



HP A-WX5000 Access Controller Series

Data sheet

Product overview

The HP A-WX5000 Access Controller Series features large capacity, high reliability, and rich services, and offers strong wired and wireless data processing capacity. The A-WX5000 series provides refined user control and management, a comprehensive RF management and security mechanism, fast roaming, strong QoS and IPv4/IPv6 features, and powerful WLAN access control functions. Designed for WLAN access of enterprise networks and metropolitan area networks (MANs), the WX5000 series provides an ideal access control solution for the WLAN access of large enterprise campus networks, wireless MAN coverage, and hotspot coverage. The A-WX5000 series include two models: the A-WX5002 and A-WX5004 access controllers. A standard A-WX5002 access controller supports up to 32 APs, and can support up to 64 with license upgrades. A standard A-WX5004 access controller supports 64 APs, and can support up to 256 with license upgrades.

Key features

- Flexible forwarding modes
- Carrier-Class Wireless User Access Control
- High reliability
- IPv4/IPv6 dual stack
- End-to-end QoS



Features and benefits

Quality of Service (QoS)

- **End-to-end QoS:** developed based on the Comware V5 platform, the A-WX5000 access controllers support not only the DiffServ standard but also the IPv6 QoS; the QoS DiffServ model includes traffic classification and traffic policing, completely implementing the six groups of services (EF, AF1 through AF4, and BE); this enables ISPs to provide differentiated services for users, making the Internet a true integrated network carrying data, voice, and video services at the same time
- **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

Management

- **Automatic radio power adjustment:** automatic AP power adjustment features analyze user access status in real time, adapting power requirements based on environmental changes and providing high-quality user access signal coverage
- **Automatic radio channel adjustment:** intelligent channel switching and real-time interference detection provide the allocation of a high-quality channel to each AP, reducing adjacent channel interference
- **Load balancing:** intelligent load sharing analyzes the locations of wireless clients in real time, providing high-quality client throughput regardless of location or number of online sessions
- **Rogue AP detection:** regular scans for rogue APs help confirm that the network is secure
- **Enterprise network management:** is supported by the Web-based, enterprise-class HP Intelligent Management Center (IMC) network management platform and Wireless Service Management (WSM), 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
- **AAA server:** 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 from IPv4 to IPv6, supporting connectivity for both protocols; MLD snooping forwards IPv6 multicast traffic to the appropriate interface, preventing traffic flooding; IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
- **IEEE 802.11h ITU compliant:** employs Dynamic Frequency Selection (DFS) to automatically select another channel and adjust transmit power to reduce interference with systems such as radar, if it is detected on that same channel

Performance

- **Flexible forwarding modes:** the A-WX5000 access controller supports both distributed forwarding mode and centralized forwarding mode, allowing you to set SSID-based forwarding type as needed; in a wireless network of centralized forwarding mode, all wireless traffic is sent to an AC for processing; if there is a wireless network where APs are deployed at branches, ACs are deployed at the headquarters, and APs and ACs are connected over a WAN, the distributed mode will be necessary
- **Carrier-Class Wireless User Access Control:** user-based access control is a feature of the A-WX5000 access controller; for different application scenarios, you can configure different items in a user profile, such as Committed Access Rate (CAR) and QoS policies
- **Fast roaming:** supports Layer 3 roaming and fast roaming, satisfying the most demanding voice service requirements
- **High performance:** robust switching capacity and wire-speed processing provide powerful forwarding capacity for medium and large enterprise-sized WLANs

Resiliency and high availability

- **High reliability:** the 1+1 redundancy configuration of the A-WX5000 access controller supports subsecond-level failure detection; Fit APs establish AP-AC tunnel links with both ACs, but only the links to the active AC are active; when the active AC fails, the heartbeat mechanism between the two ACs helps ensure that the standby AC can sense the failure in subsecond level and then inform APs to use links to it, providing service continuity

Layer 2 switching

- **VLAN support and tagging:** support IEEE 802.1Q, with 4,094 simultaneous VLAN IDs
- **Spanning Tree:** fully supports standard IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol
- **Jumbo packet support:** supports up to a 4 KB frame size to improve the performance of large data transfers

Standards

- **Latest high-speed wireless standards:** when used with IEEE 802.11n-based APs, provides wireless access six times that of traditional IEEE 802.11a/b/g networks, resulting in expanded coverage and more efficient support for wireless multimedia applications

Security

- **IEEE 802.1X and RADIUS network logins:** control port-based access for authentication and accountability
- **Web-based authentication:** similar to IEEE 802.1X, it provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
- **Choice of IEEE 802.11i, WPA2, or WPA:** locks 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 (SSHv2):** encrypts all transmitted data for secure, remote CLI access over IP networks
- **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, improving bandwidth and system resources, and simplifying network maintenance and management
- **Secure access by location:** location AP-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 by infected wireless clients and improving the overall security of the wireless network
- **HTTPS management:** provides secure Web management
- **Public Key Infrastructure (PKI):** is used to control access

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 chassis

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Specifications



HP A-WX5002 Access Controller (JD447B)



HP A-WX5004 Access Controller (JD448B)

Ports	2 dual-personality ports; (2 GbE 10/100/1000Base-T and 1000Base-X combination ports) 1 RJ-45 serial console port	4 dual-personality ports; (4 GbE 10/100/1000Base-T and 1000Base-X combination ports) 1 RJ-45 serial console port
Physical characteristics		
Dimensions	16.93(d) x 17.32(w) x 1.72(h) in. (43 x 44 x 4.36 cm) (1U height)	16.93(d) x 17.32(w) x 1.72(h) in. (43 x 44 x 4.36 cm) (1U height)
Weight	16.31 lb. (7.4 kg), Fully loaded two power supplies	16.31 lb. (7.4 kg), Fully loaded two power supplies
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	2 power supply slots 1 minimum power supply required (ordered separately)
Memory and processor		
Processor	Quad-core @ 800 MHz, 256 MB compact flash, 1 GB DDR2 DIMM	Quad-core @ 800 MHz, 256 MB compact flash, 1 GB DDR2 DIMM
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	4 Gbps	8 Gbps
MAC address table size	4000 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		
Maximum heat dissipation	222 BTU/hr (234.21 kJ/hr)	222 BTU/hr (234.21 kJ/hr)
Voltage	100-240 VAC	100-240 VAC
DC voltage	-48 VDC to -60 VDC	-48 VDC to -60 VDC
Maximum power rating	67.7 W	67.7 W
Frequency	50/60 Hz	50/60 Hz
Safety	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; GOST; C-Tick; NOM; IEC 60950-1(with CB report)	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; Anatel; GOST; C-Tick; NOM; IEC 60950-1(with CB report)
Emissions	EN 55022; VCCI; ICES-003; AS/NZS CISPR 22; EN 300 386; FCC Part 15; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC	EN 55022; VCCI; ICES-003; AS/NZS CISPR 22; EN 300 386; FCC Part 15; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC
Immunity		
Generic	ETSI EN 300 386 V1.3.3	ETSI EN 300 386 V1.3.3
EN	EN 61000-4-2:1995+A1:1998+A2:2001; EN 61000-4-3:2006; EN 61000-4-4:2004; EN 61000-4-5:2006; EN 61000-4-6: 1996 +A1:2001:A2:2007; EN 61000-4-8:2001; EN 61000-4-11:2004; EN 55024:1998+ A1:2001 + A2:2003	EN 61000-4-2:1995+A1:1998+A2:2001; EN 61000-4-3:2006; EN 61000-4-4:2004; EN 61000-4-5:2006; EN 61000-4-6: 1996 +A1:2001:A2:2007; EN 61000-4-8:2001; EN 61000-4-11:2004; EN 55024:1998+ A1:2001 + A2:2003
Management	IMC - Intelligent Management Center; command-line interface; Web browser; configuration menu; SNMP Manager; Telnet; HTTPS; RMON1; FTP; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	IMC - Intelligent Management Center; command-line interface; Web browser; configuration menu; SNMP Manager; Telnet; HTTPS; RMON1; FTP; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB
Notes	Maximum number of users: 2,000; maximum number of users supported by local authentication: 1,000; maximum number of SSIDs that can be configured: 128; maximum number of users supported by local portal authentication: 1,000; number of ACLs: 4,000. Customer must order a power supply, as the device does not come with a PSU. At least one JD362A or JD366A is required.	Maximum number of users: 4,000; maximum number of users supported by local authentication: 1,000; maximum number of SSIDs that can be configured: 256; maximum number of users supported by local portal authentication: 2,000; number of ACLs: 8,000. Customer must order a power supply, as the device does not come with a PSU. At least one JD362A or JD366A is required.

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Specifications (continued)

	HP A-WX5002 Access Controller (JD447B)	HP A-WX5004 Access Controller (JD448B)
Services	3-year, parts only, global next-day advance exchange (UX182E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UX183E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UX186E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UX189E) 3-year, 24x7 SW phone support, software updates (UX192E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR725E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR726E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR727E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UX184E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UX187E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UX190E) 4-year, 24x7 SW phone support, software updates (UX193E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UX185E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UX188E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UX191E) 5-year, 24x7 SW phone support, software updates (UX194E) 3 Yr 6 hr Call-To-Repair Onsite (UX195E) 4 Yr 6 hr Call-To-Repair Onsite (UX196E) 5 Yr 6 hr Call-To-Repair Onsite (UX197E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR729E) 1-year, 24x7 software phone support, software updates (HR728E) 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.	3-year, parts only, global next-day advance exchange (UX182E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UX183E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UX186E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UX189E) 3-year, 24x7 SW phone support, software updates (UX192E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR725E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR726E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR727E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UX184E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UX187E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UX190E) 4-year, 24x7 SW phone support, software updates (UX193E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UX185E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UX188E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UX191E) 5-year, 24x7 SW phone support, software updates (UX194E) 3 Yr 6 hr Call-To-Repair Onsite (UX195E) 4 Yr 6 hr Call-To-Repair Onsite (UX196E) 5 Yr 6 hr Call-To-Repair Onsite (UX197E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR729E) 1-year, 24x7 software phone support, software updates (HR728E) 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 A-WX5002 Access Controller (JD447B)		HP A-WX5004 Access Controller (JD448B)	
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) RFC 5281 Extensible Authentication Protocol Tunneled Transport Layer Security Authenticated Protocol Version 0 (EAP-TLSv0)	General protocols 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 2526 Reserved IPv6 Subnet Anycast Addresses RFC 2563 ICMPv6 RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only) RFC 3484 Default Address Selection for IPv6 RFC 3587 IPv6 Global Unicast Address Format 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	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 MAC Authentication Secure Sockets Layer (SSL) SSHv1.5 Secure Shell SSHv2 Secure Shell Web Authentication WPA (Wi-Fi Protected Access)/WPA2
	IP multicast RFC 1112 IGMP RFC 2236 IGMPv2		

HP A-WX5000 Access Controller Series accessories

Transceivers

HP X124 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)

Power Supply

HP A5800/A5500 150W AC Power Supply (JD362A)

HP A5800/A5500 150W DC Power Supply (JD366A)

License

HP A-WX5000 32 AP License Upgrade (JD463B)

To learn more, visit www.hp.com/networking

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