

Huawei AC6005 Brochure-Detailed



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Huawei AC6005 is a small box wireless Access Controller (AC) that offers large capacity with high performance. Designed for small- to medium-sized enterprises, the AC6005 is highly reliable and easy to install and maintain. By providing uniform forwarding, control, and policies for wired and wireless data, the AC6005 helps enterprises build a wired and wireless converged network.

The AC features good scalability and offers considerable flexibility in configuring the number of managed APs. When used with Huawei's latest-generation 802.11ac and 802.11n APs, the AC6005 delivers an adaptable office and campus networking solution for small-to-medium enterprises and branches by extending wireless Metropolitan Area Network (MAN) and hotspot coverage. Huawei offers two AC6005 models: the AC6005-8 and the AC6005-8-PWR with PoE support.

Multiple port support

- The AC6005 provides multiple port types to support diverse application scenarios:
- Eight GE ports
- One RJ-45 serial port
- One mini-USB serial port

Large-capacity, high-performance design with proven reliability

- Efficient and scalable: one AC manages up to 128 APs
- Eight GE ports and 4 Gbit/s forwarding capability
- Full PoE on eight ports: powers connected Access Points (APs) or other Powered Devices (PDs)
- Port backup using Link Aggregation Control Protocol (LACP) or Multiple Spanning Tree Protocol (MSTP)

Easy to install and easy to maintain

- Convenient size (320 mm x 233.6 mm x 43.6 mm): small enough to fit a standard cabinet or on a desk
- Built-in web platform for local GUI-based management
- Easy management on eSight with various northbound ports
- Intra-board temperature probe for monitoring the operating environment of the AC in real time

Dynamic energy management

- Low-noise fans dynamically adjust to load changes to keep equipment noise and power consumption low.
- Automatic power-saving mode engages during idle operation (when no peer device is connected).
- Highly integrated, energy-saving design provides even higher performance and lower power consumption when coupled with an intelligent device management system.



Advanced Network Features

- Application scenarios: small- to medium-sized enterprises and branches
- Scalable licensing options
- Flexible networking and forwarding
- Compatibility with IEEE 802.11a/b/g/n/ac
- Comprehensive user policy management and authorization controls
- Secure and reliable 1+1 hot backup and N+1 backup
- Centralized user authentication
- 4 Gbit/s forwarding capability, the largest in the industry among competing products
- Graphics-based, real-time, and efficient WLAN network management and monitoring for optimum network performance
- IPv6 support

Typical Networking

The AC6005 can be deployed in inline, bypass, Wireless Distribution System (WDS), or Wireless Mesh Network (WMN) mode.

1. Inline Networking

In inline networking, APs or access switches directly connect to the AC6005, which functions as both an AC and an aggregation switch to forward and process data and management services for the APs.

In this scenario, the AC6005 sets up Control and Provisioning of Wireless Access Points (CAPWAP) tunnels with the APs for configuration and management. Service data from wireless users can be forwarded between APs and the AC6005 over CAPWAP data tunnels or be directly forwarded by the APs.

Direct forwarding is typically used with small- to medium-sized and centralized WLANs in inline networking scenarios to simplify network architecture.

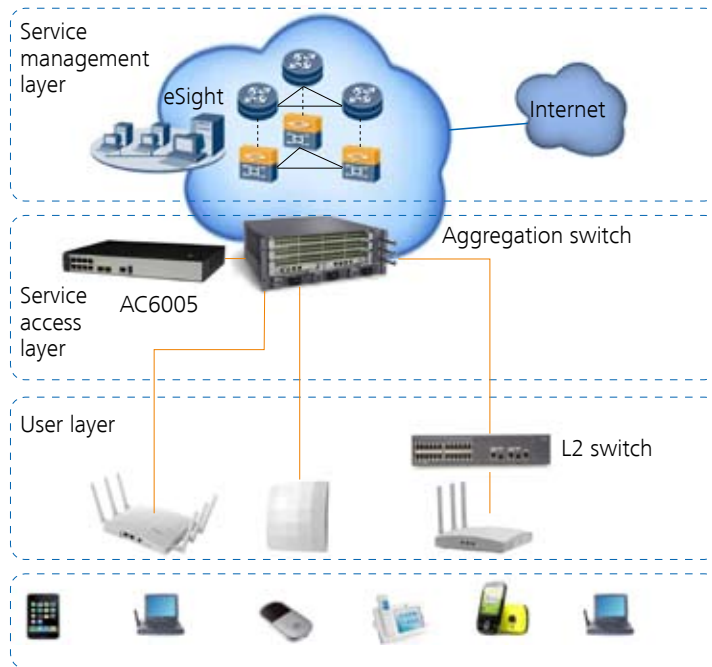


The AC6005 provides powerful access, aggregation, and switching capabilities and can provide PoE/PoE+ connections to APs.

2. Bypass Networking

In bypass networking, the AC6005 connects to a network device (usually an aggregation switch) to manage APs. The AC6005 manages all APs connected to the aggregation switch. Management flows are transmitted in CAPWAP tunnels. Data flows can be forwarded by the AC over CAPWAP tunnels or forwarded to the upper layer network by the aggregation switch without passing through the AC6005.

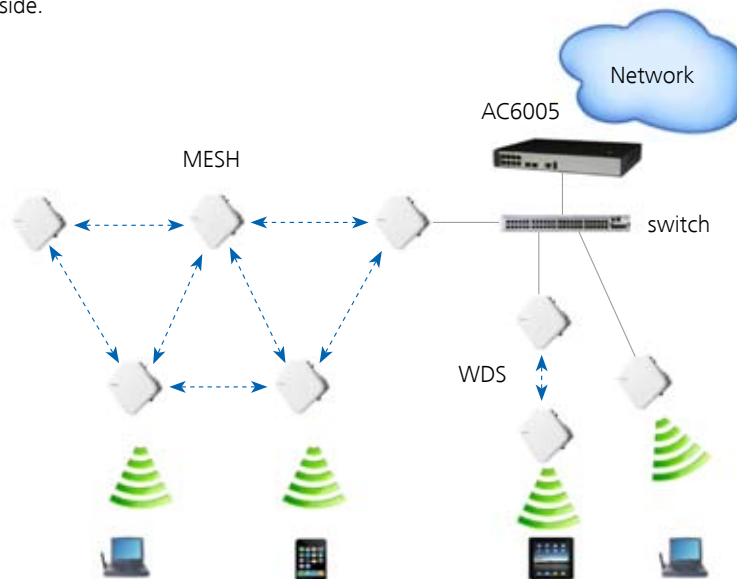
This network topology works well where APs are scattered across hotspots.



Bypass mode deployments require only a small modification to the existing network. You can select direct forwarding or tunnel forwarding mode according to networking requirements. Because tunnel forwarding is commonly used for overlay network deployments, Huawei recommends tunnel forwarding for most enterprise networks.

3. WDS and Mesh Networking

The WDS and WMN modes allow multiple APs to be connected wirelessly in a distributed system that extends the range of wireless network coverage. The WDS and Mesh networks connect to an AC through a switch, and the AC connects to the network through a network device, such as a gateway or an aggregation switch. The WDS and Mesh networks connect to user stations (STAs) or PCs on the user side.



WDS and Mesh networking modes are used to expand outdoor wireless coverage areas.

Product Features

Feature	Description
Scalability	Huawei AC6005 provides licenses for managing 1 or 8 APs. You can purchase multiple licenses for the AC6005 to manage 1 to 128 APs.
Flexible networking	<p>The AC and APs can be connected across a Layer 2 or Layer 3 network. In addition, Network Address Translation (NAT) can be deployed in scenarios where APs are deployed on an internal network and the AC is located on an external network. Services can be mapped between VLANs and Service Set Identifiers (SSIDs). The number of service VLANs and SSIDs can be in a ratio of 1:1 or 1:N, based on service requirements. VLANs are assigned to users based on SSIDs, physical location, or services.</p> <p>The AC can be deployed in inline or bypass mode. The bypass networking mode requires a small modification to the existing network and is easy to deploy. WDS and Mesh networking expand outdoor wireless network coverage.</p>
Flexible forwarding	The AC6005 allows you to easily configure local or centralized forwarding on Virtual Access Point (VAP) settings according to network traffic and service control requirements. Centralized forwarding meets the requirements of most network configurations; however, when bandwidth demands from users connected to the same AP steadily increase, traffic switching loads will increase. Local forwarding reduces the network burden and improves bandwidth efficiency, but the AC does not provide unified user authentication and authorization. The AC6005 solves this problem with support for both local forwarding and centralized authentication to accommodate changing needs.
Radio management	<p>The AC6005 automatically selects and calibrates radio parameters in AP regions.</p> <ul style="list-style-type: none"> • APs automatically select working channels and power when they go online. • In overlapping areas, APs automatically adjust working channels and power in the event of signal interference. • When an AP is removed or goes offline, the AC6605 increases the power of neighboring APs to compensate for the coverage hole.
Flexible user rights control	<p>The AC6005 uses Access Control Lists (ACLs) based on APs, VAPs, or SSIDs, and provides isolation and bandwidth-limiting. The AC6005 also provides access controls for users and user roles to meet enterprise requirements regarding permissions, authentication and authorization, as well as bandwidth limitations per user and user group.</p> <ul style="list-style-type: none"> • The AC6005 implements per-user access control based on ACLs, VLAN IDs, and bandwidth limits sent from the RADIUS server. • User groups are defined with access control policies. An ACL, user isolation policy, and bandwidth limitations can be applied to user groups for additional access control. Inter-group user isolation or intra-group user isolation can also be configured.
WDS	The AC6005 provides STA access and wireless bridge management functions, as well as network bridge management in Fit AP mode. The AC6005 supports the following networking modes: point-to-multipoint bridging, single-band/dual-band multi-hop relay, dual-band WDS bridging + WLAN access, and single-band WDS bridging + WLAN access. The AC6005 can also function as a wireless bridge between a central campus network and multiple branch campus networks. This configuration works well for deployments with no wired network or where cable routing is inconvenient.

Feature	Description
High reliability	<p>Two AC backup modes are available:</p> <ul style="list-style-type: none"> Dual-link + Hot Standby Backup (HSB): Multiple ACs can be configured on a network to increase WLAN reliability. If an active AC experiences a fault or the link between the active AC and APs disconnects, the APs can switch to a standby AC. HSB + Virtual Router Redundancy Protocol (VRRP) backs up information on the active AC to the standby AC. When the active AC fails or the link is disconnected, the standby AC takes over services of the active AC. N+1 backup: The AC6005 supports N+1 backup, which allows multiple active ACs to share the same standby AC. This feature provides high reliability at reduced cost.
Load balancing	<ul style="list-style-type: none"> Inter-AP load balancing: When a STA is in the coverage area of multiple APs, the AC6005 connects the STA to the AP with the lightest load, delivering STA quantity-based or traffic-based load balancing. Inter-STA resource balancing: The AC6005 can dynamically and evenly allocate bandwidth resources to prevent some STAs from overusing available bandwidth due to network adapter performance or special applications, such as BT Total Broadband. 5-G prior: STAs preferentially access the 5 GHz radio to increase the overall air port resource usage efficiency.
Visualized WLAN network management and maintenance	<p>The AC6005 and APs use Fit AP + AC networking and standard Link Layer Discovery Protocol (LLDP) for centralized AP management and maintenance. When paired with Huawei eSight, the AC6005 offers unified graphics-based management, operation, and maintenance for wired and wireless networks.</p>

Performance Indicators

Item	Specifications
Technical specifications	<p>Dimensions (W x D x H): 320 mm x 233.6 mm x 43.6 mm Maximum weight (standard configuration): 2.9 kg Operating temperature: -5°C to 50°C Storage temperature: -40°C to 70°C Humidity: 5% RH to 95% RH (non-condensing) AC input voltage: 100 V AC to 240 V AC, 50/60 Hz (Rated voltage) 90 V AC to 264 V AC, 47 Hz to 63 Hz (Maximum voltage) Maximum power consumption: 163.6 W (device power consumption: 39.6 W, PoE: 124 W)</p>
Port type	<p>Eight electrical GE ports, among which the last two are used with two optical ports as combo ports One RJ-45 serial port One mini-USB serial port</p>
Maximum number of managed APs	128

Feature	Description
Number of APs controlled by each license	1 or 8
Number of supported access users	Entire device: 2K
Number of Extended Service Set Identifiers (ESSIDs)	1K
User group management	The AC supports 128 user groups: <ul style="list-style-type: none"> • Each user group can reference a maximum of eight ACLs. • Each user group can associate with a maximum of 128 ACL rules.
Number of MAC addresses	4K
Number of VLANs	4K
Number of ARP entries	4K
Number of routing entries	4K
Number of multicast forwarding entries	4K
Number of DHCP IP address pools	128 IP address pools, each of which contains a maximum of 16K IP addresses

Product Specifications

Item	Descriptions
Network management and maintenance	<p>Device management and statistics</p> <ul style="list-style-type: none"> • Command line management based on SSH/Telnet/Console • SNMPv2/v3 • Web-based management • Standard Management Information Bases (MIBs) and Huawei proprietary MIBs • Syslog • AP and station statistics • Alarms with different severities <p>Centralized AP configuration and management</p> <ul style="list-style-type: none"> • Region-based AP management • Centralized version management and automatic file load • Default AP types and self-defined AP types <p>Visualized AP deployment and topology displays</p> <ul style="list-style-type: none"> • AP LLDP • AC LLDP

Feature	Description
Wireless protocols	IEEE 802.11a, 802.11b, 802.11g, 802.11d, WMM/802.11e, 802.11h, 802.11n, and 802.11ac
WLAN deployment	<p>AP-AC networking</p> <ul style="list-style-type: none"> • AP-AC Layer 2/3 networking • AC Layer 2 forwarding or Layer 3 routing • NAT traversal (APs are deployed on a private network and ACs are deployed on a public network) <p>Data forwarding</p> <ul style="list-style-type: none"> • AP-AC CAPWAP tunnel and DTLS encryption • VAP-based forwarding (centralized forwarding and local forwarding) • Centralized authentication and local forwarding <p>VLAN deployment</p> <ul style="list-style-type: none"> • Mapping between SSIDs and VLANs and VLAN assignment based on SSIDs or physical locations • WDS deployment • Point-to-point and point-to-multipoint • Automatic topology detection and loop prevention: Spanning Tree Protocol (STP) <p>AC active/standby mode</p> <ul style="list-style-type: none"> • Dual-link or Virtual Router Redundancy Protocol (VRRP) backup • N+1 backup • 1+1 hot backup
Radio management	<p>Channel and power configuration</p> <ul style="list-style-type: none"> • Centralized or static channel and power configuration • Automatic channel allocation to implement global or partial radio calibration • Automatic power adjustment to compensate for coverage holes • AP region-based configuration and management <p>Load balancing</p> <ul style="list-style-type: none"> • Load balancing based on traffic volume • Load balancing based on the number of users
Wireless service control	<p>Extended Service Set (ESS)-based service management</p> <ul style="list-style-type: none"> • ESS-based SSID hiding and AP isolation at Layer 2 • Maximum number of access users and associated aging time settings in an ESS • ESS-to-service VLAN mappings • ESS associations with a security profile or a QoS profile • Optional Internet Group Management Protocol (IGMP) for APs in an ESS <p>Wireless roaming</p> <ul style="list-style-type: none"> • Layer 2 roaming • Inter-VLAN Layer 3 roaming • Pairwise Master Key Caching (PMK) caching, fast key negotiation • Inter-AC roaming <p>DHCP service control</p> <ul style="list-style-type: none"> • Built-in DHCP server • DHCP snooping on APs • DHCP relay and DHCP snooping on the AC <p>Multicast service management</p> <ul style="list-style-type: none"> • IGMP snooping • IGMP proxy

Feature	Description
Wireless user management	WLAN user management <ul style="list-style-type: none"> • User blacklist and whitelist • User access number limit • Forced user logout • Multiple queries, including online user information and statistics User group management <ul style="list-style-type: none"> • ACLs based on user groups • Isolation based on user groups (user isolation in a group or between groups)
Wireless security and authentication	Authentication and encryption <ul style="list-style-type: none"> • OPEN/WEP/PSK/WPA (2) + 802.1x • WEP/TKIP/AES (CCMP) • WAPI User authentication and control <ul style="list-style-type: none"> • MAC address authentication, Portal authentication, and 802.1x authentication • Built-in Portal authentication and authentication page customization • MAC + Portal authentication • PEAP/TLS/MD5/CHAP/PAP/TTLS Security and defense <ul style="list-style-type: none"> • ACLs based on ports, users, and user groups • Isolation based on VAPs and user groups • IPSec • IP source guard for STAs • Rogue AP detection and alarm function • User blacklist and whitelist AAA <ul style="list-style-type: none"> • Local authentication/local accounts (MAC addresses and accounts) • RADIUS authentication • Multiple authentication servers
Wireless QoS control	Flow control: <ul style="list-style-type: none"> • VAP-based rate limiting • User-group-based rate limiting • Rate limiting for a specified user • Dynamic traffic control, preventing resources from being wasted by STAs Priority mapping and scheduling <ul style="list-style-type: none"> • WMM, 802.1p, and DSCP • WMM and QoS mapping for user packets and tunnel packets • QoS priority settings and mapping for CAPWAP tunnel packets
Ethernet features	802.1p, QinQ, Smart Link, and LLDP Storm suppression, port isolation, and link aggregation
Ethernet loop protection	STP/Rapid Spanning Tree Protocol (RSTP)/Multiple Spanning Tree Protocol (MSTP) Bridge Protocol Data Unit (BPDU) protection, root protection, and loop protection Partitioned STP and BPDU tunnels Rapid Ring Protection Protocol (RRPP) Hybrid networking of RRPP rings and other ring networks

Feature	Description
IP routing	IPv4 dynamic routing protocols: RIP, OSPF, BGP, and IS-IS IPv6 dynamic routing protocols: RIPng, OSPFv3, BGP4+, and IS-IS IPv6
Device reliability	VRRP
QoS features	Traffic classifier, traffic behavior, queue scheduling, congestion avoidance, and outbound interface rate limiting
Link detection	BFD EFM OAM, CFM OAM, and Y.1731
IP service control	ARP Built-in DHCP server RADIUS client Built-in FTP server DHCP relay and DHCP snooping

Purchase and Accessory Information

	Part Number	Product Name	Description
Bundle	02356813	AC6005-8-PWR-8AP	AC6005-8-PWR-8AP Bundle(Including AC6005-8-PWR,Resource License 8AP,AC 110/220V)
Bundle	02356816	AC6005-8-8AP	AC6005-8-8AP Bundle(Including AC6005-8,Resource License 8AP,AC 110/220V)
License	88031VEB	L_AC6005_1AP	AC6005 Access Controller AP Resource License(1 AP)
License	88031VEA	L_AC6005_8AP	AC6005 Access Controller AP Resource License(8 AP)
Power supply	Please refer to the ordering guide for more information.		
Power cable			
Optical module			
Optical connector			
Network cable			
Ground bar			

Professional Service and Support

Huawei WLAN planning tools deliver expert network design and optimization services using the most professional simulation platform in the industry. Backed by fifteen years of continuous investment in wireless technologies, extensive network planning and optimization experience, as well as rich expert resources, Huawei helps customers:

- Design, deploy, and operate a high-performance network that is reliable and secure.
- Maximize return on investment and reduce operating expenses.

More Information

For more information, please visit <http://e.huawei.com> or contact your local Huawei office.



Enterprise Services



Product Overview





Marketing Documentation

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