Overview

Models

HP 830 24-Port PoE+ Unified Wired-WLAN Switch	JG640A
HP 830 8-Port PoE+ Unified Wired-WLAN Switch	JG641A

Key features

- Unified wired and wireless services for branch offices
- A 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 IEEE 802.11ac-ready 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 of 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**
    include real-time power adjustments based on changing environmental conditions and signal coverage adjustments
  - **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 improve AP and client throughput
  - **Airtime fairness**
    helps ensure equal RF transmission time for wireless clients
- **Spectrum analysis**
  - **Signal detection/classification**
    identifies source of RF interference, for example, Bluetooth®, cordless phones, and microwave ovens
  - **Evaluation of channel quality**
    helps detect severe channel degradation and improves the reporting of poor RF performance
- **Band Navigation**
  enables automatic redirection of 5 GHz-capable clients to the less-congested 5 GHz spectrum

Overview

- **Enterprise network management**
  is provided by HP Intelligent Management Center (IMC) platform software and the HP 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
- **VLAN pooling**
  enables wireless clients to be dynamically assigned to different VLANs so administrators can assign different subnets to different clients in the same SSID. A VLAN pool can bind to multiple SSIDs.
- **Unified network visibility**
  provides visibility between a wired and wireless network using IEEE 802.1AB Link Layer Discovery Protocol (LLDP) and sFlow
- **AP Plug and Play (PnP)**
  provides zero-configuration capability. An AP without a predefined configuration file can connect to the WLAN controller and the WLAN Controller will provision it with the correct wireless configuration.
- **Policy based forwarding**
  simplifies the deployment of centralized or local forwarding. The policy-based mode allows user to classify data traffic based on ACL and choose local or centralized forwarding policy can be applied on a SSID or a specific user or a group of users.
- **AP grouping**
  enables an admin to easily apply AP-based or radio-based configurations to all the AP that are in the same group.
- **Staged Firmware Upgrades**
  enables an admin to selectively upgrade APs, typically a group of APs, to minimize the impact of upgrading large deployments of APs to a new version of firmware.
- **Custom antenna settings**
  allow the admin to select a custom antenna gain.

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 Wireless Intrusion Detection System (WIDS) 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
- **Integrated Wireless Intrusion Prevention System (WIPS)**
  automatically identifies and classifies all APs and stations; enables packet-trigger containment via knowledge-based heuristics; protects against honeypot attacks and enforces STA security; detects Denial Of Service (DoS) attacks via pre-defined DoS

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attacks, and provides a Signature mechanism which allows admins to define custom rules; enables Virtual Service Domains to deploy security policies by department or location for example.

- **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
- **Intelligent Application Aware Feature (WIAA)**
  provides a user role based or SSID based firewall embedded in WLAN Controller via ACL-based packet filter firewall and ASPF firewall. Protect clients from outside attacks Restrict specific users from accessing specific network resources.
- **Source Address Validation Improvement (SAVI)**
  records the wireless client's IP address and MAC address and at the next data traffic forwarding stage, SAVI will validate the client's IP address to prevent attacker spoofing other client's IP address.

Connectivity

- **IEEE 802.3at Power over Ethernet (PoE+)**
  provides 30 W of support per port for 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 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
- **NAT support**
  - **NAT traversal**
    helps ensure that communication between a branch office AP and HP 870 is supported when the branch uses NAT.
  - **Integrated NAT support**
    replaces the private source IP address with a public address; enables multiple internal addresses to be mapped to the same public IP address; permits only certain internal IP addresses to be NAT'ed, and provides an Application Layer

Overview

Gateway that supports specific application protocols without requiring the NAT platform to be modified.

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
- **Flexible forwarding modes**
- **enable distributed and centralized traffic forwarding**
  centralized forwarding, wireless traffic is sent to the HP 870 for processing. With distributed mode wireless traffic is dropped off locally. In the event that connectivity to the HP 870 is lost, authenticated clients can continue to access local resources.
- **support local drop off or centralization of data traffic**
  after an HTML authentication using the built-in portal server or IMC portal authentication.

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

Overview

Warranty and support

- **Lifetime Warranty 2.0**
  advance hardware replacement for as long as you own the product with next-business-day delivery (available in most countries)†
- **Electronic and telephone support (for Lifetime Warranty 2.0)**
  limited 24x7 telephone support is available from HP for the first 3 years; limited electronic and business hours telephone support is available from HP for the entire warranty period; 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

†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.

Configuration

Build To Order: BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

Standard Switch Enclosures

HP 830 8P PoE+ Unifd Wired-WLAN Swch — JG641A
- 8 RJ-45 dual-personality 10/100/1000 ports
- 2 SFP 1000 Mbps ports (Min 0 / Max 2)
- 1 RJ-45 serial console port

See Configuration Note:1, 2, 3

PDU CABLE NA/MEX/TW/JP — JG641A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU CABLE ROW — JG641A#B2C
- C15 PDU Jumper Cord (ROW)

220 NA — JG641A#B2E
- NEMA L6-20P Cord

HP 830 24P PoE+ Unifd Wired-WLAN Swch — JG640A
- 24 RJ-45 auto-negotiating 10/100/1000 ports
- 4 SFP dual-personality ports; Duplex: full only (Min 0 / Max 4)
- 2 extended module slots
- 1 RJ-45 serial console port

See Configuration Note:1, 2, 3

PDU CABLE NA/MEX/TW/JP — JG640A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU CABLE ROW — JG640A#B2C
- C15 PDU Jumper Cord (ROW)

220 NA — JG640A#B2E
- NEMA L6-20P Cord

PDU CABLE NA/MEX/TW/JP — JG647A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

220 NA — JG647A#B2E
- NEMA L6-20P Cord

PDU CABLE NA/MEX/TW/JP — JG646A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

220 NA — JG646A#B2E

Configuration

- NEMA L6-20P Cord

Configuration Rules:

Note 1	The following Transceivers install into this Switch:	
	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
Note 2	Localization required on orders without #B2B, #B2C or #B2E options.	
Note 3	If #B2E is selected Then replace Localized option with #B2E for power supply and with #B2E for switch . (Offered only in NA, Mexico,, Taiwan, and Japan)	
Remarks:		
	The TAA skus in the 800 Unified Wired-WLAN Switches are US available only.	

Box Level CTO Models

CTO Solution Sku

HP 830 CTO Unifd Wrd-WLAN Swch Solution — JG662A
- SSP trigger sku

CTO Switch Chassis

HP 830 8P PoE+ Unifd Wired-WLAN Swch — JG641A
- 8 RJ-45 dual-personality 10/100/1000 ports — See Configuration Note:1, 2, 3, 4
- 2 SFP 1000 Mbps ports (Min 0 / Max 2)
- 1 RJ-45 serial console port

PDU CABLE NA/MEX/TW/JP — JG641A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU CABLE ROW — JG641A#B2C
- C15 PDU Jumper Cord (ROW)

220 NA — JG641A#B2E
- NEMA L6-20P Cord

HP 830 24P PoE+ Unifd Wired-WLAN Swch — JG640A

Configuration

- 24 RJ-45 auto-negotiating 10/100/1000 ports
- 4 SFP dual-personality ports; Duplex: full only (Min 0 / Max 4)
- 2 extended module slots
- 1 RJ-45 serial console port

See Configuration Note:1, 2, 3, 4

PDU CABLE NA/MEX/TW/JP — JG640A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

PDU CABLE ROW — JG640A#B2C
- C15 PDU Jumper Cord (ROW)

220 NA — JG640A#B2E
- NEMA L6-20P Cord

PDU CABLE NA/MEX/TW/JP — JG647A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

220 NA — JG647A#B2E
- NEMA L6-20P Cord

PDU CABLE NA/MEX/TW/JP — JG646A#B2B
- C15 PDU Jumper Cord (NA/MEX/TW/JP)

220 NA — JG646A#B2E
- NEMA L6-20P Cord

Configuration Rules:

Note 1 — The following Transceivers install into this Controller: (Use #0D1 if switch is CTO0

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

Note 2 — If the Switch Chassis is to be Factory Integrated (CTO), Then the #0D1 is required on the Switch Chassis and integrated to the JG662A - HP 800 CTO Enablement. (Min 1/Max 1 Switch per SSP)

Note 3 — Localization required on orders without #B2B, #B2C, or #B2E options.

Note 4 — If #B2E is selected Then replace Localized option with #B2E for power supply and with #B2E for switch . (Offered only in NA, Mexico,, Taiwan, and Japan)

Remarks:

The TAA skus in the 800 Unified Wired-WLAN Switches are US available only.

Configuration

Modules

Ethernet Modules

(Switch JG640A and JG646A) System (std 0 // max 2) User Selection (min 0 // max 2) per enclosure

HP 830 Unified Wired-WLAN Switch Uplink Module	JG643A
• min=0 \ max=1 XFP Transceivers	See Configuration Note:1

Configuration Rules:

Note 1	The following Transceivers install into this Module: (Use #0D1 if switch is CTO)	
	HP X130 10G XFP LC LR Single Mode 10km 1310nm Transceiver	JD108B
	HP X130 10G XFP LC SR Transceiver	JD117B
	HP X135 10G XFP LC ER Transceiver	JD121A

Transceivers

SFP Transceivers

HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X125 1G SFP LC LH40 1310nm XCVR	JD061A
HP X120 1G SFP LC LH40 1550nm XCVR	JD062A
HP X125 1G SFP LC LH70 Transceiver	JD063B

XFP Transceivers

HP X130 10G XFP LC LR Transceiver	JD108B
HP X130 10G XFP LC SR Transceiver	JD117B
HP X135 10G XFP LC ER Transceiver	JD121A

Internal Power Supplies

All switches include power supplies

Switch Options

External Power Supplies

HP RPS1600 Redundant Power System	JG136A

Configuration

- Height = 1U
- includes 1 x c13, 1600w and Power Supply port

See Configuration Note:2, 3

HP RPS1600 1600W AC Power Supply — JG137A

- Installs into JG136A only

See Configuration Note:1, 3

Configuration Rules:

Note 1 If this power supply is selected, The JG136A - HP A-RPS1600 Redundant Power System must be on order or onsite.

Note 2 Localization required.

Note 3 Only supported on the JG640A switch. Switch only supports 1 JG136A and 1 JG137A Power supply systems.

Licenses

(Switch JG641A and JG647A) System (std 0 // max 1) User Selection (min 0 // max 1) per enclosure

(Switch JG640A and JG646A) System (std 0 // max 3) User Selection (min 0 // max 3) per enclosure

HP 830 Unifd Wrd-WLAN Swch 12 AP E-LTU — JG648AAE

Remarks: This SKU is optional to increase the AP by a count of 12 per E-LTU

Technical Specifications

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

I/O ports and slots	24 RJ-45 auto-negotiating 10/100/1000 ports; Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 4 SFP dual-personality ports; Duplex: full only; (4 10/100/1000BASE-T and 1000BASE-X Gigabit Ethernet combination) 2 extended module slots	
Additional ports and slots	1 RJ-45 serial console port	
Physical characteristics	**Dimensions**	17.32(w) x 16.89(d) x 1.72(h) in (44 x 42.9 x 4.36 cm) (1U height)
	Weight	15.87 lb (7.2 kg)
Memory and processor	**Processor**	Dual core @ 750 MHz, 1 GB flash, 512 MB DDR2 SDRAM
Mounting	EIA standard 19-inch telco rack or equipment cabinet (hardware included)	
Performance	**Switch fabric speed**	88 Gb/s
	MAC address table size	8000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	307 BTU/hr (323.89 kJ/hr)
	AC Voltage	100-240 VAC
	DC Voltage	-52 to -55 VDC
	Maximum power rating	90 W
	Idle power	53 W
	PoE power	370 W
Safety	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	
Immunity	**EN**	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	
Features	Default supported APs: 24 Maximum supported APs: 60 (via the optional purchase of the 12-Access Point E-LTU) Maximum supported users: 1000 Maximum supported users via local portal authentication: 1000 Maximum supported users via local authentication: 1000 Maximum supported configured SSIDs: 64 Maximum supported ACLs: 2000	

Technical Specifications

	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.

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

I/O ports and slots	8 RJ-45 dual-personality 10/100/1000 ports; Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T)	
	2 SFP 1000 Mbps ports	
Additional ports and slots	1 RJ-45 serial console port	
Physical characteristics	**Dimensions**	17.32(w) x 10.63(d) x 1.72(h) in (44 x 27 x 4.36 cm) (1U height)
	Weight	8.82 lb (4 kg)
Memory and processor	**Processor**	Dual core @ 750 MHz, 1 GB compact flash, 512 MB DDR2 SDRAM
Mounting	EIA standard 19-inch telco rack or equipment cabinet (hardware included)	
Performance	**Switch fabric speed**	20 Gb/s
	MAC address table size	8000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	130 BTU/hr (137.15 kJ/hr)
	AC Voltage	100-240 VAC
	Maximum power rating	38 W
	Idle power	28 W
	PoE power	180 W
Safety	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	
Immunity	**EN**	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	
Features	Default supported APs: 12 Maximum supported APs: 24 (via the optional purchase of the 12-Access Point E-LTU) Maximum supported users: 1000 Maximum supported users via local portal authentication: 1000	

Technical Specifications

	Maximum supported users via local authentication: 1000 Maximum supported configured SSIDs: 64 Maximum supported ACLs: 2000 Supported MSM APs are automatically discovered, Comware firmware is loaded, and
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.

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 1305 NTPv3 (IPv4 only)
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
Ethernet Networks
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 2665 Ethernet-Like-MIB

Network management

IEEE 802.11k-2008 (beacon measurement functionality used as part of radio resource 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

Security

IEEE 802.1X Port Based Network Access Control
RFC 1851 ESP Triple DES Transform
RFC 2246 Transport Layer Security (TLS)
RFC 2401 Security Architecture for the Internet Protocol
RFC 2408 Internet Security Association and Key Management Protocol (ISAKMP)
RFC 2409 The Internet Key Exchange (IKE)
RFC 2548 Microsoft Vendor-specific RADIUS Attributes
RFC 2716 PPP EAP TLS Authentication Protocol
RFC 2865 RADIUS Authentication
RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
RFC 3394 Advanced Encryption Standard (AES) Key Wrap Algorithm
RFC 3576 Dynamic Authorization Extensions to RADIUS (Disconnect Message and Session-time renewal)

Technical Specifications

RFC 3164 Syslog
RFC 3268 Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)
RFC 3619 Ethernet Automatic Protection Switching (EAPS)
RFC 3636 Definitions of Managed Objects for IEEE 802.3 Medium Attachment Units (MAUs)

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

RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual Extensions
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

RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)
RFC 3580 IEEE 802.1X RADIUS Guidelines
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)

VPN
RFC 2403 The Use of HMAC-MD5-96 within ESP and AH
RFC 2404 The Use of HMAC-SHA-1-96 within ESP and AH
RFC 2405 The ESP DES-CBC Cipher Algorithm With Explicit IV
RFC 2407 The Internet IP Security Domain of Interpretation for ISAKMP
RFC 2451 The ESP CBC-Mode Cipher Algorithms

IPSec
RFC 1829 The ESP DES-CBC Transform
RFC 3602 The AES-CBC Cipher Algorithm and Its Use with IPSec

PKI
RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile

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