Data sheet

HP 10500/7500 20G Unified Wired-WLAN Module

Key features

- Enterprise-scale capacity, performance, and high reliability for wireless networks
- System-wide approach to WLAN reliability through Wi-Fi Clear Connect
- Flexible forwarding modes
- IPv4/IPv6 dual stack
- End-to-end QoS

Product overview

The HP 10500/7500 20G Unified Wired-WLAN Module delivers enterprise-scale features, capacity, and high reliability, as well as offers substantial data processing capacity for wireless networks.

The HP 10500/7500 20G Unified Wired-WLAN Module provides refined user control and management, comprehensive RF management and security mechanisms, fast roaming, QoS and IPv4/IPv6 features, and powerful WLAN access control.

Designed for the WLAN access of enterprise networks, this module provides an industry-leading WLAN solution for large enterprise networks. Working together with HP access points, the HP 10500/7500 Unified Wired-WLAN Module can be easily deployed on Layer 2 or Layer 3 networks without affecting existing configurations.

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**
  securely manages the controller from a single location with IMC or any other SNMP management station; controller supports SNMPv3 as well as SSH and SSL for secure CLI and Web management

Quality of Service (QoS)

- **End-to-end QoS**
  the HP 10500/7500 20G Unified Wired-WLAN Module supports the DiffServ standard and IPv6 QoS; the QoS DiffServ model includes traffic classification and traffic policing, and fully implements six groups of services—EF, AF1 through AF4, and BE
- **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**
  support 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
- **Secure shell**
  encrypts all transmitted data for secure remote CLI access over IP networks
- **Media access control (MAC) authentication**
  provides simple authentication based on a user's MAC address; supports local or RADIUS-based authentication
- **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
- **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
- **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)**
  used to control access
- **Authentication, authorization, and accounting (AAA)**
  uses an embedded authentication server or external AAA server for local users

Connectivity

- **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 traversal**
  helps ensure that communication between a branch office AP and the module is supported when the branch is using NAT

Performance

- **Flexible forwarding modes**
  support both centralized and distributed modes; enable all wireless traffic to be sent to the module for processing using centralized forwarding or dropped off locally using distributed mode; provide branch office survivability with distributed mode (that is, where APs are deployed at branches, authenticated clients can continue to access local resources in the event that connectivity to the controller is lost)
- **Wireless user access control and management**
  support defining settings such as Committed Access Rate (CAS), QoS profiles, and access control policies based on location for different applications
- **Fast roaming**
  supports Layer 3 roaming and fast roaming, satisfying the most demanding voice service requirements
- **Robust switching capacity and wire-speed processing**
  deliver powerful forwarding capacity to support large enterprise WLANs

Resiliency and high availability

- **High reliability**
  the module supports 1+1, N+1, and N+N backup; the 1+1 redundancy configuration of the modules supports subsecond-level failure detection; APs establish AP-module tunnel links with both modules, but only the links to the active module are active; when the active module fails, the heartbeat mechanism between the two modules help ensure that the standby module can sense the failure in subsecond level and then informs the APs to switch over to it, thus providing service continuity

Scalability

- **Ease of deployment**
  these wireless interface cards use the backplane for all network and management communications, with no need for external network power connections
- **128-access point license upgrade**
  allows you to increase support for additional access points without the need to buy additional costly hardware and use additional valuable space in a chassis; a redundant module must be provisioned with the same number of APs as the primary module

Layer 2 switching

- **VLAN support and tagging**
  supports IEEE 802.1Q with 4,094 simultaneous VLAN IDs
- **Jumbo packet support**
  supports up to 4 KB frame size to improve the performance of large data transfers

Comprehensive portfolio

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

Warranty and support

- **1-year warranty**
  with advance replacement and 10-calendar-day delivery (available in most countries)
- **Electronic and telephone support**
  1-year limited electronic and telephone support is available from HP; 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 10500/7500 20G Unified Wired-WLAN Module

Specifications

	HP 10500/7500 20G Unified Wired-WLAN Module (JG639A)
Ports	1 RJ-45 serial console port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 1 RJ-45 out-of-band management port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only
Physical characteristics	
	15.71(w) x 13.98(d) x 1.57(h) in (39.9 x 35.5 x 4.0 cm) (1U height)
Weight	7.98 lb (3.62 kg)
Memory and processor	
Processor	Eight core @ 950 MHz, 1 GB compact flash, 2 GB DDR2 DIMM
Performance	
Switch fabric speed	10 Gbps
MAC address table size	24000 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	
Maximum heat dissipation	512 BTU/hr (540.16 kJ/hr)
Maximum power rating	150 W
Notes	Power consumption: 118 W-150 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; in-line and out-of-band; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB
Features	For use in HP 10500 Switch Series and HP 7500 Switch Series Default supported APs: 128 Maximum supported APs: 1,024 (via the optional purchase of the 128-Access Point E-LTU) Maximum supported users: 20,000 Maximum supported users via local portal authentication: 4,000 Maximum supported users via local authentication: 1,000 Maximum supported configured SSIDs: 512 Maximum supported ACLs: 32,000 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.

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Specifications (continued)

	HP 10500/7500 20G Unified Wired-WLAN Module (JG639A)
Standards and protocols	**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 **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 2474 DSCP DiffServ 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 10500/7500 20G Unified Wired-WLAN Module accessories

License

NEW HP 10500/7500 Unified Wired-WLAN Module 128-Access Point E-LTU (JG649AAE)

To learn more, visit hp.com/networking

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