

16Gigabit Ports with 8 SFP Ports + 4*10SFP + 1*Console Port

PRODUCT OVERVIEW

The AP-WLC7045 is a high-performance smart wireless access controller (AC) for medium wireless networks, which can manage up to 2000 access points (Aps). It provides complete RF management and security mechanism, powerful QoS, seamless roaming and complete control of APs, can be used to construct medium sized network for campus, hotel, enterprise office, hospital, etc.

With hardware ASIC, AP-WLC7045 could support line-rate forwarding of IPv4/IPv6 data packets and support dynamic routing protocols such as RIP, OSPF, BGP and PIM, as well as Ipv6 RIPng, OSPFv3 and PIM6. It also integrates Ethernet switch function, and provides unified access control for wired and wireless users. It offers 16 GE combo ports, 8 fixed SFP ports, and 4* 10G SFP+ ports.



KEY FEATURES AND HIGHLIGHTS

Wired-and-wireless Unified and High-Reliability Network

Combination of routing switch and wireless AC:

The WLC7045 can be used as a routing switch and a wireless access controller simultaneously in a trunk deployment mode, with an ASIC-based forwarding architecture and high-density access-ports, it can provide line-speed forwarding for both wired and wireless traffic.

High-reliability backup mechanism:

The WLC7045 supports the following high-reliability backup mechanisms to ensure that a wireless network runs reliably:

- N+1 backup
- N+M backup

1+1 modular redundant input power:

The WLC7045 supports two modular AC input power, which provides 1+1 input power redundancy.

Automatic emergency mechanism of APs:

This mechanism enables an AP to intelligently detect a link between AC and AP. When detecting the breakdown of the link the AP quickly switches its operating mode so that it can continue to forward data and allow new users to access the network. This mechanism makes sure that the access is available for all users when the AC is down.

Intelligent Control of Wireless Network

Intelligent RF management:

The WLC7045 provides an automatic power and channel adjustment function. It employs particular RF detection and management algorithms to attain a better RF coverage effect. When the signals of an AP are interfered with by strong external signals, the AP may automatically switch to an appropriate operating channel under the control of the AC to avoid such interference. It also supports the blackhole compensation mechanism, which adjusts the AP power to cover the blind area resulted by the crashing of some APs

Intelligent control of terminals based on airtime fairness:

This function makes sure that both the low-rate and the high-rate clients get relatively the same accessing time, which can avoid the low-rate clients to affect the AP overall performance by taking up too much accessing time.

Intelligent load balancing mechanism:

In general, a wireless client will select an AP according to the signal strength of APs. So, it may happen that one AP connected a large number of APs while the others connected very little, causing the small bandwidth for each client. The AirPro load balancing mechanism can overcome this problem by:

- Load balancing between APs based on traffic
- Load balancing between APs based on the number of users
- Load balancing between radios within the AP based on the number of users

Intelligent identification of terminals:

The WLC7045 can identify a terminal in different ways by combining with AirPro smart APs and a unified authentication platform. It can identify the OS of a terminal, such as Apple iOS, Android, and windows, the size of a terminal, and the type of a terminal, such as mobile phone, laptop, and PC. Basing on these identifications, WLC7045 can implement dynamic policies for different types of terminal and present a corresponding-sized authentication page.

PEAP user authentication:

Protected Extensible Authentication Protocol (PEAP) authentication can provide a better user experience. The user needs to manually enter the username and passwords only during the first-time certification, the second time, and the subsequent certifications are performed automatically.

KEY FEATURES AND HIGHLIGHTS

Secure and Controllable Wireless Network

User isolation policy:

The WLC7045 supports the isolation of wireless users. If this user isolation function is enabled, only the communication between the clients and gateway is allowed, the direct communication between clients is forbidden, which can increase the security of the wireless network.

- MAC address authentication
- LDAP authentication
- WAPI encryption and authentication
- Wired/wireless integrated authentication and accounting

Wireless intrusion detection and intrusion defense:

The WLC7045 supports wireless intrusion detection and intrusion defense features, such as detection of unauthorized wireless devices, intrusion detection, blacklist, and white list, as well as anti-DoS for various wireless management packets, thereby greatly improving security management of an entire wireless network.

Easy-to-Manage Wireless Network

AP plug-and-play:

When used with the WLC7045, AirPro smart APs support plug-and-play and zero configuration. WLC7045 undertakes all the management, control, and configuration of the APs. Network administrators do not need to separately manage or maintain a huge number of wireless APs.

Secure user admission:

The WLC7045 provides multiple secure access, authentication, and accounting mechanisms for various application environments. These mechanisms include:

- 802.1x authentication
- Captive portal authentication, including built-in portal, and custom portal authentication modes

Remote probe analysis:

The WLC7045 supports remote probe analysis of APs. It enables the APs to capture Wi-Fi packets and mirrors them to a local analysis device in real-time to help network administrators troubleshooting or optimizing the network. The remote probe analysis function can perform analysis of a single working channel continuously or all channels in a polling mode to flexibly meet various wireless network monitoring requirements.

PRODUCT SPECIFICATIONS

Hardware Specifications

Item	AP-WLC7045
Dimensions(L*W*H)	440mmx350mmx44mm; 19 inches, 1 U high, supporting rack installation
Switching capacity	208 Gbps 16 GE combo ports (GE/SFP)
Service port	8 GE SFP ports 4 10G SFP+ ports
Management port	1 console port (RJ-45), 1 out-of-band management port, 1 USB port
Power supply	2 power slots, 1+1 Modular Redundancy
Power consumption	90 W
Working/Storage temperature	0°C to +50°C -40°C to +75°C
Working/Storage RH	10% to 90% (non-condensing)
Software Specifications	
Base number of manageable Aps	32
Maximum number of locally centralized on-premise manageable APs	2000
Number of manageable ACs in a cluster	64
AP upgrade step	16, 32, 128
Maximum number of concurrent wireless users	60k
VLANs/WLAN	4K/2K
ACL	4K
MAC address list	32K
ARP table	16K
Switching time during roaming	< 30 ms IEEE802.3 (10Base-T), IEEE802.3u (100Base-TX), IEEE802.3z (1000BASE-X), IEEE802.3ab (1000Base-T), IEEE802.3ae (10GBase-T) IEEE802.3ak (10GBASE-CX4), IEEE802.1Q (VLAN) IEEE802.1d (STP), IEEE802.1W (RSTP), IEEE802.1S (MSTP)

PRODUCT SPECIFICATIONS

Hardware Specifications

Item	AP-WLC7045
L2 protocols and standards	IEEE802.1p (COS) IEEE802.1x (Port Control), IEEE802.3x (Flow Control) IEEE802.3ad (LACP), Port Mirror IGMP Snooping, MLD Snooping QinQ, GVRP, PVLAN Broadcast storm control Static Routing
L3 protocols and standards	RIPv1/v2, OSPF, BGP, VRRP, IGMP v1/v2/v3 ARP, ARP Proxy PIM-SM, PIM-DM, PIM-SSM
Wireless protocols and standards	802.11, 802.11a, 802.11b, 802.11g, 802.11n, 802.11d, 802.11h, 802.11i, 802.11e, 802.11k Supports L2/L3 network topology between an AP and an AC.
CAPWAP protocol	Enables an AP to automatically discover an accessible AC. Enables an AP to automatically upgrade its software version from an AC. Enables an AP to automatically download configurations from an AC.
IPv6 protocols and standards	IPv4/v6 dual-stack, manual tunnel, ISATAP, 6to4 tunnel, IPv4 over IPv6 tunnel, DHCPv6, DNSv6, ICMPv6, ACLv6, TCP/UDP for IPv6, SOCKET for IPv6, SNMP v6, Ping /Traceroute v6, RADIUS, Telnet/SSH v6, FTP/TFTP v6, NTP v6, IPv6 MIB support for SNMP, VRRP for IPv6, IPv6 QoS, static routing, OSPFv3, IPv6 SAVI
High reliability	N+1 backup N+N backup
RF management	Setting country codes
	Manually/automatically setting the transmit power
	Manually/automatically setting the working channel
	Automatically adjusting the transmission rate
	Blind area detection and repair
	RF environment scanning, which enables a working AP to scan the surrounding RF environment
	RF interference detection and avoidance
	11n-preferred RF policy
	SSID hiding
	20 MHz and 40 MHz channel bandwidth configuration
	Airtime protection in hybrid access of 11bg and 11n terminals
	Terminal-based airtime fairness scheduling
	Terminal locating (A terminal locating algorithm can be embedded in the AC)
	Spectral navigation (5 GHz preferred)
	11n only
	SSID-based or Radio-based limit on the number of users
	User online detection
Automatic aging of traffic-free users	
Prohibiting the access of clients with weak signals	
Remote probe analysis	
Security	64/128 WEP, WPA/WPA2/WPA3 Enterprise, dynamic WEP, TKIP, EAP-AKA, CCMP, and SMS encryption
	802.11i, 802.11r/v/w/ac/ax security authentication and two modes (Enterprise and Personal) of
	WPA Enterprise = IEEE 802.1x/EAP + TKIP/CCMP
	WPA2 Enterprise = IEEE 802.1x/EAP + pre-authorization
	WPA2 Enterprise = IEEE 802.1x + EAP Sim authentication
	Hotspot 2.0 / Passpoint support, Enhanced Open and AAA-Proxy functionality
	WAPI encryption and authentication
	LDAP authentication
	MAC address authentication
	Portal authentication, including built-in portal, external portal, and custom portal authentication modes
	PEAP user authentication
	Forwarding security control, such as frame filtering, white list, static blacklist, and dynamic blacklist
	Isolation: Isolation capability in case of device intrusion.(The anti-brute force mechanism isolates the device when attempts are made to log-in for administrative purposes.)
	Periodic Radio/SSID enabling and disabling
	Access control of free resources
	Secure admission control of wireless terminals
	Access control of various data packets such as MAC, IPv4, and IPv6 packets
	Secure access control of APs, such as MAC authentication, password authentication, or digital certificate authentication between an AP and an AC
	Radius Client
Backup authentication server	

PRODUCT SPECIFICATIONS

Hardware Specifications

Item	AP-WLC7045
Security	Wireless SAVI
	User access control based on AP locations
	Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS)
	Protection against flooding attacks / Protection against spoofing attacks
Forwarding	Identification, monitoring, and control of devices and users accessing the network through applied security policies using ACLs and MAC authentication.
	IPv6 access and forwarding; constructing IPv6 WLAN access service on an IPv4 network; providing IPv4 WLAN access service on an IPv6 network; and constructing private IPv6 WLAN network service on an IPv6 network
	IPv4 and IPv6 multicast forwarding
QoS	WDS AP
	802.11e (WMM); and 4-level priority queues, ensuring that applications sensitive to the real-time effect, such as voice and video services, are transmitted first
	Ethernet port 802.1P identification and marking
	Mapping from wireless priorities to wired priorities
	Mapping of different SSIDs/VLANs to different QoS policies
	Mapping of data streams that match with different packet fields to different QoS policies
	Access control of MAC, IPv4, and IPv6 data packets
	Load balancing based on the number of users
	Load balancing based on user traffic
	Load balancing based on frequency bands
	Bandwidth limit based on APs
	Bandwidth limit based on SSIDs
	Bandwidth limit based on terminals
Bandwidth limit based on specific data streams	
Management	Power saving mode
	Multicast-to-unicast mechanism
	Automatic emergency mechanism of APs
	Intelligent identification of terminals
	Web management
	Configuration through a console port
	SNMP v1/v2c/v3
	Both local and remote maintenance
	Local logs, Syslog, and log file export
	Alarm
	Fault detection
	Statistics
	Login through Telnet
	Login through SSH
	Dual-image (dual-OS) backup
Hardware watchdog	
AC cluster management; automatic information synchronization between ACs in a cluster, and automatic or manual push of configuration information	
SSID-based user permission management mechanism	
Centralized monitoring and configuration of all devices.	

ORDER INFORMATION

Product	Description	Remarks
AP-WLC7045	AirPro Intelligent Access Controller (default with 32 units AP license, support controlling max. 2000 APs, support N+1, N+N redundancy)), 16*GbE Combo (SFP/RJ45) +8*1000M SFP ports+4*10GbE SFP+ ports, two modular power, default with one AC power.	Mandatory
AP-L16	Upgrade license of the AirPro wired/wireless integrated smart AC (for upgrading 16 APs, a minimum number of upgrade step is 16 APs)	Optional
AP-L32	Upgrade license of the AirPro wired/wireless integrated smart AC (for upgrading 32 APs, a minimum number of upgrade step is 32 APs)	Optional
AP-L128	Upgrade license of the AirPro wired/wireless integrated smart AC (for upgrading 128 APs, a minimum number of upgrade step is 128 APs)	Optional
AP-S6200-AC-A	AC Power Supply Module (150W) for AP-WLC7045 100V-240V, could be purchased alone as an accessory	Optional



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