AC-7072 WIRELESS LAN CONTROLLER DATASHEET

Wireless LAN Controller with 128 AP License

Overview

The AC-7072 high-performance wireless controller is a wireless controller product launched by FS networks for the next-generation high-speed wireless network. It can be deployed in any layer 2 or layer 3 network structure without changing any network architecture and hardware devices, thus providing seamless and secure wireless network control. AC-7072 can support the management of a maximum of 1152 wireless access points.

The controller can implement powerful centralized and visualized management and control of wireless networks, which significantly simplifies the implementation of difficult and complex wireless networks. By cooperating with FS Networks wired and wireless unified centralized management platform and wireless access points, it can flexibly control the configuration of wireless access points, optimize the radio frequency coverage and performance, and also realize cluster management. The device deployment workload is reduced.

Benefits

- Support 128 wireless APs
- Manage up to 32K Clients
- Layer 2 or Layer 3 Network
- Automatic RF/SSID Switching
- 802.1x Authentication
- WEB Management
- Seamless Roaming Throughout the Network

Key Features

Highly Intelligent Wireless Experience

- **Terminal Intelligent Identification**

The AC-7072 has a built-in Portal server, which can intelligently identify the terminal type according to the characteristics of the terminal, and automatically pop up Portal authentication pages of different sizes and page layouts. The terminal intelligent identification technology eliminates the need for users to drag and adjust the screen many times, providing users with a more intelligent wireless experience, and fully supports mainstream intelligent terminal operating systems such as Apple iOS, Android and Windows.

- **Terminal Fair Access**

The AC-7072 cooperates with FS wireless access points to provide the same access time for different types of terminals such as 802.11g, 802.11n, 802.11ac, 802.11ax, etc., which solves the problem of users' problems caused by the old wireless network card of the terminal or the terminal being far away from the AP. The problems of large wireless Internet access delay, slow speed, and low performance of the AP have effectively improved the performance of low-speed terminals, ensuring that users will get the same good wireless Internet experience at the same location no matter what type of terminal they use.

- **Intelligent Load Balancing**

In the case of high-density wireless users, the controller intelligently adjusts and allocates access services to different APs according to the number of users and data traffic on each associated AP in real time, balances the access load pressure, and improves the average user average. Bandwidth and QoS, improve the high availability of the connection. FS Wireless can not only realize intelligent load balancing based on users and traffic, but also realize load balancing based on frequency bands. Most Wi-Fi devices use the 2.4GHz band by default, while the 5GHz band (802.11a/n/ac/ax) can achieve greater throughput performance. Band-based load balancing enables dual-band user terminals to preferentially access the 5GHz band, which can increase bandwidth utilization by about 30-40% without increasing costs, ensuring high-speed wireless Internet access experience for users.

Highly Intelligent Wireless Experience

- **Centralized/Distributed Integrated Intelligent Switching**

The AC-7072 can be deployed in Layer 2 or Layer 3 networks without changing the original network architecture. It forms an overall switching architecture with wireless APs to facilitate control and processing of data exchange on all APs.

The intelligent local forwarding technology breaks through the traffic bottleneck restriction of the wireless controller. The AC-7072 can flexibly configure the data forwarding mode of the AP through the local forwarding technology. That is, according to the SSID of the network and the planning of the user VLAN, it is determined whether all data needs to be forwarded through the AC-7072, or directly into the wired network for local exchange. The local forwarding technology forwards the data that is delay-sensitive and requires high real-time transmission through the wired network. Under the large traffic throughput of 802.11ac and 802.11ax, the traffic pressure of the AC-7072 can be greatly relieved, and it can better adapt to the future wireless network. Requirements for traffic transmission, such as HD video on demand, VoWLAN transmission, etc.

- **Reliable Power Solutions**

It supports 1+1 power supply redundancy backup. During normal operation, the two power supplies can be divided. When one of the power supplies fails, the other power supply can ensure the normal operation of the equipment. Supports hot-swappable power supply and AC power supply.

- **Intelligent RF Management**

The controller can control APs to perform on-demand RF scans on wireless networks, scan wireless frequency bands and channels, identify illegal APs and illegal wireless networks, and alert administrators to provide 24/7 protection for high-security environments. At the same time, the controller can control the RF scanning function of APs in real time, measure signal strength and interference, and dynamically adjust traffic load, power, RF coverage area and channel allocation according to software tools to maximize coverage and capacity.

- **Seamless Roaming in The Whole Network**

AC-7072 supports advanced wireless controller cluster technology, and can synchronize online connection information and roaming records of all users among multiple controllers in real time. When a wireless user is roaming, through the sharing of user information and authorization information in the cluster, the user can traverse the entire wireless network, maintain good mobility and security, and keep the IP address and authentication status unchanged, so as to achieve fast roaming and voice support.

- **Rich Quality of Service Assurance (QoS)**

The controller supports rich quality of service guarantee (QoS), such as supporting multiple modes of bandwidth limitation, which can provide priority bandwidth guarantee for important and critical data transmission applications.

- **Provide Wireless IPv6 Access**

The controller fully supports IPv6 features and realizes IPv6 forwarding of wireless networks, allowing both IPv4 users and IPv6 users to automatically tunnel connections with AC series controllers, allowing IPv6 applications to be carried in wireless networks.

Advanced AC Virtualization Technology

The controller supports advanced AC virtualization technology, virtualizes multiple ACs (up to 4) into one logical AC, effectively utilizes existing network equipment, does not require additional hardware equipment, and achieves high reliability and capacity performance expansion:

Simplified topology: All member ACs in a virtual AC use the same IP address. No matter whether to establish a connection with an AP or connect with an authentication server, there is no need to assign an IP address to each member AC.

Simplified configuration: multiple ACs, one management, configuration on the main AC can be automatically synchronized to all ACs.

High reliability: support N:M hot backup, any AC downtime will not affect the business of the whole machine.

Smooth capacity and performance expansion: AP and user capacity can be expanded by adding physical ACs.

License sharing: The license installed on any AC in the logical AC can be shared by other ACs.

Advanced Application Identification and Policy Control Technology

The controller supports application traffic identification and application-level QoS mapping technology for wireless users. Under centralized forwarding, by performing deep packet inspection (DPI) on the characteristics of packets, it can support more than 2,500 applications, and can identify, count, and control QoS mapping for applications, so as to understand the application usage in the network, and can detect Application traffic for quality of service assurance control.

Flexible and Complete Security Policy

- **Local Authentication**

The wireless controller has a built-in local user database, which can be combined with the built-in Portal server to easily implement local authentication of wireless users through Web authentication. Local authentication is based on the actual needs of users, eliminating the need for external Protal servers and Radius servers, which not only simplifies the entire network architecture, but also greatly reduces network construction costs and satisfies the needs of users in the construction of small and medium-sized wireless networks. incoming demand.

- **User Data Encryption Security**

It supports a complete data security guarantee mechanism, and can support WEP, TKIP and AES encryption technology to ensure the security of data transmission in wireless networks.

- **Standard Communication Protocol**

The encrypted communication between the controller and the AP adopts the international standard protocol CAPWAP, which not only realizes the isolation from the wired network, but also ensures the confidentiality of the real-time communication between the controller and the AP. At the same time, the use of the standard CAPWAP protocol can support the control of the third-party manufacturer's AP in the future, which is convenient for user network expansion and effectively protects user investment.

- **Support Virtual Wireless Packet Technology**

Through the virtual wireless access point (Virtual AP) technology, the controller product can divide multiple SSIDs in the whole network. The network administrator can separately encrypt and isolate the subnets or VLANs that use the same SSID, and can configure the configuration for each SSID. Separate authentication methods, encryption mechanisms, etc.

- **RF Safety**

The wireless access point product can be flexibly configured to enable the RF probe scanning mechanism to detect illegal access points or other RF interference sources in real time, and provide corresponding alarms to the network management system in real time, so that network management personnel can monitor potential potential in each wireless environment at any time. Threats and usage.

- **Virus and Attack Prevention**

Through a variety of inherent security mechanisms, it can effectively prevent and control virus propagation and network traffic attacks, control the use of the network by illegal users, and ensure the rational use of the network by legitimate users, such as IP/MAC/WLAN multi-element binding, hardware ACL control, data flow-based It can meet the needs of campuses, hospitals, enterprises, etc. to strengthen the control of visitors and limit the communication of unauthorized users.

- **User Security Access**

Web authentication mode is supported, and users can complete the authentication process using a browser.

It supports the authentication mode (802.1x) of the client. While realizing network security, the client can penetrate into the user's host to achieve host security. Unlike Web authentication, 802.1x is suitable for areas where network security is strictly controlled; in addition, after authentication Binding information of elements such as IP, MAC, and WLAN can still be implemented to ensure that only legitimate users can enter the network.

- **ARP Spoofing Protection**

The ARP detection function effectively curbs the phenomenon of ARP gateway spoofing and ARP host spoofing that are increasingly flooding in the network, and ensures the normal Internet access of users. No matter in the dynamic IP allocation environment or the static IP allocation environment, the automatic binding work can be realized, which greatly saves the labor cost and reduces the management overhead. In conjunction with ARP rate monitoring, the rate at which ARP packets are sent can be controlled to prevent malicious use of scanning tools for ARP flooding to occupy network bandwidth and cause network congestion.

- **AP Countermeasure**

The AP countermeasure function can effectively detect the illegal APs in the wireless network environment, control the wireless APs to send detection packets to the surrounding APs and wait for the legitimate APs to respond to the detection packets, so as to detect the illegal APs that do not send the response packets. , so as to effectively detect the illegal AP connected to the wireless network and ensure the security of the entire wireless network environment.

- **DHCP Security**

Support DHCP Snooping, only allow DHCP responses from trusted ports, prevent unauthorized setting up of DHCP Server without administrator permission, disrupt IP address allocation and management, and affect users' normal Internet behavior; and on the basis of DHCP monitoring, through dynamic monitoring ARP and check source IP, effectively prevent ARP host spoofing and source IP address spoofing under DHCP dynamic IP allocation environment.

- **Manage Information Security**

SSH (Secure Shell) and SNMPv3 technologies encrypt management information in Telnet and SNMP processes to ensure the security of management device information and prevent hackers from attacking and controlling devices. Telnet access control based on source IP address control provides more precise device management control, ensuring that only the IP address configured by the administrator can log in to the wireless controller, enhancing the security of the device network management.

Rich and Comprehensive Management Strategy

- **Various Management Methods and Unified Management Platform**

The controller product supports various management methods such as command line. It can also implement centralized, effective and low-cost planning, deployment, monitoring and management of APs in the entire network.

- **Hierarchical AC Management**

The controller product supports the hierarchical AC management function. The hierarchical AC management can manage hundreds of branch ACs uniformly through the central AC, which greatly reduces the complexity of the management of the headquarters and multi-branch wireless equipment under the general-branch structure. Hierarchical AC management has the following features:

Unified management: The central AC can implement unified software upgrades for AC devices and AP devices of branch ACs, and can monitor the running status of each branch AP and AP in a unified manner.

High reliability: When the branch AC goes down, the branch AP can be taken over by the central AC to realize fast switching of wireless networks and improve the reliability of the branch wireless network.

License sharing: Branch ACs can share the license installed by the central AC on demand, so that the license can be installed at one time and used on the entire network.

- **Web Interface Management**

The controller provides the web management interface of the AC, which not only makes it easy to get wireless configuration, but also can operate the wireless network as a whole. Through the web interface of the AC, it can not only manage the AP, but also manage the users connected to the AP, and can limit the speed and connection of users. Network access and other behaviors are convenient for operation and maintenance personnel to plan and operate wireless.

Technical Specification

Wireless LAN Controller comes with advanced hardware architecturedesign. Here's a look at the details.

CHARACTERISTICS

	AC-7072
Ports	
Service Port	8x 1G Combo, 4x 10 G SFP+
Management Port	1x 10/100/1000BASE-T RJ45
Console Port	1
USB Ports	2
Power	
Input Voltage	100VAC~240VAC, 50Hz~60Hz
Power Supply	2
Indicator light	System Status light, Power Indicator
Power Consumption	<70W
Physical and Environmental	
Operating Temperature	-5°C to 50°C
Operating Humidity	10% to 90% RH (non-condensing)
Storage Temperature	40°C～70°C
Storage Humidity	5%~95% (non-condensing)
Dimensions (HxWxD)	1.71"x17.32"x13.38" (43.6x440x340mm)
Altitude	0-3000m
Warranty	
Warranty	3 Years

FEATURES

Functionality	Description
Performance	• Maximum manageable APs: 1152 • Maximum configurable APs: 4096 • Maximum number of clients: 32K • Forwarding performance: the maximum performance is 40Gbps • VLAN: 4K • The maximum clients supported by the built-in portal: 7500 • ACL: 128K • MAC address table : 128K • ARP table: 80K • Intra-AC roaming switch time: less than 50ms
WLAN	**802.11 LAN protocol** • 802.11, 802.11b, 802.11a, 802.11g, 802.11d, 802.11h, 802.11w, 802.11k, 802.11v, 802.11r, 802.11i, 802.11e, 802.11n, 802.11ac, 802.11ax **CAPWAP protocols** • Layer 2/Layer 3 network topology between an AP and AC • Enable an AP to automatically discover an accessible AC • Enable an AP to automatically upgrade software version from an AC • Enable an AP to automatically download configurations from an AC • CAPWAP can penetrate NAT **Roaming** • Supports L2/L3 roaming within the AC • Support inter-AC L2/L3 roaming • Supports L2/L3 roaming within the AC under local forwarding • Supports L2/L3 roaming between ACs under local forwarding **Forward** • Centralized forwarding • Local forwarding • Service-based flexible forwarding **Wireless QoS** • AP-based bandwidth rate limiting • WLAN-based bandwidth rate limiting • User-based static speed limit and intelligent speed limit • Supports fair scheduling **User isolation** • User isolation based on global AC • AP-based user isolation • WLAN-based user isolation **Reliability** • AC virtualization technology • Fast switching between dual AC • Multi-AC hot standby (1:1 A/A and A/S Hot Standby, N:1) • Multi-AC cluster (N:N) • Edge IntelliSense Technology (RIPT) • Continuous business upgrade

FEATURES

Functionality	Description
WLAN	**User management** • Access control based on the number of AP users • Access control based on number of SSID users • Load balancing access control based on the number of AP users • AP traffic-based load balancing access control • Support priority access for 5G users • User access RSSI threshold **Configuring the STA RSSI threshold: 0～100** • Configure the STA idle timeout period: 60-86400(accuracy: seconds) • Configuring the STA average rate threshold: 8～261120(accuracy: 8K bps) • Adjust the transmit power of beacon and probe responses: support **RF management** • Support country code setting • Support manual setting of transmit power • Support automatic setting of transmit power • Support manual setting of working channel • Support automatic setting of working channel • Support automatic adjustment of transfer rate • Support for black hole compensation • Supports AP load balancing based on traffic and number of users • Support band select • Supports radio frequency interference detection and avoidance
Security Features	**IPv4 security authentication** • Web authentication • 802.1x • Sensorless authentication **IPv6 security authentication** • 802.1x authentication • Web authentication **802.11 security and encryption** • Multiple SSIDs • Hidden SSID • 802.11i standard PSK authentication • WPA, WPA2 standard • WEP(WEP/WEP128) • TKIP • CCMP • Anti-ARP spoofing Support CPP Support NFPP Support WIDS Support AP virtualization technology

FEATURES

Functionality	Description
IP Routing	**IPv4 protocol** • Ping, Traceroute • DHCP server • DHCP client • DHCP relay • DHCP snooping • DNS client • NTP • Telnet • TFTP server • TFTP client • FTP server • FTP client **IPv6 protocol** • DNSv6 client • DHCPv6 relay • DHCPv6 server • TFTPv6 client • FTPv6 server • FTPv6 client • IPv6 CAPWAP • ICMPv6 • IPv6 Ping • Manual tunnel, automatic tunnel, ISATAP • Manual address configuration, automatic creation of local addresses • IPv6 trace route • Neighbor discover IPv4 Routing: static routing, RIP, OSPF IPv6 Routing: static routing, RIPng, OSPFv3
Management	**Network management** • SNMP V1/V2C/V3 • RMON • SYSLOG • Remote probe **Network management platform** • Web management • Thermal map **User access management** • Console port • Telnet • SSH • FTP

Accessories

Power Cord x1

Grounding Cable x1

Rubber Pad x4

Mounting Bracket x2

M4 Screw x8

Console Cable x1

Ordering Information

ID	Description
149659	Wireless LAN Controller with 128 AP License by default, scale to support up to 1152 APs
149655	1167Mbps 2x2 MU-MIMO Dual Radios Wireless Access Point
115392	1775Mbps 2x2 MU-MIMO Dual Radios Gigabit Access Point
108705	2400Mbps 2x2 MU-MIMO Dual Radios Gigabit Access Point
149657	2400Mbps 2x2 MU-MIMO Dual Radios Gigabit Outdoor Access Point
149658	2400Mbps 2x2 MU-MIMO Dual Radios Gigabit Outdoor Access Point
149656	3000Mbps 2x2 MU-MIMO Dual Radios Gigabit Access Point
115391	3267Mbps 2x2 MU-MIMO Three Radios Gigabit Access Point
115390	4134Mbps 2x2 MU-MIMO Four Radios Gigabit Access Point
108707	6817Mbps 4x4 MU-MIMO Three Radios Gigabit Access Point
115389	10Gbps 4x4 MU-MIMO Three Radios Gigabit Access Point

NOTE:

AC-7072 can manage all APs on the website, except three WIFI-5 APs: FS-AP1167C, FS-AP733C, FS-AP3000C.

https://www.fs.com

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