HP 830 Unified Wired-WLAN Switch Series

Key features

- Unified wired and wireless services for branch offices
- System-wide approach to WLAN reliability through Wi-Fi Clear Connect
- PoE+ capability
- Built-in IEEE 802.1X and portal authentication servers
- 8-port and 24-port versions available

Product overview

The HP 830 Unified Wired-WLAN Switch Series integrates both wireless controller and 1000 Mb/s Ethernet switch functions. The switch series provides 1000 Mb/s Ethernet ports, with each supporting a maximum of up to 30 W PoE+ power and IEEE 802.11a/b/g/n APs while delivering unified wired and wireless access control functions. The HP 830 24-Port PoE+ Unified Wired-WLAN Switch provides two 10GbE slots on the rear panel to relieve transmission bottlenecks at the core of a WLAN network.

This series provides edge-to-core unified access and consistent WLAN services to the small and medium branch offices of enterprises that are deploying the HP 10500/7500 20G Unified Wired-WLAN Module at their central (or main) offices.

The HP 830 Unified Wired-WLAN Switch Series is part of the HP Enterprise Mobility solution.

Features and benefits

Management

- **Wi-Fi Clear Connect**
  provides a system-wide approach to help ensure WLAN reliability by proactively determining and adjusting to changing RF conditions via advanced radio resource management and identifying rogue activity; these capabilities optimize WLAN performance by making decisions at a system-wide level

- **Advanced radio resource management**

  - **Automatic radio power adjustments**
    includes real-time power adjustments based on changing environmental conditions and signal coverage adjustment

  - **Automatic radio channel**
    provides intelligent channel switching and real-time interference detection

  - **Intelligent client load balancing**
    balances the number of clients across multiple APs to optimize AP and client throughput

- **Enterprise network management**
  is provided by HP Intelligent Management Center (IMC) Platform software and the IMC Wireless Services Manager Software Module, which effectively integrate traditionally disparate management tools into one easy-to-use interface

- **Secure controller management**
  manages the controller securely from a single location with IMC or any other SNMP management station; controller supports SNMPv3 as well as SSHv2 and SSL for secure CLI and Web management; console port is available as a pass-through to the switch console function

Quality of Service (QoS)

- **IEEE 802.1p prioritization**
  delivers data to devices based on the priority and type of traffic

- **Class of Service (CoS)**
  sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ

Security

- **Web-based authentication**
  provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant

- **IEEE 802.1X and RADIUS network logins**
  supports port-based and SSID-based 802.1X authentication and accounting

- **WEP, WPA2, or WPA encryption**
  can be deployed at the AP to lock out unauthorized wireless access by authenticating users prior to granting network access; robust Advanced Encryption Standard (AES) or Temporal Key Integrity Protocol (TKIP) encryption secures the data integrity of wireless traffic

- **Integrated intrusion detection system (IDS) support**
  provides support for hybrid and dedicated modes; detects flood, spoofing, and weak IV attacks; displays statistics (events) and history; supports configuration of detection policies

- **Media access control (MAC) authentication**
  provides simple authentication based on a user's MAC address; supports local or RADIUS-based authentication

- **Secure user isolation**
  virtual AP services enable the network administrator to provide specific services for different user groups, allowing effective resource sharing, and simplifying network maintenance and management

- **Secure access by location**
  AP location-based user access control helps ensure that wireless users can access and authenticate only to preselected APs, enabling system administrators to control the locations where a wireless user can access the network

- **Endpoint Admission Defense**
  integrated wired and wireless Endpoint Admission Defense (EAD) helps ensure that only wireless clients who comply with mandated enterprise security policies can access the network, reducing threat levels caused by infected wireless clients and improving the overall security of the wireless network

- **Public Key Infrastructure (PKI)**
  is used to control access

- **Authentication, authorization, and accounting (AAA)**
  uses an embedded authentication server or external AAA server for local users

Connectivity

- **IEEE 802.3at Power over Ethernet (PoE+)**

  - up to 30 W per port supports PoE+-capable devices such as IP phones, wireless access points, and security cameras, as well as any IEEE 802.3af-compliant end device

  - eliminates the cost of additional electrical cabling that would otherwise be needed in IP phone and WLAN deployments; the HP 830 8-Port PoE+ Unified Wired-WLAN Switch supports up to 5 ports at 30 W; the 24-port model can support up to 24 ports at up to 30 W depending on the power source

- **Loopback**
  supports internal loopback testing for maintenance purposes and an increase in availability; loopback detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility

- **IPv6**

  – **IPv6 host**
  enables controllers to be managed and deployed at the IPv6 network's edge

  – **Dual stack (IPv4 and IPv6)**
  transitions customers from IPv4 to IPv6, supporting connectivity for both protocols

  – **MLD snooping**
  directs IPv6 multicast traffic to the appropriate interface, preventing traffic flooding

  – **IPv6 ACL/QoS**
  supports ACL and QoS for IPv6 network traffic

Performance

- **Flexible forwarding modes**
  supports both distributed and centralized forwarding mode; in a wireless network using centralized forwarding, all wireless traffic is sent to the HP 830 Unified Wired-WLAN Switch for processing; if the distributed mode is configured, authenticated clients can continue to access local resources in the event that connectivity to the HP 830 Unified Wired-WLAN Switch is lost

- **Fast roaming**
  supports Layer 3 roaming and fast roaming, satisfying the most demanding voice service requirements

Scalability

- **Pay as you grow**
  license upgrades allow you to increase support for additional access points without the need to buy additional costly hardware and use additional valuable space in a rack

Resiliency and high availability

- **High reliability**
  supports N+1 and N+N backup

Layer 2 switching

- **VLAN support and tagging**
  supports IEEE 802.1Q with 4,094 simultaneous VLAN IDs

- **Spanning Tree Protocol (STP)**
  supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)

- **Port mirroring**
  duplicates port traffic (ingress and egress) to a local or remote monitoring port

- **Jumbo packet support**
  supports frame sizes up to 9K-byte (switch) and up to 4K-byte (controller) to improve the performance of large data transfers

Layer 3 routing

- **Routing Information Protocol (RIP)**
  provides RIPv1 and RIPv2 routing

- **Static IP routing**
  provides manually configured routing for both IPv4 and IPv6 networks

Comprehensive portfolio

- **Access point support**
  includes HP MSM430, MSM460, MSM466, MSM466-R, WA2620, WA2620E, WA2612, and WA2610E models

Warranty and support

- **Lifetime warranty**
  for as long as you own the product with advance replacement and next-business-day delivery (available in most countries)†

- **Electronic and telephone support**
  limited electronic and telephone support is available from HP for as long as your own the product; to reach our support centers, refer to **www.hp.com/networking/contact-support**; for details on the duration of support provided with your product purchase, refer to **www.hp.com/networking/warrantysummary**

- **Software releases**
  includes all offered software releases for as long as you own the product; to find software for your product, refer to **www.hp.com/networking/support**; for details on the software releases available with your product purchase, refer to **www.hp.com/networking/warrantysummary**

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

HP 830 Unified Wired-WLAN Switch Series

Specifications

	HP 830 24-Port PoE+ Unified Wired-WLAN Switch (JG640A)	HP 830 8-Port PoE+ Unified Wired-WLAN Switch (JG641A)
Ports	24 RJ-45 auto-negotiating 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	8 RJ-45 dual-personality 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
	4 SFP dual-personality ports; Duplex: full only; (4 10/100/1000BASE-T and 1000BASE-X Gigabit Ethernet combination)	2 SFP 1000 Mbps ports
	2 extended module slots	1 RJ-45 serial console port
	1 RJ-45 serial console port	
Physical characteristics		
	17.32(w) x 16.89(d) x 1.72(h) in (44 x 42.9 x 4.36 cm) (1U height)	17.32(w) x 10.63(d) x 1.72(h) in (44 x 27 x 4.36 cm) (1U height)
Weight	15.87 lb (7.2 kg)	8.82 lb (4 kg)
Memory and processor		
Processor	Dual core @ 750 MHz, 1 GB flash, 512 MB DDR2 SDRAM	Dual core @ 750 MHz, 1 GB compact flash, 512 MB DDR2 SDRAM
Mounting	EIA-standard 19 in. telco rack or equipment cabinet (hardware included)	EIA-standard 19 in. telco rack or equipment cabinet (hardware included)
Performance		
Switch fabric speed	88 Gbps	20 Gbps
MAC address table size	8000 entries	8000 entries
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing
Electrical characteristics		
Frequency	50/60 Hz	50/60 Hz
Maximum heat dissipation	307 BTU/hr (323.89 kJ/hr)	130 BTU/hr (137.15 kJ/hr)
Voltage	100-240 VAC	100-240 VAC
DC voltage	-52 to -55 VDC	
PoE power	370 W	180 W
Notes	PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS). Internal power supply delivers PoE+ to a maximum of 11 ports. PoE+ can be delivered to all 24 ports with the use of an optional redundant power system.	PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS). Internal power supply delivers PoE+ to a maximum of five ports.
Safety	UL 60950-1; CAN/CSA 22.2 No. 60950-1; IEC 60950-1; EN 60950-1; FDA 21 CFR Subchapter J	UL 60950-1; CAN/CSA 22.2 No. 60950-1; IEC 60950-1; EN 60950-1; FDA 21 CFR Subchapter J
Emissions	EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A	EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A
Immunity		
EN	EN 55024, CISPR24 & ETSI EN 300 386	EN 55024, CISPR24 & ETSI EN 300 386
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; RMON1; FTP; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB
Features	Default supported APs: 24	Default supported APs: 12
	Maximum supported APs: 60 (via the optional purchase of the 12-Access Point E-LTU)	Maximum supported APs: 24 (via the optional purchase of the 12-Access Point E-LTU)
	Maximum supported users: 1000	Maximum supported users: 1000
	Maximum supported users via local portal authentication: 1000	Maximum supported users via local portal authentication: 1000
	Maximum supported users via local authentication: 1000	Maximum supported users via local authentication: 1000
	Maximum supported configured SSIDs: 64	Maximum supported configured SSIDs: 64
	Maximum supported ACLs: 2000	Maximum supported ACLs: 2000
	Supported MSM APs are automatically discovered, Comware firmware is loaded, and the APs can be fully managed.	Supported MSM APs are automatically discovered, Comware firmware is loaded, and the APs can be fully managed.
Services	Refer to the HP website at **www.hp.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	Refer to the HP website at **www.hp.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP 830 Unified Wired-WLAN Switch Series

Specifications (continued)

	HP 830 24-Port PoE+ Unified Wired-WLAN Switch (JG640A)	HP 830 8-Port PoE+ Unified Wired-WLAN Switch (JG641A)
Standards and protocols (applies to all products in series)	**General protocols** RFC 768 UDP RFC 791 IP RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET RFC 855 Telnet Option Specification RFC 858 Telnet Suppress Go Ahead Option RFC 894 IP over Ethernet RFC 950 Internet Standard Subnetting Procedure RFC 959 File Transfer Protocol (FTP) RFC 1122 Host Requirements RFC 1141 Incremental updating of the Internet checksum RFC 1144 Compressing TCP/IP headers for low-speed serial links RFC 1256 ICMP Router Discovery Protocol (IRDP) RFC 1321 The MD5 Message-Digest Algorithm RFC 1334 PPP Authentication Protocols (PAP) RFC 1350 TFTP Protocol (revision 2) RFC 1812 IPv4 Routing RFC 1944 Benchmarking Methodology for Network Interconnect Devices RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP) RFC 2104 HMAC: Keyed-Hashing for Message Authentication RFC 2246 The TLS Protocol Version 1.0 RFC 2284 EAP over LAN RFC 2644 Directed Broadcast Control RFC 2864 The Inverted Stack Table Extension to the Interfaces Group MIB RFC 2866 RADIUS Accounting RFC 2869 RADIUS Extensions RFC 3268 Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS) RFC 3619 Ethernet Automatic Protection Switching (EAPS) **IP multicast** RFC 1112 IGMP RFC 2236 IGMPv2 RFC 2934 Protocol Independent Multicast MIB for IPv4 RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches **IPv6** RFC 1350 TFTP RFC 1881 IPv6 Address Allocation Management RFC 1887 IPv6 Unicast Address Allocation Architecture RFC 1981 IPv6 Path MTU Discovery RFC 2292 Advanced Sockets API for IPv6	RFC 2373 IPv6 Addressing Architecture RFC 2375 IPv6 Multicast Address Assignments RFC 2460 IPv6 Specification RFC 2461 IPv6 Neighbor Discovery RFC 2462 IPv6 Stateless Address Auto-configuration RFC 2463 ICMPv6 RFC 2464 Transmission of IPv6 over Ethernet Networks RFC 2465 Management Information Base for IP Version 6: Textual Conventions and General Group(partially support, only "IPv6 Interface Statistics table") RFC 2466, Management Information Base for IP Version 6 - ICMPv6 RFC 2526 Reserved IPv6 Subnet Anycast Addresses RFC 2553 Basic Socket Interface Extensions for IPv6 RFC 2563 ICMPv6 RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only) RFC 3315 DHCPv6 (client and relay) RFC 3363 DNS support RFC 3484 Default Address Selection for IPv6 RFC 3493 Basic Socket Interface Extensions for IPv6 RFC 3513 IPv6 Addressing Architecture RFC 3542 Advanced Sockets API for IPv6 RFC 3587 IPv6 Global Unicast Address Format RFC 3596 DNS Extension for IPv6 RFC 4193, Unique Local IPv6 Unicast Addresses RFC 4443 ICMPv6 RFC 4541 IGMP & MLD Snooping Switch RFC 4861 IPv6 Neighbor Discovery RFC 4862 IPv6 Stateless Address Auto-configuration RFC 5095 Deprecation of Type 0 Routing Headers in IPv6 **MIBs** RFC 1229 Interface MIB Extensions RFC 1643 Ethernet MIB RFC 1757 Remote Network Monitoring MIB RFC 2011 SNMPv2 MIB for IP RFC 2012 SNMPv2 MIB for TCP RFC 2013 SNMPv2 MIB for UDP RFC 2571 SNMP Framework MIB RFC 2572 SNMP-MPD MIB RFC 2613 SMON MIB RFC 2863 The Interfaces Group MIB RFC 2932IP (Multicast Routing MIB) RFC 2933 IGMP MIB **Mobility** IEEE 802.11a High Speed Physical Layer in the 5 GHz Band IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band IEEE 802.11d Global Harmonization IEEE 802.11e QoS enhancements	IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band IEEE 802.11h Dynamic Frequency Selection IEEE 802.11i Medium Access Control (MAC) Security Enhancements IEEE 802.11n WLAN Enhancements for Higher Throughput Note: All of the above standards are now included in IEEE 802.11-2012 **Network management** RFC 1155 Structure of Management Information RFC 1905 SNMPv2 Protocol Operations RFC 2573 SNMPv3 Applications RFC 2574 SNMPv3 User-based Security Model (USM) RFC 2575 VACM for SNMP SNMPv1/v2c **QoS/CoS** RFC 2474 DS Field in the IPv4 and IPv6 Headers RFC 2475 DiffServ Architecture RFC 3168 The Addition of Explicit Congestion Notification (ECN) to IP WiFi MultiMedia (WMM), IEEE 802.11e **Security** IEEE 802.1X Port Based Network Access Control RFC 3394 Advanced Encryption Standard (AES) Key Wrap Algorithm RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP) Access Control Lists (ACLs) Guest VLAN for 802.1x Secure Sockets Layer (SSL) SSHv2 Secure Shell Web Authentication WPA (Wi-Fi Protected Access)/WPA2 **IKEv1** RFC 3748 - Extensible Authentication Protocol (EAP)

HP 830 Unified Wired-WLAN Switch Series accessories

HP 830 24-Port PoE+ Unified Wired-WLAN Switch (JG640A)

HP 830 Unified Wired-WLAN Switch Uplink Module (JG643A)

HP X130 10G XFP LC LR Transceiver (JD108B)

HP X130 10G XFP LC SR Transceiver (JD117B)

HP X135 10G XFP LC ER Transceiver (JD121A)

HP X125 1G SFP LC LH40 1310nm Transceiver (JD061A)

HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A)

HP X125 1G SFP LC LH70 Transceiver (JD063B)

HP X120 1G SFP LC SX Transceiver (JD118B)

HP X120 1G SFP LC LX Transceiver (JD119B)

HP RPS1600 Redundant Power System (JG136A)

HP RPS1600 1600W AC Power Supply (JG137A)

HP 830 Unified Wired-WLAN Switch 12-Access Point E-LTU (JG648AAE)

HP 830 8-Port PoE+ Unified Wired-WLAN Switch (JG641A)

HP X125 1G SFP LC LH40 1310nm Transceiver (JD061A)

HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A)

HP X125 1G SFP LC LH70 Transceiver (JD063B)

HP X120 1G SFP LC SX Transceiver (JD118B)

HP X120 1G SFP LC LX Transceiver (JD119B)

HP 830 Unified Wired-WLAN Switch 12-Access Point E-LTU (JG648AAE)

To learn more, visit hp.com/networking