Wireless AP Managed Switch with 8-Port 802.3at PoE + 2-Port 10G SFP+

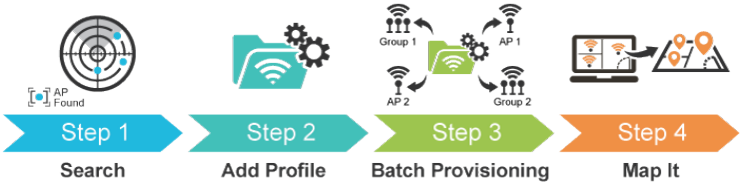
Wireless Management Solution with PoE

PLANET WS-1032P, an enhanced Wireless AP Managed Switch, features **Smart AP control, Layer 3 OSPF/static routing and Intelligent PoE capability** to enable service providers and IT managers to control all wireless APs at the same time in small- and medium-scale wireless network environments, such as hotels, villas, resorts and any public area. The WS-1032P provides IPv6/IPv4 dual stack management and built-in L2/L4 Gigabit Switching engine along with 8 10/100/1000BASE-T ports featuring up to **36-watt 802.3at PoE+**, and 2 extra **1/2.5/10 Gigabit BASE-X SFP+ fiber slots** which definitely offer enterprises a quick, safe and cost-effective AP Control with Power over Ethernet network solution.

Four Steps to Manage AP Cluster within Minutes

The WS-1032P offers a user-friendly Web GUI for easy configuration. It features centralized management of PLANET Smart AP series without needing to manually configure each AP for the wireless SSID, radio band and security settings. With a four-step configuration process, different purposes of wireless profile scan be simultaneously delivered to multiple APs or AP groups to minimize deployment time, effort and cost.

Simplified Cluster Management with 4 Steps



Physical Port

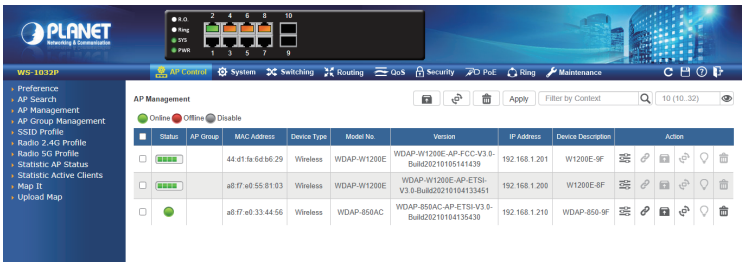
- **8-port 10/100/1000BASE-T** with 36W PoE injector
- **2-port 1/2.5/10GBASE-X** SFP+
- RS232 RJ45 console interface for switch basic management and setup

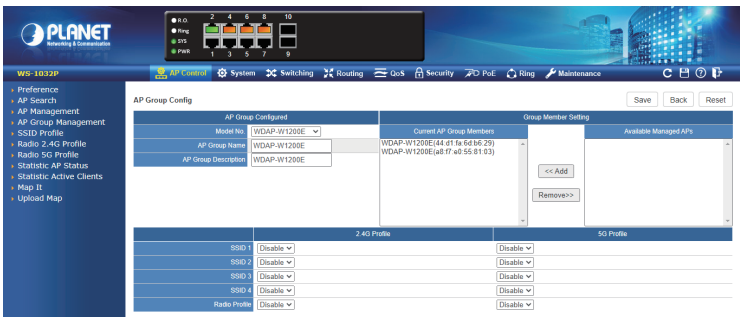
Wireless LAN AP Management

- Dashboard: provides at-a-glance view of system and wireless network status
- AP Discovery: one key to discover the managed APs on the managed LAN
- Customized Profile: allows multiple wireless profiles creation and maintenance
- Auto Provision: multi-AP provisioning with one click
- Cluster Management: simplifies high-density AP management
- Zone Plan: optimizes AP deployment with actual signal coverage
- Analysis: real-time AP status monitoring
- Scalability: free system upgrade and AP firmware bulk upgrade capability

Power over Ethernet

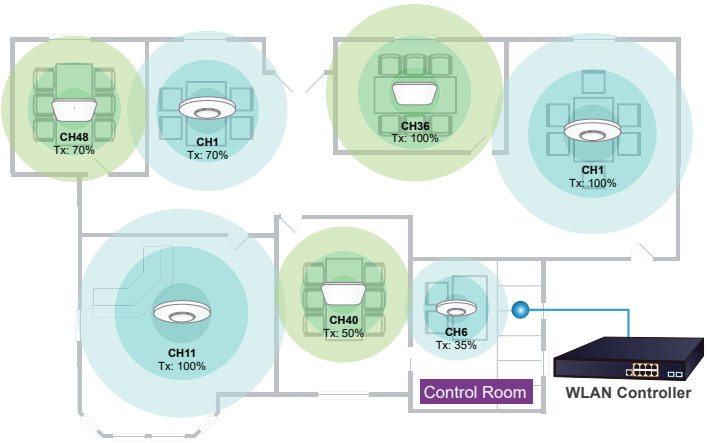
- Up to 8 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE Power up to 36 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters
- PoE management features
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE admin-mode control
  - PoE port power feeding priority
  - Per PoE port power limit
  - PD classification detection
- Intelligent PoE features
  - Temperature threshold control
  - PoE usage threshold control
  - PD alive check
  - PoE schedule





Visualizing Wi-Fi Signals through Map

Importing your floor maps and locating each AP or AP group according to the field deployment can save your time and cost of on-site support and monitoring. It shows real-time AP status, and its signal heat map is capable of reflecting the actual coverage and helps the administrator to fine-tune the overlapping of the adjacent APs anytime to optimize the wireless network performance.



Maximal Scalability and Compatibility with Various Smart APs

To fulfill various business needs, the WS-1032P provides a maximum scalability and is compatible with over 10 models of Smart APs from indoor to outdoor series including ceiling-mount, wall-mount, in-wall, industrial, single-band, dual-band and high-power access points which are able to adapt to different environments.

Layer 3 IP Routing Features

- IP dynamic routing protocol supports RIPv2, OSPFv2 and OSPFv3
- IPv4/IPv6 hardware static routing
- Routing interface provides per VLAN routing mode

Layer2 Features

- High performance of Store-and-Forward architecture and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Storm Control support
  - Broadcast/Multicast/Unknown unicast
- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Supports provider bridging (VLAN Q-in-Q, IEEE 802.1ad)
  - Private VLAN Edge (PVE)
  - Protocol-based VLAN
  - MAC-based VLAN
  - Voice VLAN
  - GVRP(GARP VLAN Registration Protocol)
- Supports **Spanning Tree Protocol**
  - STP, IEEE 802.1D Spanning Tree Protocol
  - RSTP, IEEE 802.1w Rapid Spanning Tree Protocol
  - MSTP, IEEE 802.1s Multiple Spanning Tree Protocol, spanning tree by VLAN
  - BPDU Guard
- Supports **Link Aggregation**
  - 802.3ad Link Aggregation Control Protocol(LACP)
  - Cisco ether-channel (static trunk)
  - Maximum 5 trunk groups, up to 10 ports per trunk group
  - Up to 56Gbps bandwidth (full duplex mode)
- Provide sport mirror (many-to-1)
- Port mirroring to monitor the incoming or outgoing traffic on a particular port
- Loop protection to avoid broadcast loops
- Link Layer Discovery Protocol (LLDP)
- Compatible with Cisco uni-directional link detection (UDLD) that monitors a link between two switches and blocks the ports on both ends of the link if the link fails at any point between the two devices
- Supports G.8032 ERPS (Ethernet Ring Protection Switching)

10Gbps Ethernet Uplink for High-volume Transmission

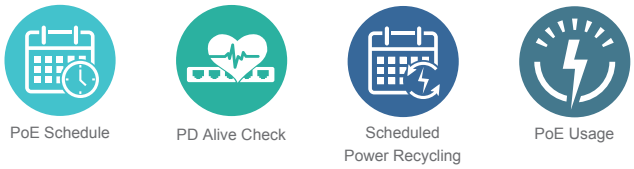
As to the bandwidth, the WS-1032P offers 10Gbps uplink ports to relieve huge network traffic. Each of the 10G SFP+ slots in the WS-1032P supports **triple speed** and **10GBASE-SR/LR**, **1000BASE-SX/LX** or **2500BASE-X**. With its 10G Ethernet link capability, the administrator now can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the network efficiently. The WS-1032P provides greater bandwidth and powerful processing capacity to make central management more efficient.

Unique PoE Management Features

The WS-1032P has a built-in L2/L4 Gigabit Switching engine and 8 10/100/1000BASE-T ports featuring 36-watt 802.3at PoE+, with a total power budget of up to 120W for different kinds of PoE applications. It perfectly meets the power requirements of PoE Wi-Fi access points including dual-band or outdoor high-power AP/CPE with high power consumption. As a managed PoE Switch for stable and reliable wireless AP operation, the WS-1032P features the following intelligent PoE management functions:

- PD Alive Check
- Scheduled Power Recycling
- SMTP/SNMP Trap Event Alert
- PoE Schedule

Intelligent PoE Management Features



Layer 3 Routing Support

The WS-1032P enables the administrator to conveniently boost network efficiency by configuring Layer 3 IPv4/IPv6 VLAN static routing manually, the **RIPv1/v2** and the **OSPFv2/v3** (Open Shortest Path First) settings automatically. The OSPF is an interior dynamic routing protocol for autonomous system based on link state. The protocol creates a database for link state by exchanging link states among Layer3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

Wire-speed VLAN Routing

IPv4/IPv6 Dual Stack Management Network

The WS-1032P offers IPv4/IPv6 VLAN routing feature which allows to crossover different VLANs and different IP addresses for the purpose of having a highly-secure, flexible management and simpler networking application. With the support for IPv6/IPv4 protocol, and user-friendly management interfaces, the WS-1032P is the best choice for system integrators to migrate network infrastructure from the IPv4 to the IPv6 network. It also helps SMBs to step in the IPv6 era with the lowest investment and without having to replace the network facilities even though ISPs establish the IPv6 FTTx edge network.

Quality of Service

- Ingress Shaper and Egress Rate Limit per port bandwidth control
- 8 priority queues on all switch ports
- Traffic classification
  - IEEE 802.1p CoS
  - TOS/DSCP/IP Precedence of IPv4/IPv6 packets
  - IP TCP/UDP port number
  - Typical network application
- Strict priority and Weighted Round Robin (WRR) CoS policies
- Supports QoS and In/Out bandwidth control on each port
- Traffic-policing policies on the switch port
- DSCP remarking

Multicast

- Supports IPv4 IGMP Snooping v1, v2 and v3
- Supports IPv6 MLD Snooping v1 and v2
- Querier mode support
- IGMP Snooping port filtering
- MLD Snooping port filtering
- Multicast VLAN Registration (MVR) support

Security

- Authentication
  - IEEE 802.1x Port-based/MAC-based network access authentication
  - Built-in RADIUS client to co-operate with the RADIUS servers
  - TACACS+ login users access authentication
  - RADIUS/TACACS+ users access authentication
- Access Control List
  - IP-based Access Control List (ACL)
  - MAC-based Access Control List
- Source MAC/IP address binding
- **DHCP Snooping** to filter un-trusted DHCP messages
- **Dynamic ARP Inspection** discards ARP packets with invalid MAC address to IP address binding
- **IP Source Guard** prevents IP spoofing attacks
- Auto DoS rule to defend DoS attack
- IP address access management to prevent unauthorized intruder

Management

- IPv4 and IPv6 dual stack management