Enterprise Class Wireless Access Point Controller
Model: WAC4500

Product Overview

The AgniGate WAC 4500 is a high-performance, medium-to-large enterprise-grade wireless access controller engineered to manage and optimize wireless networks based on the CAPWAP protocol. This versatile gateway features robust connectivity with 6 x 2.5Gbps Ethernet ports and 4 x 10G optical ports, offering flexible WAN/LAN interchangeability and comprehensive multi-WAN capabilities. The WAC 4500 delivers advanced functionalities including intelligent flow control, internet behaviour management, robust network security, VPN configuration, and centralized remote access point (AP) management. Capable of supporting up to 3000 concurrent terminal users, the AgniGate WAC 4500 ensures high-speed network access and provides formidable defence against network disruptions, guaranteeing seamless network operation.

The AgniGate WAC 4500 can function as a primary network router or as a bypass Access Controller, efficiently managing and configuring up to 3000 Access Points. Its remote management capabilities enable administrators to monitor, manage, and configure the controller from any location, significantly reducing operational overhead. With its high performance, simplified deployment, and ease of maintenance, the AgniGate WAC 4500 offers a cost-effective solution for enterprise network infrastructure. Furthermore, it can serve as an authentication gateway, integrating with cloud platforms to facilitate various user authentication methods, including SMS authentication. The AgniGate WAC 4500 is ideally suited for deployment in medium-sized to large enterprises environments.

Key Features

Multi-WAN and Intelligent Load Balancing

- Supports diverse WAN access methods including PPPoE, DHCP, Static IP, and PPTP.
- Facilitates connectivity to multiple internet service providers.
- Offers multi-WAN functionality with intelligent load balancing across multiple WAN ports for enhanced bandwidth utilization and network resilience.

- Provides line backup and network overlay capabilities for uninterrupted connectivity.
- Supports policy-based routing based on IP address, MAC address, network interface, domain name, and custom rules for granular traffic management.

Cloud Platform Integration and Authentication Gateway

- Supports seamless integration with cloud platforms in both gateway and Access Controller modes.
- Functions as an authentication gateway, offering multiple authentication methods such as user-based and SMS authentication, enhancing network security and enabling value-added services.

Advanced Access Point (AP) Management

- **Zero-Configuration and Grouping:** Simplifies AP deployment with zero-touch provisioning through pre-defined configuration groups, allowing APs to automatically inherit settings upon connection. Supports the creation of multiple groups for streamlined configuration management across the network.
- **Intelligent Channel Analyzer:** Features a built-in intelligent channel Analyser that assists connected APs in detecting and analysing surrounding wireless network interference, enabling automatic selection of optimal, less congested channels for stable wireless coverage.
- **Automatic IP Address Assignment:** Integrates a DHCP server to automatically assign IP addresses to managed APs, preventing IP conflicts and reducing manual configuration efforts.

Intelligent Flow Control and Traffic Management

- **One-Click Intelligent Flow Control:** Offers a simplified, one-touch activation of intelligent flow control mechanisms. Utilizes traffic size and feature recognition, along with fairness algorithms, to optimize network performance and minimize latency.
- **Powerful Multi-Line Splitting:** Supports the aggregation and distribution of traffic across up to 180 external network lines on a single device.
- **Traffic Diversion:** Offers both IP-based and session-based traffic diversion for efficient bandwidth utilization without service interruption.
- **Granular Diversion Rules:** Enables the creation of sophisticated traffic diversion rules based on IP address, time, port, routing table, application, and configurable weights to meet diverse network requirements.
- **Automatic Application Prioritization:** Intelligent prioritization of network traffic, ensuring optimal performance for latency-sensitive applications such as online gaming and web browsing, even under heavy P2P download activity.
- **Policy-Based Bandwidth Control:** Allows precise limitation of maximum bandwidth for specific users based on IP address, authenticated user credentials, user level, organizational unit, and time-based policies.

- **Connection Number Control:** Enables precise limitation of the maximum number of TCP and UDP connections for individual users based on IP address, authenticated user credentials, user level, organizational unit, and time-based policies.

Robust Firewall and User Management

- **Layer-7 Firewall:** Integrated 7-layer firewall module enables the configuration of comprehensive access control policies based on source/destination address, user, user level, organizational unit, time, destination port, and application.
- **Application and Port Control:** Granular policy enforcement on specified applications, ports, and external network interfaces.
- **Security Features:** Includes port mapping, source address translation (NAT), and internal Denial-of-Service (DDoS) protection.
- **IP-MAC Binding:** Prevents internal ARP spoofing attacks through IP-MAC address binding.

Additional Features

- Real-time network speed monitoring for comprehensive network visibility.
- Supports VPN (Virtual Private Network) for secure remote access and site-to-site connectivity.
- Supports Static IP address configuration.
- Supports DDNS (Dynamic Domain Name System) for simplified remote access.

Core Characteristics of the Target Customer:

- **Medium to Large Organizations:** The WAC 4500 is designed to support up to 3000 terminal users and manage a large number of Access Points (up to 3000 APs). This scale makes it suitable for organizations with a significant number of employees, devices, and physical locations.
- **Multiple Locations or Large Single Sites:** The remote management capabilities make it ideal for businesses with branch offices, multiple buildings on a campus, or large single sites like corporate headquarters.
- **High Demand for Reliable and High-Speed Wireless:** Organizations that rely heavily on wireless connectivity for their daily operations, business-critical applications, and communication will benefit from the high-speed network and network storm defence features.
- **Need for Centralized Wireless Management:** Companies seeking simplified management and configuration of their wireless infrastructure will value the centralized control offered by the WAC 4500.
- **Emphasis on Network Security:** The integrated firewall, user management features, and IP-MAC binding are crucial for organizations that prioritize network security and need to protect against internal and external threats.

- **Requirement for Guest Network and Authentication:** Businesses that provide guest Wi-Fi access and need features like user authentication and SMS authentication through cloud platform integration will find the WAC 4500 suitable.
- **Need for Traffic Management and Optimization:** Organizations looking to optimize their network bandwidth, prioritize critical applications, and manage user internet behaviour will benefit from the intelligent flow control features.
- **Multi-WAN Requirements:** Businesses that utilize multiple internet service providers for redundancy, load balancing, or specific application routing will find the multi-WAN capabilities valuable.

Specific Industry Verticals:

Based on the features and typical deployments of enterprise wireless controllers, the following industry verticals are strong potential targets for the WAC 4500:

- **Small to Medium-sized Enterprises (SMEs):** As explicitly mentioned in the product features, these businesses often require a balance of performance, features, and cost-effectiveness for their growing network needs.
- **Hotels and Hospitality:** Providing reliable and secure guest Wi-Fi with authentication options is critical in this sector. The WAC 4500's cloud platform access and authentication features are highly relevant.
- **Education (Schools, Colleges, Universities):** These institutions typically have a high density of users and devices, requiring robust wireless management, security, and traffic control.
- **Retail (shopping malls, Large Stores):** Offering guest Wi-Fi, supporting internal business operations (like point-of-sale systems), and potentially leveraging location-based services require a reliable and manageable wireless infrastructure.
- **Internet Cafes:** While the product description mentions internet cafes, the "enterprise-level gateway" nature and high user capacity suggest it's targeted towards larger internet cafe chains or those offering more business-oriented services.
- **Urban Villages/Residential Complexes:** Managing wireless access for a large number of residents with features like authentication and potentially tiered access can be a use case.
- **Corporate Offices:** Medium to large businesses needing secure, reliable, and centrally managed wireless for their employees and guest access.

In summary, the enterprise target customer for the WAC 4500 is a medium-to-large organization across various industries that requires a high-capacity, feature-rich, centrally managed, and secure wireless network solution with advanced traffic management and multi-WAN capabilities.

AgniGate WAC4500 Software Features

AP Management	Number of Access Points managed: 3,000
	Centralized and remote management, configuration of wireless Access Points
	View user status
Smart flow control	One-click intelligent flow control
	Powerful multi-line splitting
	Automatically apply priority
Load Balancing	Multiple WANs, multiple carriers' access
	Intelligent load balancing
	Line backup
	Network speed superposition
	Policy routing: based on source IP address, destination IP address, source MAC address, network interface, domain name, destination port, external network interface, identity binding and other policies
	Protocol Binding
	online test
Routing	Static Routing
Content Filter	Completely block P2P software
	P2P flow control and bandwidth allocation
	File transfer and URL filtering
	Comprehensive control of online behaviour
Bandwidth Control	IP-based bandwidth control
	Guaranteed/limited bandwidth
	Time strategy
	IP-based session restriction
Firewall Features	MAC address filtering
	URL/Keyword filtering
	Web Content Filtering
	IP Address Filtering
	Port forwarding
	DMZ
	TCP/UDP/ICMP flood defense;
	Block TCP Scans
	Block PING WAN port
ARP detection	Sending GARP Packets
	ARP scan of WAN/LAN ports
	IP-MAC binding
Authentication	Local authentication (SMS authentication, user authentication)
	Remote authentication (SMS authentication, user authentication)
Management	Web/CLI/Telnet management portal
	Remote authentication (SMS authentication, user authentication)
other	DDNS, VPN management

AgniGate WAC4500 Hardware Specifications

Product Type	2U Rack Mount Appliance
Processor	Intel Multi Core
System Memory	
Memory type	3200MHz
Memory Capacity	16 GB
Storage	
Interface	1 SATA , 1× M.2 SSD
Hard disk	1 x 3.5" hard drive, capacity 1TB
Front panel interface	
Serial Port	1x RJ45 Console Serial Port
USB	2 x standard USB3.0 ports
Network Interface	6 x 2.5G / 1000M adaptive RJ45 interface
Network Chip	Intel 225V network controller
Network indicator light	The RJ-45 interface Tab notch is on the top, with built-in network indicator light
	Link/Act LED on the left: lights up green when connected, flashes green when communicating
	Speed LED on the right: Lights up orange at 2.5G, lights up green at 1000M , and is off at 100M
Indicator Lights	First layer: 1 x hard disk indicator, orange, flashing when data is being read or written
	Second layer: 1 x power indicator, green, the power-on LED is always on
SFP optical interface	Expanded 4 x 10G SFP + ports
Optical port controller	Intel® XL710 10G Ethernet Chipset
Optical port indicator light	Green LED light: The green light is on when connected, and the green light flashes when communicating on the network
Rear panel connector	
Display Interface	1 x DB-15 VGA display port
POWER	1 x Power button
Power interface	1*AC power interface, with a pin
Chassis	
Dimensions (L x W x H)	500mm x 440mm x 88mm
Chassis fixing buckle	2U rack fixing ears
Heat dissipation	1 x System Fan
Power supply	
Power supply type	Built-in ATX/1U power supply
Power	250 W
power input	100 ~ 260 VAC full range AC voltage input
Operating environment	
Operating temperature	0℃ ~ 50℃
storage temperature	- 20℃～70℃
Working humidity	5% ~ 85 % RH non-condensing @ 40℃
Storage humidity	5～95% RH, non-condensing