and "core" data center application communications, these networks are now being tasked with providing voice, video, and collaboration services to the desktop and converged storage networking, security, and virtualization capabilities to data center servers. The network has truly become a centralized, round-the-clock, mission-critical asset—and with that has come more stringent requirements for availability, reliability, and security.

At its foundation, an end-to-end access-layer-to-network-core switch infrastructure must be reliable and secure in order to provide the level of availability demanded by today's highly converged, unified communications networks. With more highly reliable switches required in more places in the network than before, large enterprise customers have set out to deploy these types of switches beyond the network core and aggregation layers. And midsized customers, who had previously not considered such highly reliable switch platforms, are now looking for cost-effective paths to providing uninterrupted network access.



Key benefits

Unified Adaptive Network Solution platform

- Based on HP ProCurve ProVision ASIC Architecture

Reduced complexity and lower cost of ownership

- Unified infrastructure—core to edge
- Shared management platform, wired and wireless
- HP ProCurve Open Network Ecosystem (ProCurve ONE) integrated
- Lower ongoing support costs through the HP ProCurve Lifetime Warranty*

Secure, reliable performance

- Built-in ProCurve ProActive Defense capabilities
- Enterprise-level performance and features for 500 to 10,000 users
- High-availability features for network peace of mind

Traditionally, the path to a highly available switch infrastructure has been by way of complex, costly, provider-oriented “big-box” solutions—something only affordable for network core and aggregation deployments by the largest of enterprise customers. High up-front, upgrade, and support costs also came with unnecessary feature and management complexity. Such solutions, appropriate for large enterprise core and aggregation deployments, have not provided those customers with a scalable path to proliferating high-availability solutions to the network edge. And midsized customers had no cost-effective, right-sized path to moving their networks to the next level.

This is where the HP ProCurve 8200zl Switch Series comes in. Using an architecture based on the industry-proven HP ProCurve ProVision ASIC, the HP ProCurve 8200zl Switch Series adds a highly available modular switch platform with advanced features and robust scalability and reliability to the HP ProCurve Unified Adaptive Network Solution. With network platforms, wired and wireless deployment, network security, network management, HP ProCurve Open Network Ecosystem (HP ProCurve ONE)-enabled network applications, and support and services all in a single unified solution, HP ProCurve solutions deliver business agility, business continuity, and reduced cost of ownership.

The 8200zl switch series combines high performance with comprehensive networking and security features in a highly scalable, modular chassis solution. It provides platform and software high-availability features that enhance system reliability and provide network continuity. As the latest expression of the HP ProCurve Adaptive Network vision, the 8200zl switch series helps organizations fortify security, increase productivity, and reduce complexity—allowing them to compete and thrive.



* 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 MSM3xxR 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.hp.com/go/procurve/warranty.



Unified Adaptive Network Solution, core to edge

HP ProCurve ProVision ASIC—power and performance at the core

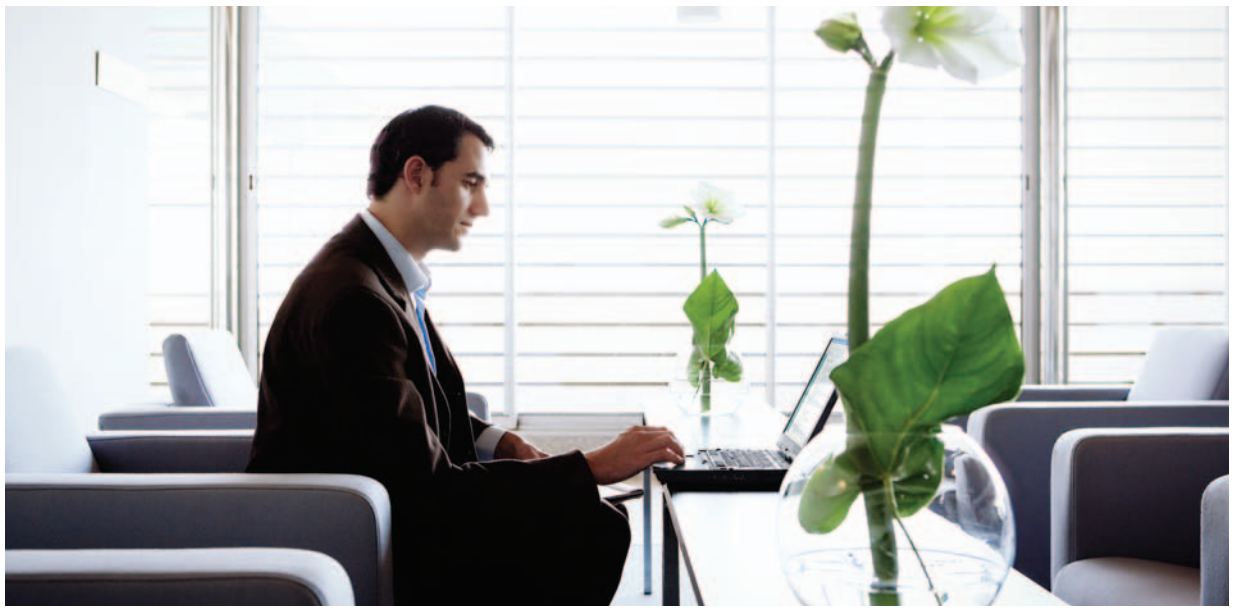
The HP ProCurve Adaptive Network vision—networks that adapt to the needs of users, applications, and organizations—began with the HP ProCurve 5400zl, 3500, and 6200yl intelligent edge switches, which leverage the HP ProCurve ProVision ASIC.

The ProVision ASIC combines high-end wire-speed capabilities and intelligence, integrating sophisticated switching functionality in a single, highly reliable, high-performance chip. The ProVision ASIC also delivers built-in resiliency features that can mitigate both error conditions and malicious network attacks.

The ProVision ASIC provides a highly integrated architecture in which functions that are typically hosted in off-chip componentry—such as system processor, memory (for example, TCAM, input), packet classifier, MAC, and network processor—are engineered into a single ASIC platform.

In addition to a breadth of features that enhance security and system reliability, the ProVision ASIC provides the 8200zl switch series with investment protection through its programmable network processor. Using HP's patented technology, new algorithms can be programmed into the ASIC to enable new Quality of Service (QoS) classifiers for fast, efficient, deep data packet inspection. This capability allows the 8200zl switch series to seamlessly adapt to new application and policy requirements over time.

The ProVision ASIC architecture—included in the 6600, 6200yl, 5400zl, and 3500 switch families, and now in the 8200zl switch series—represents an infrastructure solution that delivers consistent operation and flexible deployment from the core to the edge.



HP ProCurve Open Network Ecosystem

The HP ProCurve Open Network Ecosystem gives you a choice of best-in-class applications and services that integrate within your network. With HP ProCurve ONE, you can access a variety of applications and services without the complexity normally associated with an open-standards model. Discover solutions from market-leading vendors within the ecosystem at www.procurve.com/one.

Reduced complexity and lower cost of ownership

Unified network platforms—core to edge

By sharing the ProVision ASIC, platform architecture, modules, accessories, software, and management tools with the award-winning HP ProCurve Switch 5400zl Series, the 8200zl switch series extends a unified core to edge, wired and wireless solution while reducing complexity and lowering cost of ownership.

The common ProVision ASIC-based architecture provides interoperability and predictable behavior with the 8200zl switch series at the core of a complete HP ProCurve network solution. Network managers can take advantage of common networking, security, QoS, and resiliency features in a highly integrated, programmable, and flexible architecture to simplify network operation. Instead of point technologies with vendor-/platform-specific idiosyncrasies that result in complex and unproductive management, HP ProCurve system deployment and even code image management and maintenance are unified.

The 8200zl switch series shares interface/service modules, power supplies, and optics/transceivers with the HP ProCurve Switch 5400zl Series. Not only does this improve platform flexibility, but it also enables simplified and lower-cost component sparing strategies. It also allows current 5400zl customers to leverage existing investments and migrate cost-effectively their deployments based on the 8200zl switch series, resulting in lower operational costs and streamlined network operations.

Shared network management core to edge, wired and wireless

By using a set of device-level management tools (CLI, Web GUI, Menu) common with the 5400zl, 3500, and 6200yl platforms, the 8200zl switch series simplifies network-wide management and improves ongoing management effectiveness and efficiency. The 8200zl switch series can be deployed and efficiently managed using HP ProCurve Manager Plus (PCM+), a suite of device- and network-level management tools that provide a network-wide common look and feel, including single-pane-of-glass network administration. This toolset provides unified

management across the entire network—both wired and wireless—improving the effectiveness of network administration and making integration of IT-wide network management a snap.

- HP ProCurve Mobility Manager (PMM), a plug-in module for PCM+, provides wireless access point configuration and management, including rogue device detection and alerts, wireless client association and health visibility, and template-driven device group configuration and management.
- HP ProCurve Identity Driven Manager (IDM) access control software empowers network managers to dynamically manage user access, devices, and traffic from a simple, top-down perspective.
- HP ProCurve Network Immunity Manager (NIM) network threat management software enables detection and automated response to threats such as virus attacks to improve network availability.

HP ProCurve ONE integrated

The HP ProCurve 8200zl Switch Series provides a high-performance, secure switch platform for deploying HP ProCurve ONE business and network applications and services within the network. Hosted on the HP ProCurve ONE Services zl Module, these applications and services can act on traffic locally, distributed throughout the network, or consolidated in a central location. That makes management easier and offers additional capabilities to adjust or improve network behavior (such as load balancing). This solution allows you to manage costs; help ensure more efficient use of space, power, and cooling; and confidently deliver HP ProCurve tested and certified solutions. And with advanced high-availability features like Nonstop Switching, the 8200zl series provides the ideal infrastructure platform to help ensure that these applications and services are delivered to provide high levels of availability and business continuity.

Lower costs of ownership and lifetime warranty

The 8200zl switch series delivers great value with enterprise-level performance, reliability, scalability, and high-availability features for mainstream enterprise environments of 500 to 10,000 users—and it slashes ongoing ownership costs for sparing, training, and network management.

With its industry-leading lifetime warranty and unified core-to-edge architecture, HP ProCurve is revolutionizing the customer ownership model by reducing long-term support costs.

Secure, reliable performance

ProActive Defense

The 8200zl switch series takes advantage of the HP ProCurve ProActive Defense strategy, which uniquely combines offensive and defensive network security strategies within a trusted network infrastructure. Elements of the ProActive Defense strategy include:

- **Secure infrastructure**—the platform for automation of both the proactive and defensive aspects of ProActive Defense; automatically detects anomalous behaviors; and with modular threat management services hosted by the 8200zl switch, customers have a robust platform to embed security tools directly within the network infrastructure
- **Access control**—utilizes HP ProCurve Identity Driven Manager (IDM) for enforcing dynamic per-user policies, including access control lists (ACLs), QoS, and rate limiting; provides support for standards such as IEEE 802.1X, Web Auth, MAC Auth, TNC, and IETF RADIUS Extensions
- **Network immunity**—uses HP ProCurve Manager Plus (PCM+) network management software, which includes advanced policy-based device and traffic management; Virus Throttle software, which is embedded within the ProVision ASIC; ICMP throttling, which defeats denial-of-service (DoS) attacks; control protocol detection; and device authentication

Enhancing overall network security, the ProVision ASIC at the heart of the 8200zl switch series has designed-in processes such as end-to-end data checking, embedded RAM error correction, and ECC on an external DRAM. These processes help ensure traffic integrity as it passes through the switch, protecting it from external network threats that could otherwise impact system performance and availability.

Enterprise performance and features

With excellent performance, comprehensive features, and outstanding built-in network security capabilities, the 8200zl switch series was designed to capably and reliably support a wide range of deployments for enterprise organizations of 500 to 10,000 users. At the same time, it provides features such as full Layer 2/3/4 capabilities (RIP, OSPF, and PIM), IPv6 (IPv6 host, IPv4 and IPv6 dual stack, MLD snooping, ACLs, QoS, and OSPFv3/static routing/DHCPv6 relay/Routed ACL), and Q-in-Q (IEEE 802.1ad) that help ensure those solutions remain viable and effective over a long and useful life, enhancing network productivity and reducing disruptive technology upgrades.

The 8200zl switch series offers superior scalability—from 24 to 288 PoE-enabled 10/100/1000 ports and 4 to 48 10-GbE ports—and scalable power in



The HP ProCurve 8200zl Switch Series offers a host of features that make it well-suited for a wide range of network core/high-availability use models.

a space-efficient chassis design to enable seamless migration to higher-speed connectivity over time. With ample performance headroom to keep pace with growth, the 8200zl switch series provides flexibility and investment protection for future needs. It continues to deliver as the network expands to support bandwidth-intensive applications such as video streaming and distribution-layer link aggregation.

High availability

The 8200zl switch series includes a host of critical system platform high-availability features that provide enhanced reliability, serviceability, and network peace of mind:

- Hot-swappable, redundant management, fabric, and power with a resilient cooling design
- Nonstop Switching, which enables mission-critical deployments with stateful failover and uninterrupted Layer 2 switching when the standby management module has to take over for the active management module
- Redundant Switch Fabric Modules, which operate in an efficient, load-sharing model with no disruption of network operation in the unlikely event of a fabric module failure
- System Support Module (SSM), a user-serviceable system componentry and consolidated health/status module to provide accessibility and serviceability
- Passive system design, with passive chassis backplane that helps ensure that network component failures never result in forklift servicing of the system

Features of 8212zl and 8206zl switches

	HP ProCurve 8212zl Switch	HP ProCurve 8206zl Switch
Chassis slots		
Interface/Service module	12	6
Management	2	2
Fabric	2	2
System support	1	1
Internal power supplies	4	2
Maximum ports per system		
10/100/1000 with PoE or PoE+	288	144
Mini-GBIC	288	144
100-FX	288	144
10-GbE ports	24	48
PoE power		
	3600 W	1800 W (internal)
	5400 W	2700 W (w/ ext. power shelf)
Chassis height		
	9U (15.6")	6U (10.4")
Performance		
Routing/Switching capacity	645.6 Gbps	322.8 Gbps
Switch performance	480.3 Mpps	240.2 Mpps
Switch fabric speed	691.2 Gbps	345.6 Gbps
High availability		
Management redundancy	1 + 1 (Nonstop Switching)	1 + 1 (Nonstop Switching)
Fabric redundancy	1 + 1 (load sharing)	1 + 1 (load sharing)
Power redundancy		
System N+1	3 supplies	2 supplies
N+N	4 supplies	2 supplies
PoE N+1	4 supplies	2 supplies
	N+N (w/ ext. power shelf)	N+N (w/ ext. power shelf)
Cooling	1 fan tray (resilient)	1 fan tray (resilient)

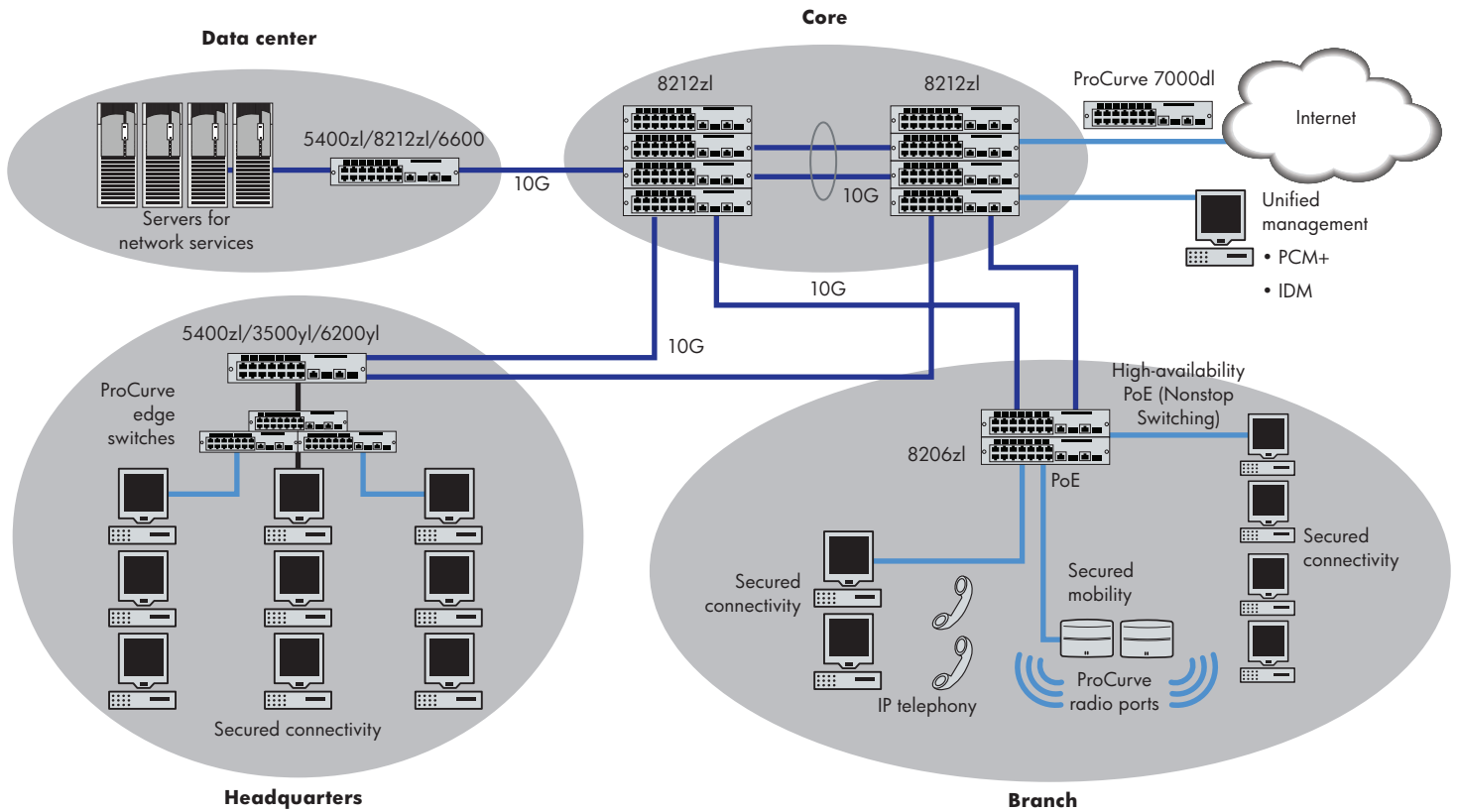
The 8200zl switch series provides a complete set of software features to enhance network availability and help ensure continuity of operations:

- Virtual Router Redundancy Protocol (VRRP), which allows groups of two routers to dynamically back each other up to create highly available routed environments
- HP ProCurve Switch Meshing, which dynamically load-balances across multiple active redundant links in a Layer 2 environment to increase available aggregate bandwidth
- Server-to-switch distributed trunking, which allows a server to connect to two switches with one logical trunk; increases resiliency and enables load sharing in virtualized data centers
- IEEE 802.1ad Q-in-Q, which increases Ethernet scalability and allows multiple LANs in different locations to be connected in a campus or metro network
- OSPF ECMP (Equal Cost Multipath), which dynamically load-balances across multiple active equal-cost paths in a Layer 3 environment

- IEEE 802.1s MSTP, which provides high link availability in multiple VLAN environments
- IEEE 802.3ad LACP, which supports up to 36 trunks, each with up to 8 links (ports) per trunk
- Dual flash images and multiple configuration files, which provide deployment flexibility, management simplicity, and continuity of operations
- Uni-Directional Link Detection (UDLD), which helps prevent network downtime from fiber link break

Flexibility where it counts

Thanks to its platform architecture, efficient system design, and flexible form-factor options, the HP ProCurve 8200zl Switch Series offers a host of features that make it well-suited for a wide range of network core/high-availability use models (for example, traditional core or interconnect fabric core) as well as for large-scale distribution and high-availability access/edge deployments. Each use model delivers ease of deployment, solution-common componentry and features, and unified system and network management. Important features are highlighted in the table.



The figure helps to illustrate the wide range of use models of the HP ProCurve Switch 8200zl Switch Series.

The HP ProCurve 8200zl Switch Series addresses critical solution requirements.

Security

The HP ProCurve 8200zl Switch Series provides the complete toolset to help ensure the integrity of the system and its solution integration:

- Granular per-user policy enforcement—wire-speed packet processing and selection for remote intelligent mirroring, ACLs, QoS, rate limiting, and other features
- Mitigation of malicious attacks through Virus Throttle, ICMP throttling, CPU DoS protection, and detection of malicious attacks

- Secure network access with IEEE 802.1X, Web/MAC Auth, identity-driven and per-port ACLs; network security with DHCP protection, BPDU port protection, dynamic ARP protection, dynamic IP lockdown, and STP root guard
- Secure network management via TACACS+, SSHv2, secure FTP, and secure encryption of all access methods—CLI, GUI or MIB—through SSHv2, SSL, and/or SNMPv3
- Dynamic per-user policy—integrated with HP ProCurve Identity Driven Manager (IDM), the 8200zl switch series provides fast and effective means to set and enforce switch-level individual user policies (for example, ACL, QoS, and rate limiting) automatically
- 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 HP ProCurve Threat Management Services zl Module.

Unified Communications and Collaboration

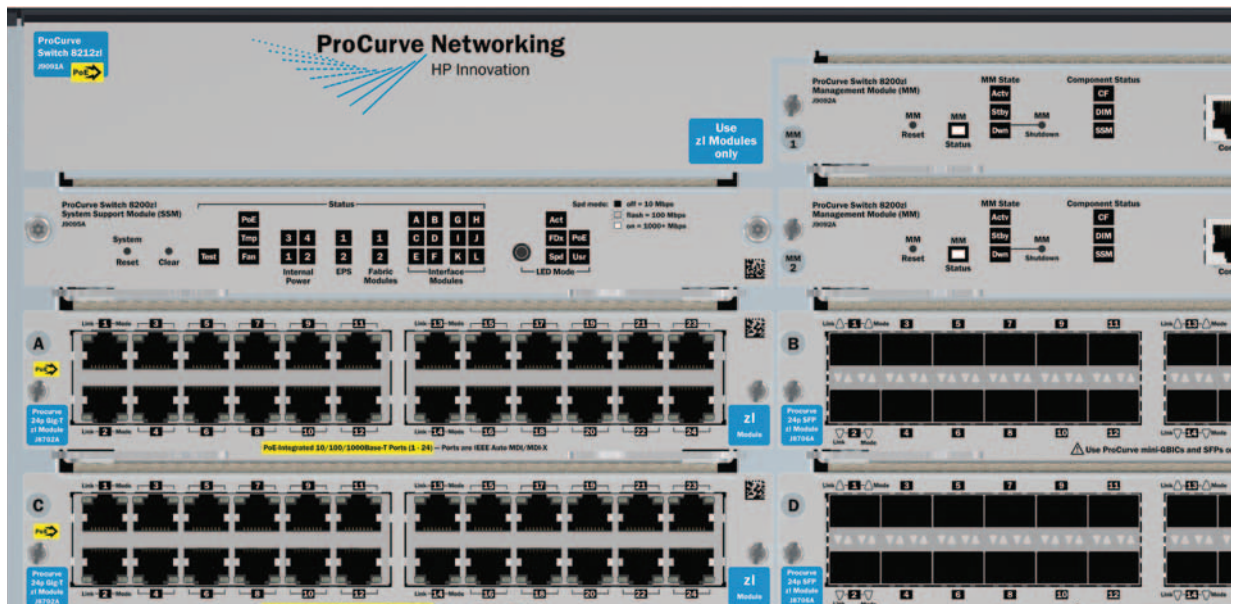
Mainstream Unified Communications and Collaboration applications such as IP telephony and Voice over IP are providing businesses with more cost-effective ways to serve end users and enhance IT productivity. With advanced high-availability features like Nonstop Switching, the 8200zl switch series helps ensure that converged traffic flows are delivered with the highest levels of availability. Built on this foundation, the 8200zl series provides a wide range of Unified Communications and Collaboration protocols and tools:

- Multicast support via data-driven IGMP, PIM Dense, and PIM Sparse
- Advanced QoS, including eight hardware priority queues and selectable queue configuration; set and enforce prioritization based on multiple match criteria such as Layer 2 (IEEE 802.1p, VLAN ID), Layer 3 (DSCP, IP address), and Layer 4 (TCP/UDP port) markings
- Bandwidth shaping by enforcing ingress/egress maximum and egress guaranteed minimum bandwidths
- Support for IP telephony through interoperability with industry-leading IP telephony vendor products; LLDP-MED, which enables automatic configuration of QoS and VLAN; RADIUS VLAN, which uses a standard RADIUS attribute to automatically configure VLAN for IP phones; and IEEE 802.3af PoE, 802.3at PoE+, and prestandard PoE support
- PoE management tools for intelligent power allocation and redundancy for efficient power usage and enhanced availability

Mobility

In the context of a highly scaled wireless network topology, the 8200zl switch series provides the foundation of robust, reliable core switching to meet end-user requirements for anytime, anywhere access:

- Support for highly scalable, centralized core or distribution-layer wireless access management and security with the HP ProCurve MSM765zl Mobility Controller
- Support for WLAN access points as well as IEEE 802.3af and prestandard PoE/PoE+ support
- PoE or PoE+ standard on all Gigabit copper ports to provide deployment flexibility and allow for selective integration of wireless access points without additional cost or overhead
- Unified wired/wireless client and network management to provide both end users and network administrators with a consistent user experience no matter where and over what infrastructure connections are made
- Web Auth to provide flexible authentication for mobile workers to connect securely to network resources



Systems

HP ProCurve 8212zl Switch

J8715B: HP ProCurve Switch 8212zl base system; modular switch platform includes

- 1 redundant management module
- 2 fabric modules
- 1 System Support Module
- 1 fan tray
- IP base routing features standard

(Redundant management/interface/service modules, premium software, power supplies, and optics/transceivers must be ordered separately.)

HP ProCurve 8206zl Switch

J9475A: HP ProCurve 8206zl Switch base system; modular switch platform includes

- 1 redundant management module
- 2 fabric modules
- 1 System Support Module
- 1 fan tray
- IP base routing features standard

(Redundant management/interface/service modules, premium software, power supplies, and optics/transceivers must be ordered separately.)

Accessories

System modules

- J9092A: HP ProCurve Switch 8200zl Redundant Management Module (for redundant configuration or onsite sparing; J8715B base system delivers 1x module)
- J9093A: HP ProCurve Switch 8200zl Fabric Module (for onsite sparing only; J8715B base system delivers required modules)
- J9095A: HP ProCurve Switch 8200zl System Support Module (for onsite sparing only; J8715B base system delivers required module)

Switch software

- J9474A: HP ProCurve 8200zl Switch Premium License (adds advanced routing features such as OSPF, PIM-DM, PIM-SM, and VRRP to the HP ProCurve 8200zl Switch Series)

Infrastructure components

- J9094A: HP ProCurve Switch 8212zl Fan Tray (for onsite sparing only; 8212zl/J8715B base system delivers required fan tray)
- J9576A: HP ProCurve 8206zl Switch Fan Tray (for onsite sparing only; 8212zl/J9475A base system delivers required fan tray)

Interface modules

- J9307A: HP ProCurve 24-Port 10/100/1000 PoE+ zl Module
- J9308A: HP ProCurve 20-Port 10/100/1000 PoE+ and 4-Port SFP zl Module
- J9309A: HP ProCurve 4-Port 10-GbE SFP+ zl Module
- J9478A: HP ProCurve 24-Port 10/100 PoE+ zl Module
- J8702A: HP ProCurve Switch zl 24-Port 10/100/1000 PoE Module
- J8705A: HP ProCurve Switch zl 20-Port 10/100/1000 + 4-Port Mini-GBIC Module
- J8706A: HP ProCurve Switch zl 24-Port Mini-GBIC Module
- J8707A: HP ProCurve Switch zl 4-Port 10-GbE X2 Module
- J8708A: HP ProCurve Switch zl 4-Port 10-GbE CX4 Module

Service modules

- J9289A: HP ProCurve ONE Services zl Module
- J9155A: HP ProCurve Threat Management Services zl Module
- J9370A: HP ProCurve MSM765zl Mobility Controller
- J9051A: HP ProCurve Wireless Edge Services zl Module
- J9052A: HP ProCurve Redundant Wireless Services zl Module

Mini-GBICs/Transceivers/Direct attach cables

- J8177C: HP ProCurve Gigabit 1000Base-T Mini-GBIC
- J4858C: HP ProCurve Gigabit-SX-LC Mini-GBIC
- J4859C: HP ProCurve Gigabit-LX-LC Mini-GBIC
- J4860C: HP ProCurve Gigabit-LH-LC Mini-GBIC
- J9142B: HP ProCurve 1000-BX-D SFP-LC Mini-GBIC
- J9143B: HP ProCurve 1000-BX-U SFP-LC Mini-GBIC
- J8436A: HP ProCurve 10-GbE X2-SC SR Optic
- J8437A: HP ProCurve 10-GbE X2-SC LR Optic
- J8438A: HP ProCurve 10-GbE X2-SC ER Optic
- J9144A: HP ProCurve 10-GbE X2-SC LRM Optic
- J8439A: HP ProCurve 10-GbE CX4 Media Converter
- J8440B: HP ProCurve 10-GbE X2-CX4 Transceiver
- J9054B: HP ProCurve 100-FX SFP-LC Transceiver
- J9099B: HP ProCurve 100-BX-D SFP-LC Transceiver
- J9150A: HP ProCurve 10-GbE SFP+ SR Transceiver
- J9151A: HP ProCurve 10-GbE SFP+ LR Transceiver
- J9152A: HP ProCurve 10-GbE SFP+ LRM Transceiver
- J9100B: HP ProCurve 100-BX-U SFP-LC Transceiver
- J9281B: HP ProCurve 10-GbE SFP+ 1m Cable
- J9283B: HP ProCurve 10-GbE SFP+ 3m Cable
- J9285B: HP ProCurve 10-GbE SFP+ 7m Cable

Power

- J9306A: HP ProCurve 1500W PoE+ zl Power Supply
- J8712A: HP ProCurve Switch zl 875W Power Supply
- J8713A: HP ProCurve Switch zl 1500W Power Supply
- J8714A: HP ProCurve Switch zl Power Supply Shelf (external power supply shelf for zl switches)

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