



HP ProCurve Switch 6200yl-24G-mGBIC

Product overview

The HP ProCurve Switch 6200yl-24G-mGBIC is an advanced Layer 3 stackable switch in 1U height. It has 24 mini-GBIC slots and an expansion slot for an optional 4-port 10-GbE module. Designed to be deployed as an aggregator of traffic from the edge to the core of the network, this switch supports a variety of Gigabit mini-GBICs, such as SX, LX, LH, and 1000Base-T. The foundation for this switch is a purpose-built ProVision ASIC that allows the most demanding networking features, such as Quality of Service (QoS) and security, to be implemented in a scalable yet granular fashion. With its high-performance architecture, 10-GbE capability, and programmable ASIC, this switch offers excellent investment protection, flexibility, and scalability.

Key features

- Distribution layer
- Layer 2 to 4 and intelligent edge feature set
- High performance
- Low-cost mini-GBIC connectivity
- 10-GbE uplinks

Features and benefits

Industry-leading 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, or 3500yl switch anywhere on the network
- **RMON, XRMON, and sFlow:** provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP):** automated device discovery protocol provides easy mapping by network management applications
- **Command authorization:** leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; also provides an audit trail
- **Friendly port names:** allow assignment of descriptive names to ports
- **Dual flash images:** provide independent primary and secondary operating system files for backup while upgrading
- **Multiple configuration files:** can be stored to the flash image
- **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
- **Management simplicity:** ProCurve-common networking features and CLI implementation (common across ProCurve zl and yl switches)

Connectivity

• NEW IPv6:

- **IPv6 host:** enables switches to be managed and deployed at the IPv6 network's edge
 - **Dual stack (IPv4/IPv6):** transitions from IPv4 to IPv6, supporting connectivity for both protocols
 - **MLD snooping:** forwards IPv6 multicast traffic to the appropriate interface
 - **IPv6 ACL/QoS:** supports ACL and QoS for IPv6 network traffic
 - **IPv6 ready:** switch hardware can support IPv6 routing, tunneling, and security; available when enabled via software updates in follow-on releases
- **Jumbo frames:** on Gigabit and 10-Gigabit ports, allow high-performance remote backup and disaster-recovery services

Performance

- **High-speed/capacity architecture:** 105.6 Gbps crossbar switching fabric provides intra- and inter-module switching with 75.7 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

Resiliency and high availability

- **Router redundancy:** 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
- **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
- **NEW 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

◆ 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.

Layer 2 switching

- **IEEE 802.1ad Q-in-Q:** increases the scalability of an 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 complete IEEE 802.1Q standard and 2048 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

- **UDP helper function:** allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents 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

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

Security

- **Switch CPU protection:** provides automatic protection against malicious network traffic trying to shut down the switch
- **Virus throttling:** detects traffic patterns typical of WORM-type viruses and either throttles or entirely prevents the virus from spreading across the routed VLANs without requiring external appliances
- **ICMP throttling:** defeats ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic

• 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
- **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
- **Identity-driven ACL:** enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
- **DHCP protection:** blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **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
- **NEW Management Interface Wizard:** helps ensure that management interfaces such as SNMP, telnet, SSH, SSL, Web, and USB are secured to the desired level
- **Secure management access:** securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- **Switch management logon security:** can require either RADIUS or TACACS+ authentication for secure switch CLI logon
- **Security banner:** displays customized security policy when users log in to the switch
- **USB Secure Autorun (requires HP ProCurve Manager Plus):** deploys, diagnoses, and updates switch using a USB flash drive; works with a secure credential to prevent tampering
- **STP Root Guard:** protects root bridge from malicious attack or configuration mistakes
- **Bandwidth shaping:**
 - **Port-based rate limiting:** provides per-port ingress/egress enforced maximum bandwidth
 - **Classifier-based rate limiting:** uses ACL to enforce maximum bandwidth for ingress traffic on each port
 - **Guaranteed minimum:** provides 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

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 website 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 website at www.procurve.com/support for details on the software releases provided and the period during which software releases are available

Convergence

- **IP multicast routing:** 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

Quality of Service (QoS)

- **NEW 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 on a per-port or per-VLAN basis
- **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

HP ProCurve Switch 6200yl-24G-mGBIC

Specifications



HP ProCurve Switch 6200yl-24G-mGBIC (J8992A)

| | |
|---|--|
| Ports | 24 open mini-GBIC (SFP) slots Supports a maximum of 4 10-GbE ports, with optional module |
| Physical characteristics | |
| Dimensions | 15.43(d) x 17.44(w) x 1.73(h) in. (39.2 x 44.3 x 4.4 cm) (1U height) |
| Weight | 14.11 lb. (6.4 kg) |
| Memory and processor | |
| Processor | Freescale PowerPC 8540 @ 666 MHz, 4 MB flash, 256 MB DDR SDRAM |
| Mounting | Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only |
| 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 75.7 million pps |
| Routing/Switching capacity | 101.8 Gbps |
| Switch fabric speed | 105.6 Gbps |
| Routing table size | 10,000 entries |
| Environment | |
| Operating temperature | 32°F to 131°F (0°C to 55°C); 32°F to 104°F (40°C) when used with any X2 10-GbE |
| 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 15,000 ft. (4.6 km) |
| Acoustic | Power: 55.1 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 | 829 BTU/hr (875 kJ/hr) |
| Voltage | 100-127 / 200-240 VAC |
| Current | 1.8 / 0.9 A |
| Maximum power rating | 243 W |
| Frequency | 50 / 60 Hz |
| Notes | 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 | CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950 |
| Emissions | FCC Class A; 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 | 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 (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) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR868E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR869E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR870E) 4-year, 24x7 SW phone support, software updates (UR871E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR872E) |

Specifications (continued)

HP ProCurve Switch 6200yl-24G-mGBIC (J8992A)

5-year, 4-hour onsite, 24x7 coverage for hardware (UR873E)
 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR874E)
 5-year, 24x7 SW phone support, software updates (UR875E)

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

Device management

RFC 1591 DNS (client)
 HTML and telnet management

General protocols

IEEE 802.1ad Q-in-Q
 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
 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
 RFC 4675 RADIUS VLAN & Priority

IP multicast

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

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 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
 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
 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)
 SSHv1/SSHv2 Secure Shell

HP ProCurve Switch 6200yl-24G-mGBIC accessories

Modules

HP ProCurve Switch yl 10-GbE 2-Port CX4 + 2-Port X2 Module (J8694A)

NEW HP ProCurve 2-Port SFP+/ 2-Port CX4 10GbE yl Module (J9312A)

EPS/RPS

HP ProCurve 620 Redundant/External Power Supply (J8696A)

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 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 Gigabit-LH-LC Mini-GBIC (J4860C)

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)

Software

HP ProCurve Manager 2.3 (-)

Technology for better business outcomes

To learn more, visit www.hp.com/go/procurve

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