Introduction to
OW-400 A1/OW-408 A1

CERIO
Amplify your Wireless Network

eXtreme Power Wave2 4x 11N/ac 2.4/5Ghz
2x2 Outdoor Bridge/AP (300mW)

Contents

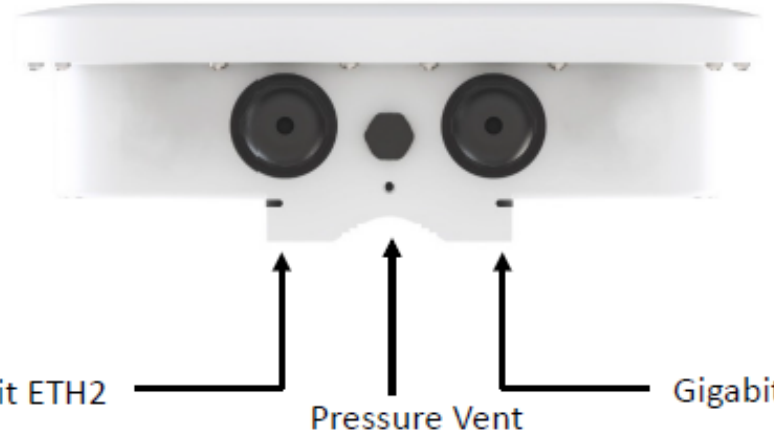
Product Overview

- 2.4Ghz band supports standard 802.11 bgn protocol with maximum data transfer rate of 400Mbps
- 5Ghz band supports 802.11 an/ac wireless protocol with a maximum data transfer rate of 867Mbps
- 300mW AC1300 Dual Band Outdoor Access Point
- Supports IEEE 802.3at Power over Ethernet
- Built-in 18dBi 5GHz Directional Panel Antenna and 2 N-Type Connectors for 2.4GHz external antennas **(OW-400 A1)**
- Built in 8dBi dual band Wide Coverage Directional Antenna **(OW-408 A1)**
- Supports CenOS 5.0 Software Core
- Weather-proof Housing (**IP68** Approved)

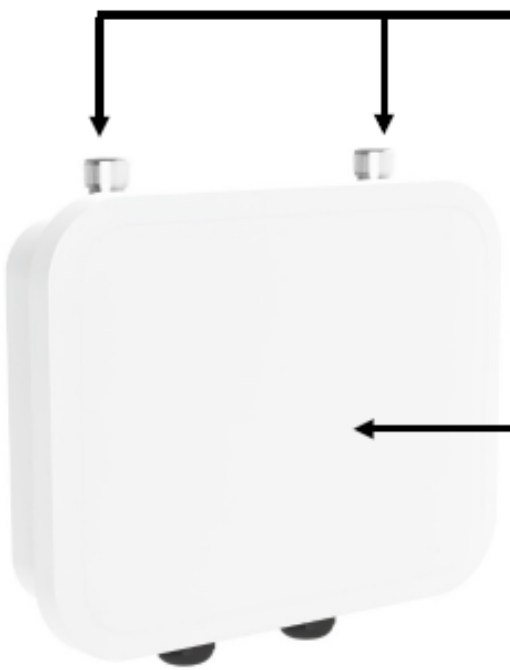
Advanced Features

- Latest MU-MIMO technology provides wireless 4 channel (4x speed) simultaneous operation in both 2.4GHz and 5GHz wireless coverage for maximum flexibility.
- Operation modes include: AP with WDS Mode and Captive Portal, Control Access Point Mode, Client Bridge Mode, and WISP/ CPE Mode
- Built in 802.1x RADIUS authentication server and supports up to 50 User Accounts
- Incorporates 802.11r/k Fast Roaming Protocol
- CenOS 5.0 Control Access Point Mode (CAP) supports centralized management of up to 64 AP devices

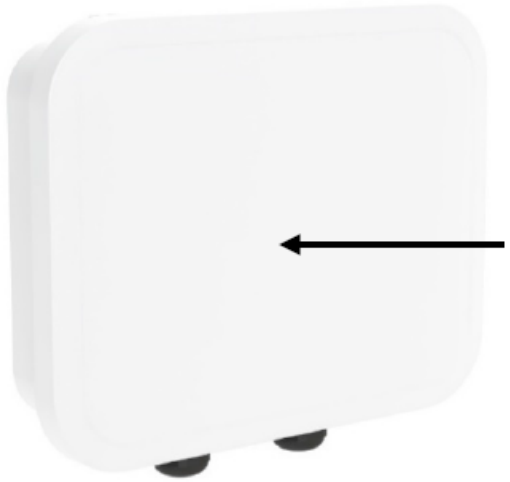
Hardware Overview



OW-400 A1



OW-408 A1

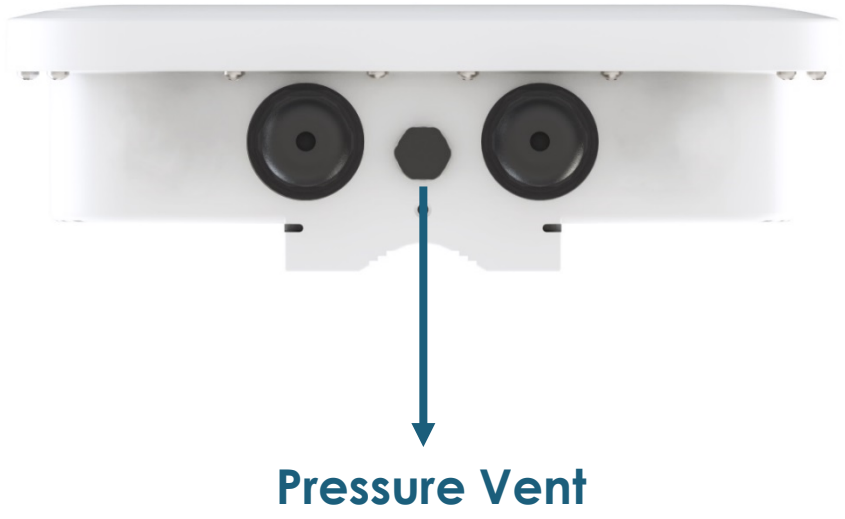


Pressure Vent

The integrated pressure vent allows the IP68 enclosure to breathe safely.

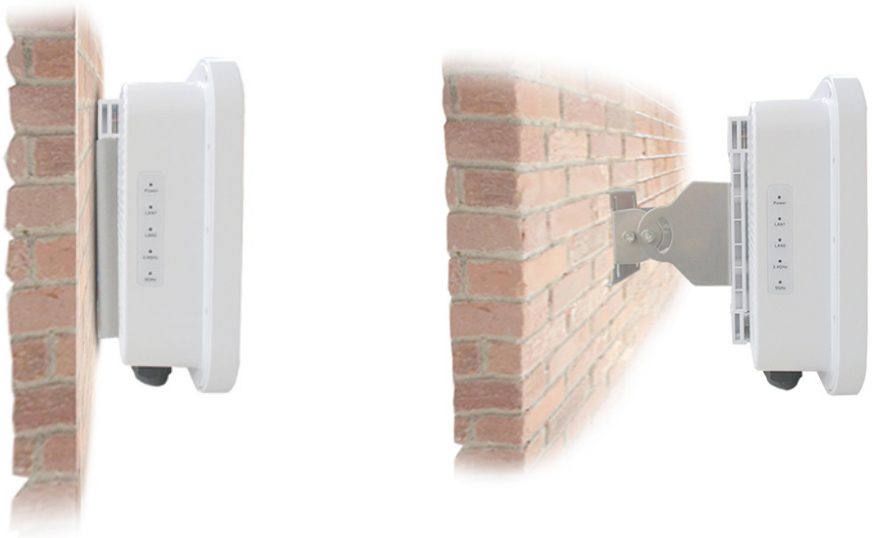
This auto-adjusting technology **equalizes pressure** inside the device and **reduces condensation** from building up inside.

The overall result of the Pressure Vent is that product performance and durability are increased. This effectively gives users peace of mind when deploying out OW-400 A1 / OW-408 A1.



Versatile Mounting

Wall Mount Supported



Adjustable

Pole Mount Supported

Adjustable

OW-408 A1's Adjustable pole/wall mounting kit is optional (OW-PKUR)

Hardware Reset Function Kit

- Bundles RJ45 Function Kit, which is able to reset the device to default remotely. It can save extra re-installation cost and time.

Dual-Band Application

OW-400/408 A1's 11ac dual-band design is perfect for long distance PTP connections over the 5GHz frequency band, while simultaneously operating as an AP station over the 2.4GHz frequency band.

Proven Test Results

OW-400 A1's high performance design maintained a high bandwidth of **446Mbps** during a **3.7KM outdoor point-to-point test** (5GHz) using a built-in 18 dBi antenna.

Test Setup | Throughput | Transaction Rate | Response Time | Raw Data Totals | Endpoint Configuration

Group	Pair Group Name	Pair Status	Timing Records Completed	95% Confidence Interval	Average (Mbps)	Minimum (Mbps)	Maximum (Mbps)	Measured Time (sec)	Relative Precision
All Pairs			392		446.133	63.241	126.183		
Pair 1	No Group	Finished	97	-2.312 : +2.312	111.553	63.241	123.457	89.562	2.072
Pair 2	No Group	Finished	98	-1.715 : +1.715	112.045	88.790	123.648	89.972	1.531
Pair 3	No Group	Finished	100	-1.758 : +1.758	113.903	91.743	126.183	90.295	1.526
Pair 4	No Group	Finished	97	-1.697 : +1.697	111.812	86.768	124.224	89.402	1.518

CenOS 5.0

Powerful Performance

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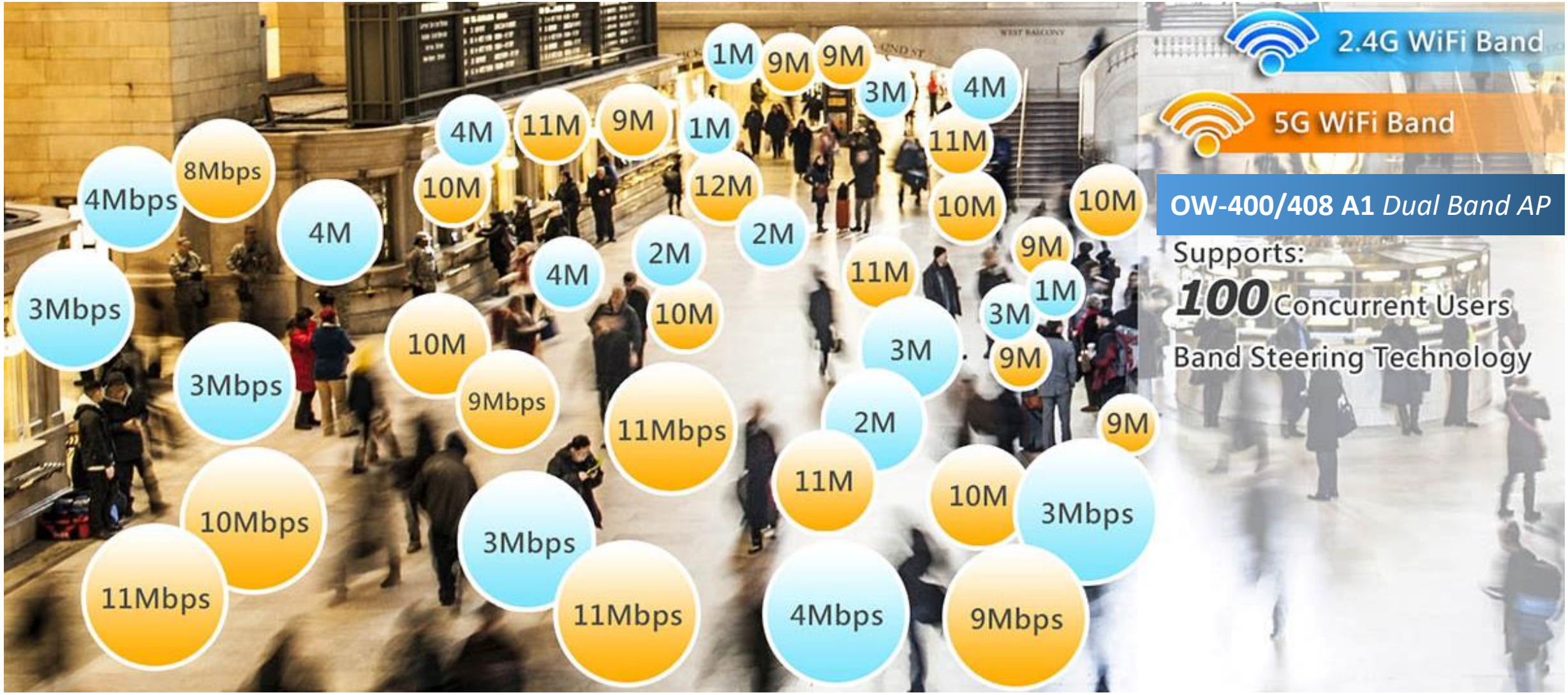
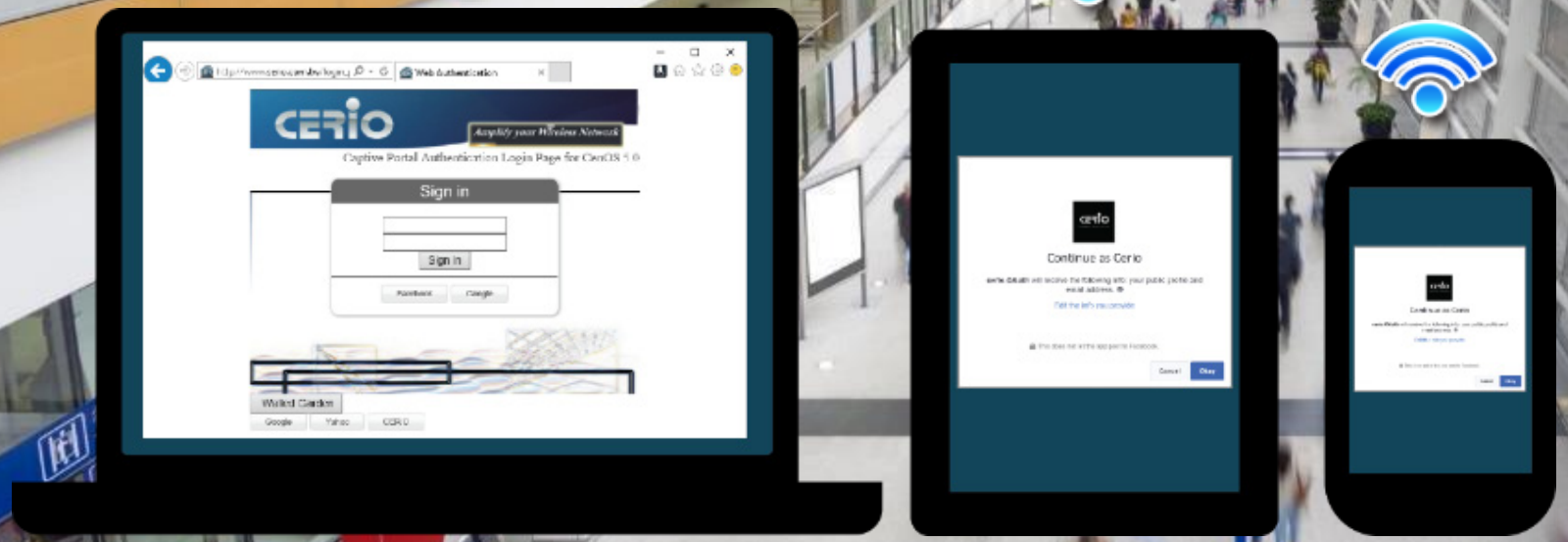


CenOS 5.0

Captive Portal Authentication

Captive Portal Authentication conveniently allows wireless clients to access the network through a customized web login portal.



Local Account Login

Facebook Login

Administrators can deploy a customized Captive Portal with the following login methods

1. Guest Login
2. Local Account Login
3. OAuth2.0 Login (Facebook/Google/etc.)

Ideal Deployment

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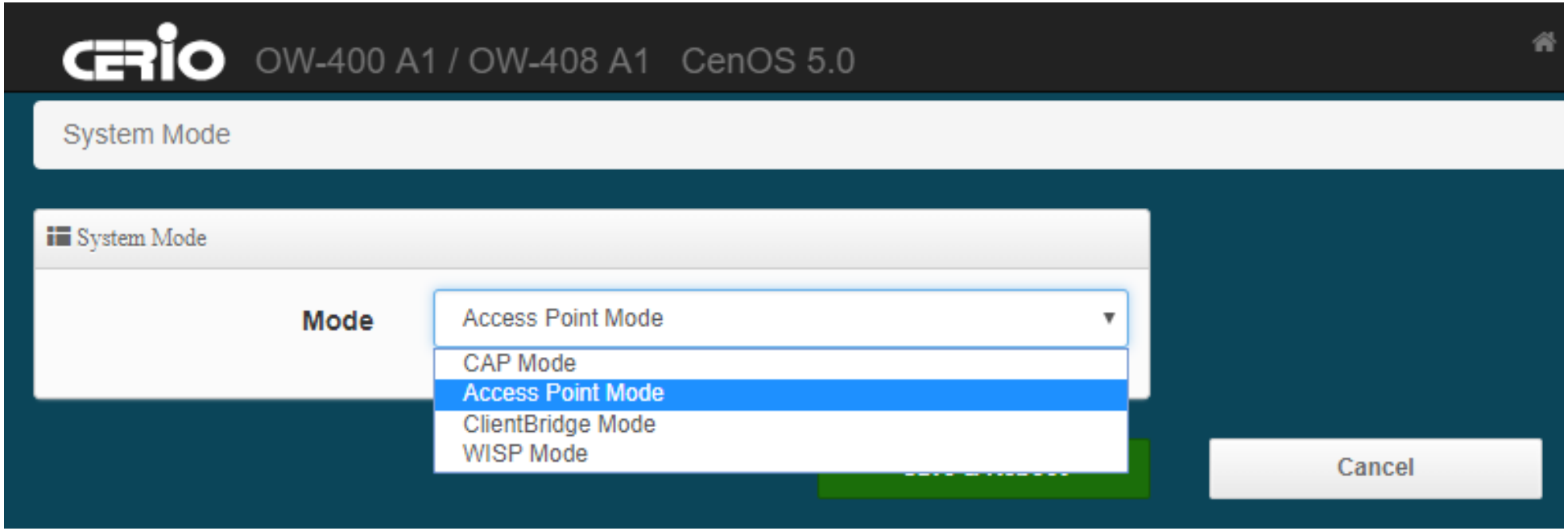
Software Overview

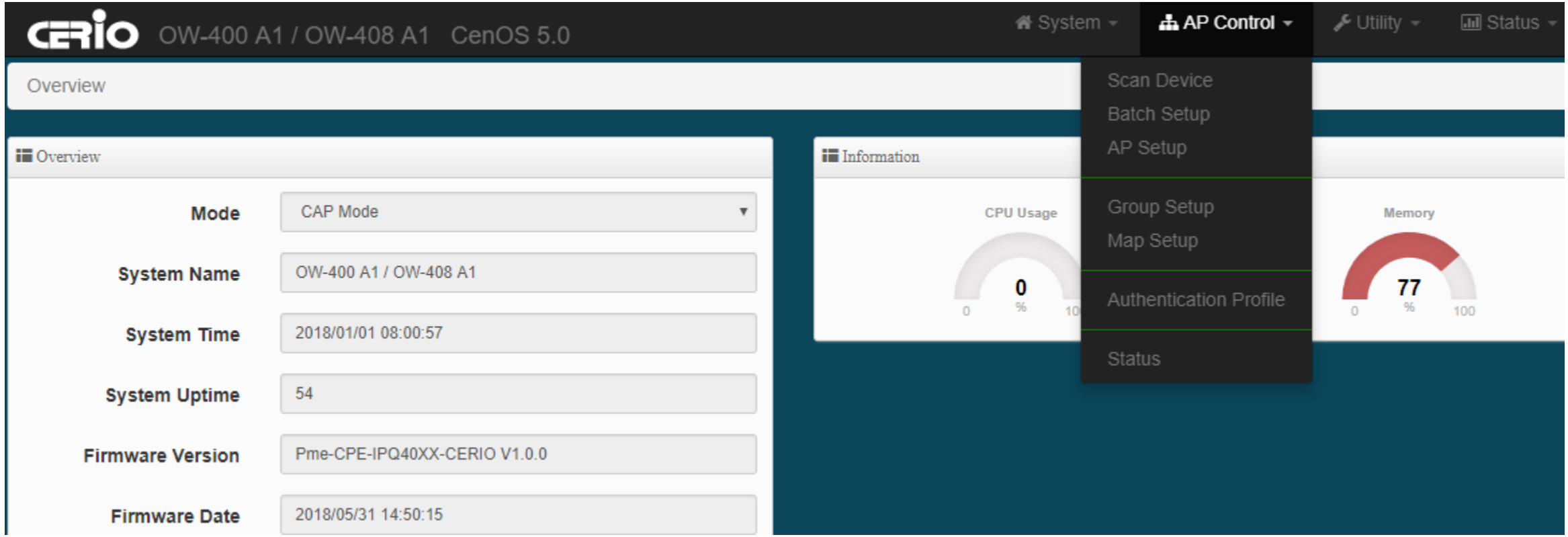
Operation Modes

OW-400/408 A1 supports four different Operation Modes: Control Access Point, Access Point Mode with WDS and Captive Portal Authentication, Client Bridge + Repeater Mode, WISP/CPE Repeater AP Mode.

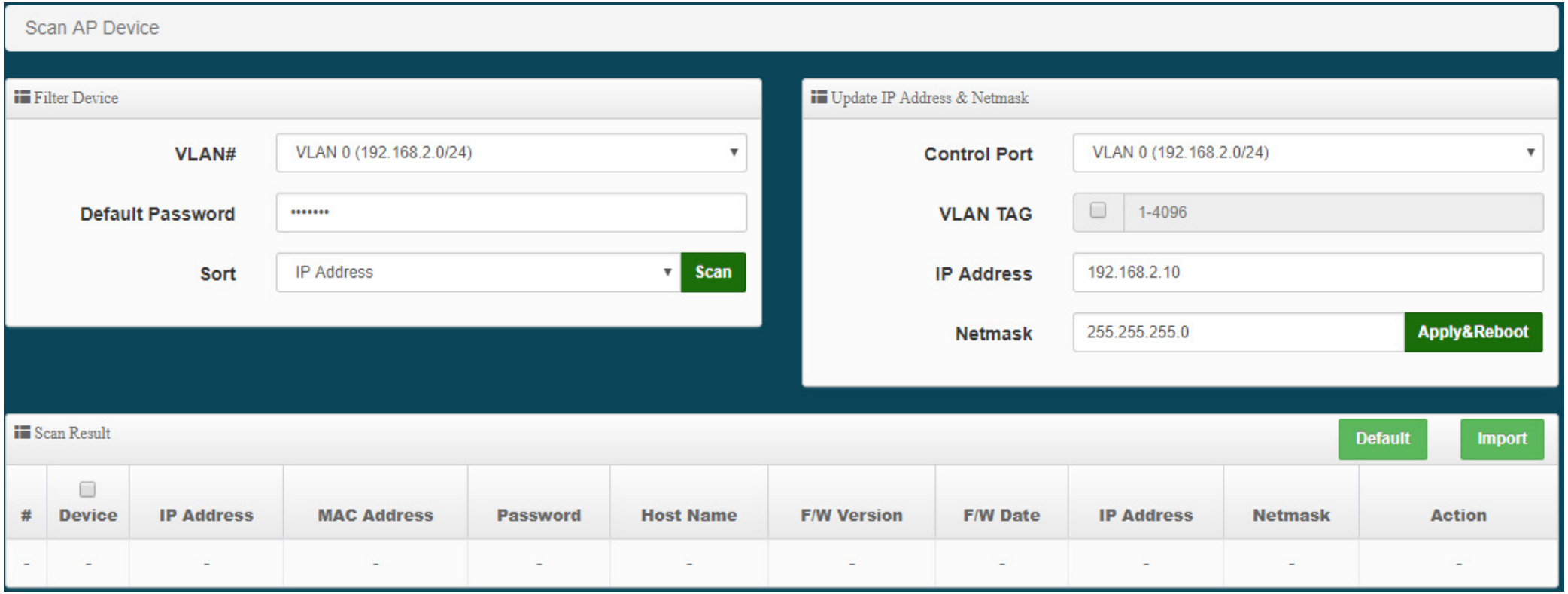


Control Access Point

Control Access Point (CAP) Mode's converts the device into a centralized AP management controller. When OW-400/408 A1 is in CAP Mode, it can centrally manage up to 64 AP devices.

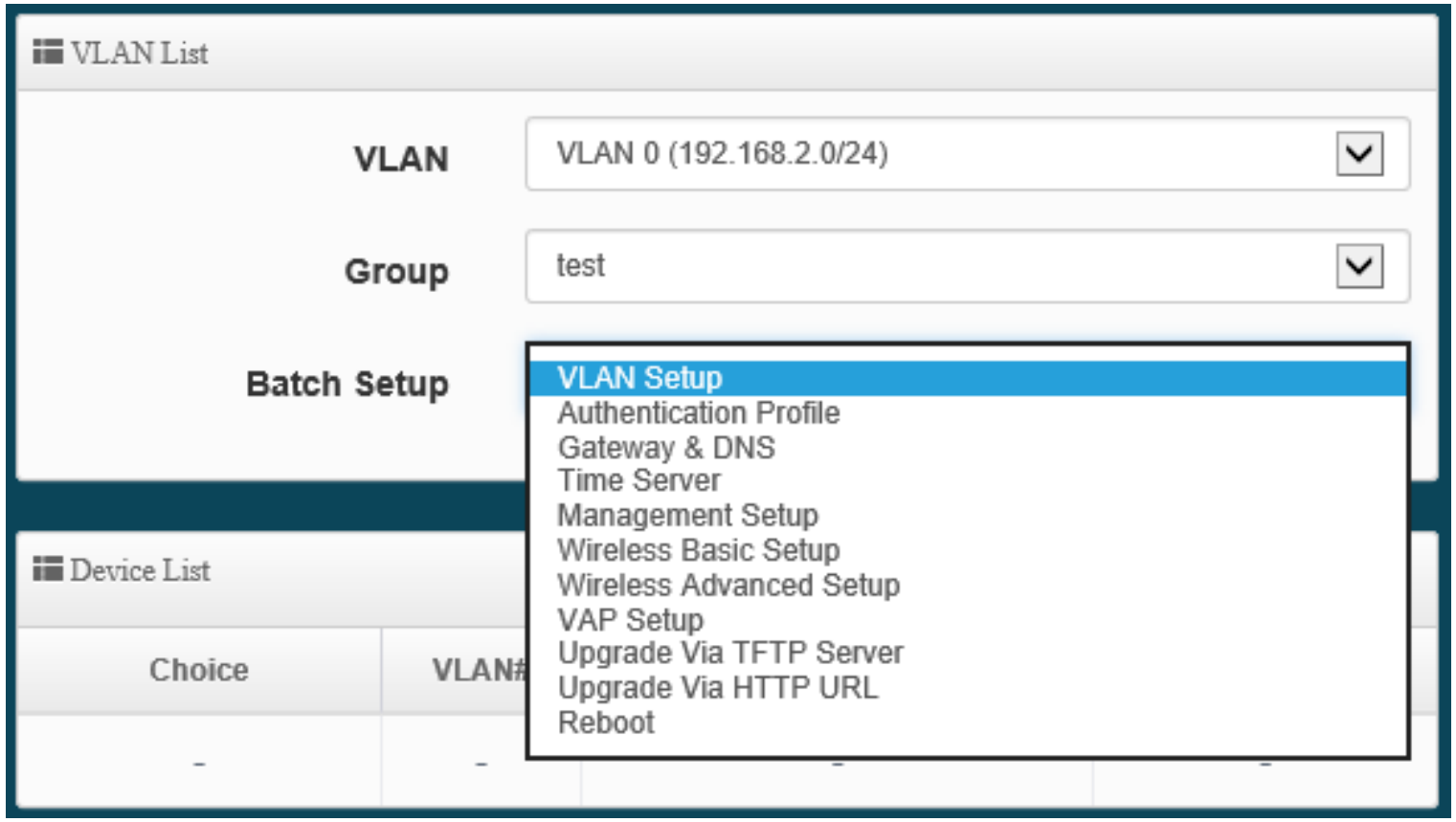


Scan and Import



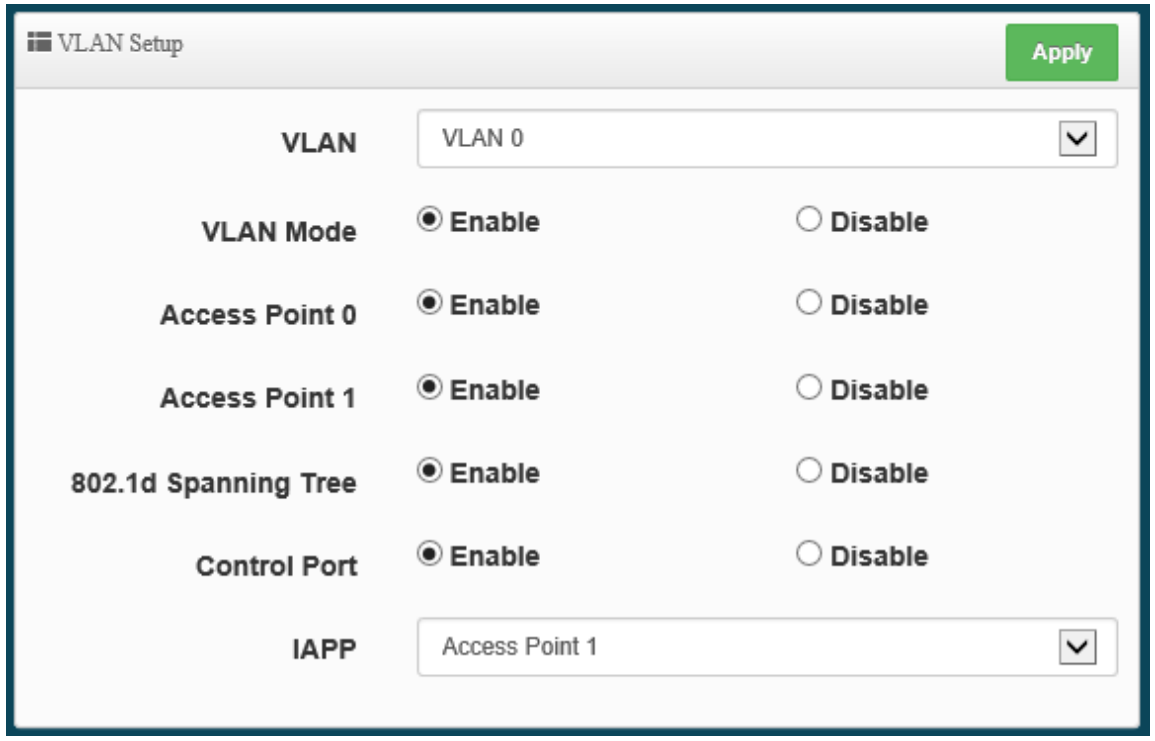
CAP Mode allows administrators to scan for AP devices within their virtual LAN and import them into the management database. Once imported, administrators can make quick changes such as changing IP addresses for organization and easy management. Also it supports multi-VLAN centralized management.

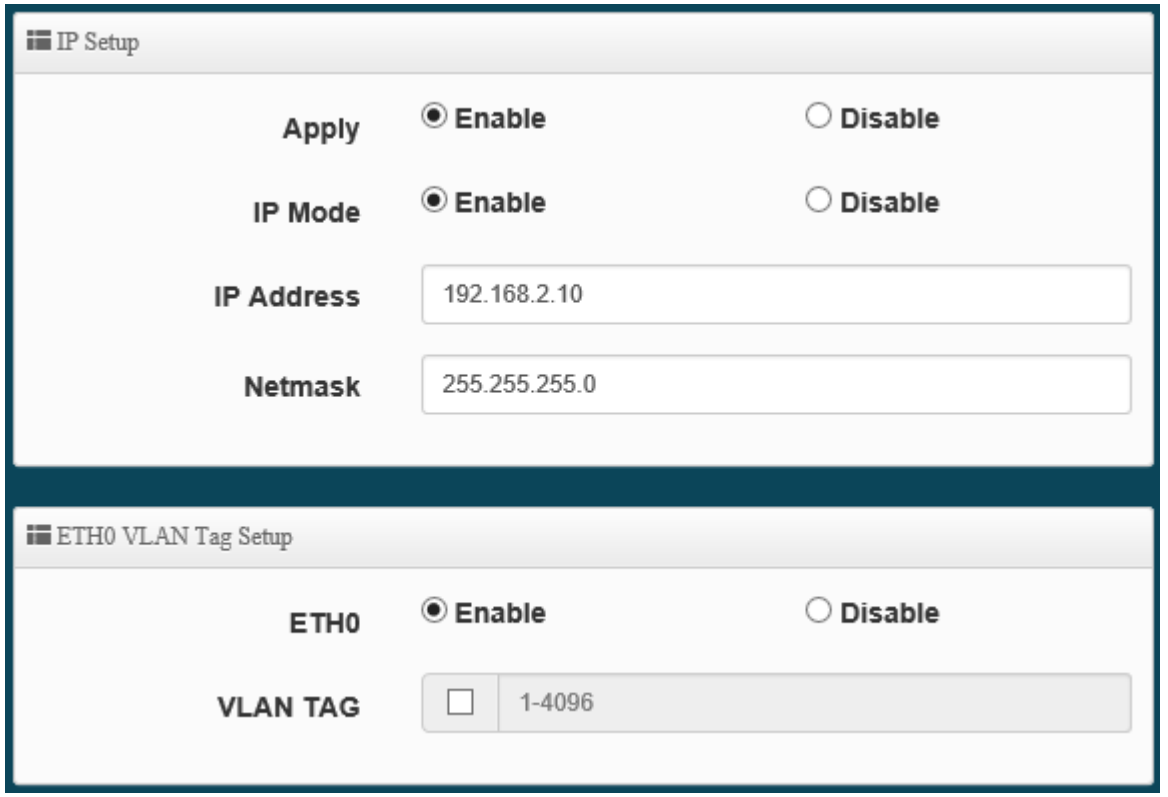
Batch Setup



CAP Mode's control function supports centralized configuration of managed APs. This allows administrators to make convenient batch changes to the network of AP devices from one centralized location. This main function of CAP mode can save time and cost by reducing servicing and installation time.

Batch Setup

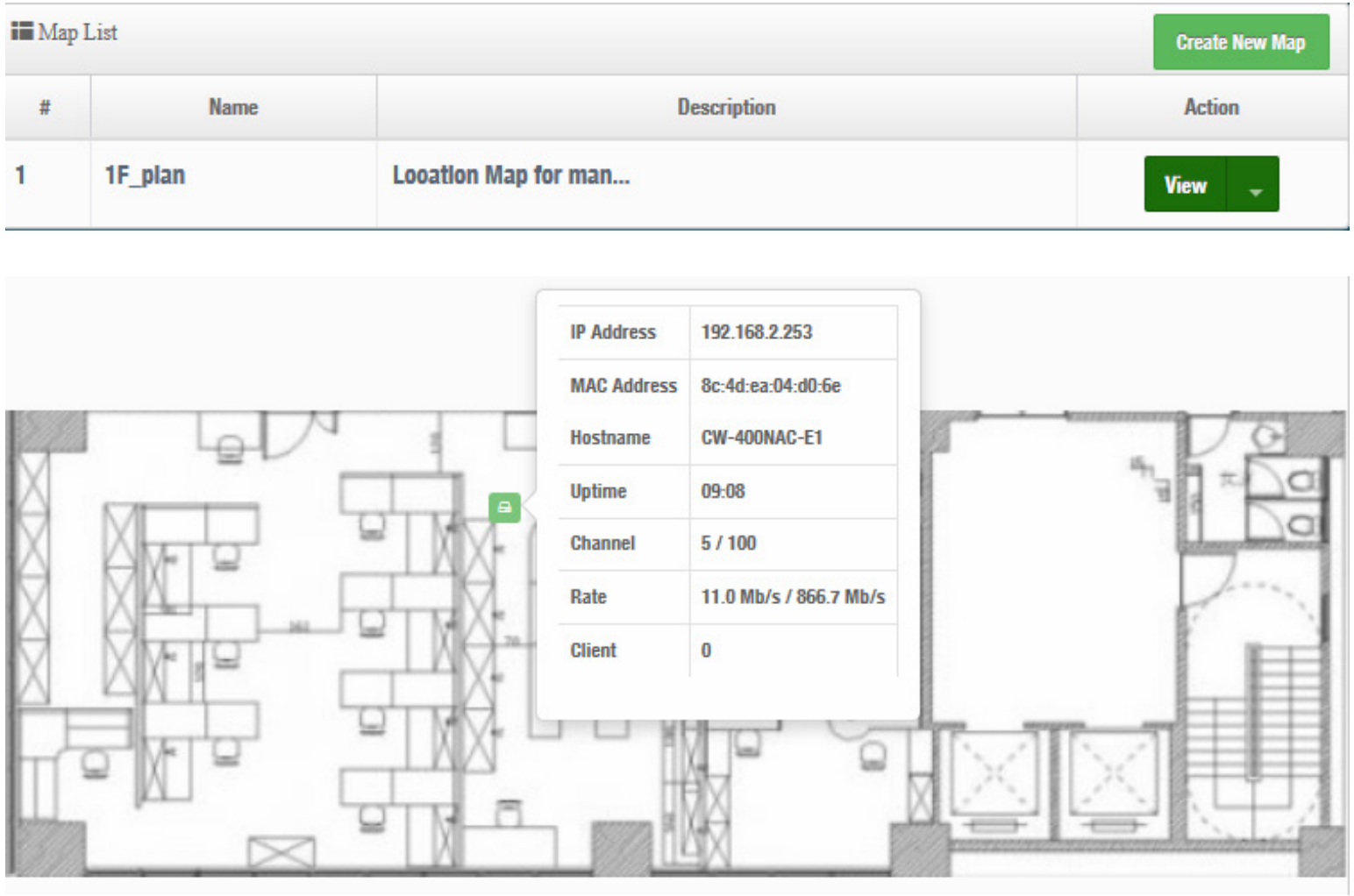




Administrators can enable VLAN Mode, Spanning tree, Control Port capabilities, IAPP Roaming, change IP settings and setup VLAN tag (IEEE 802.1Q) for batches of access points. These changes can be implemented differently for each VLAN, allowing for both centralized and organized control.

Map Setup

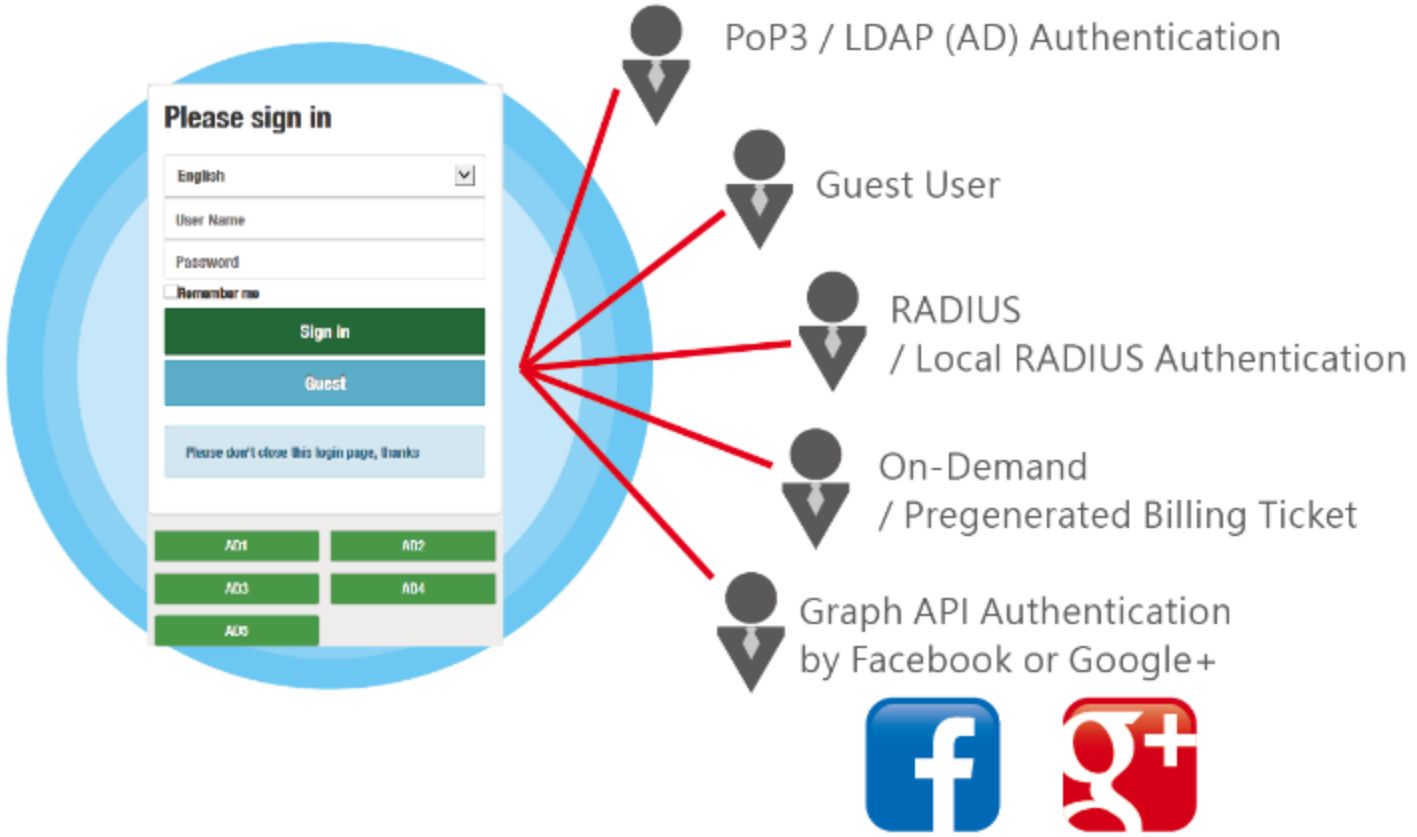
CAP Mode also supports Map Setup function for organizing your AP network. Administrators can create maps by uploading floor plan URLs and dragging APs to the correct location. Once complete, administrators can monitor AP statuses such as uptime, data rates, and connected clients



Authentication AP

CenOS 5.0 supports Authentication Access Point Mode for versatile AP deployment. Administrators can choose from many authentication options to best suit their network needs.

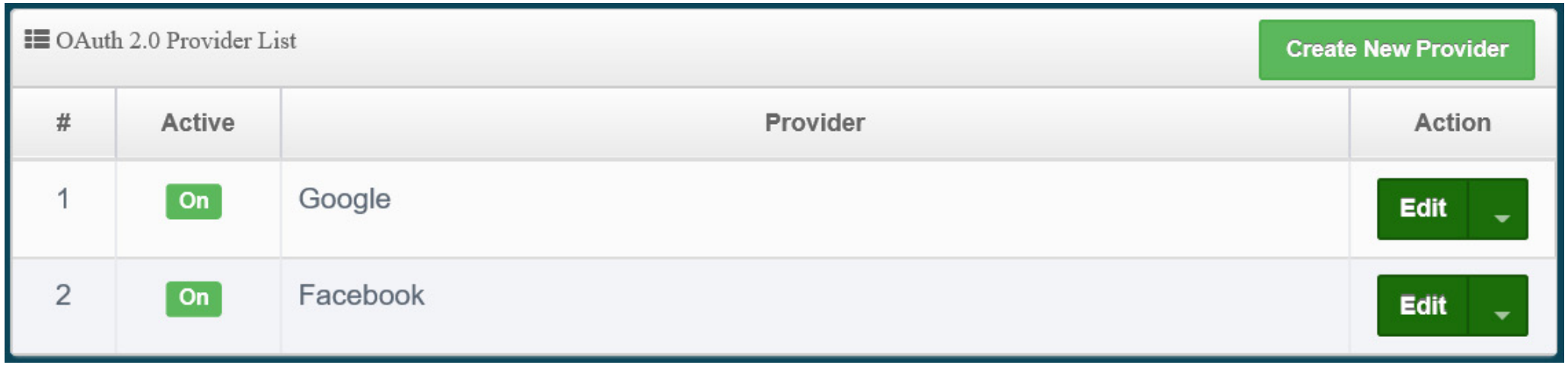
This enables convenient access to the wireless network for public clients, as well as improved management and organization for network administrators



Authentication

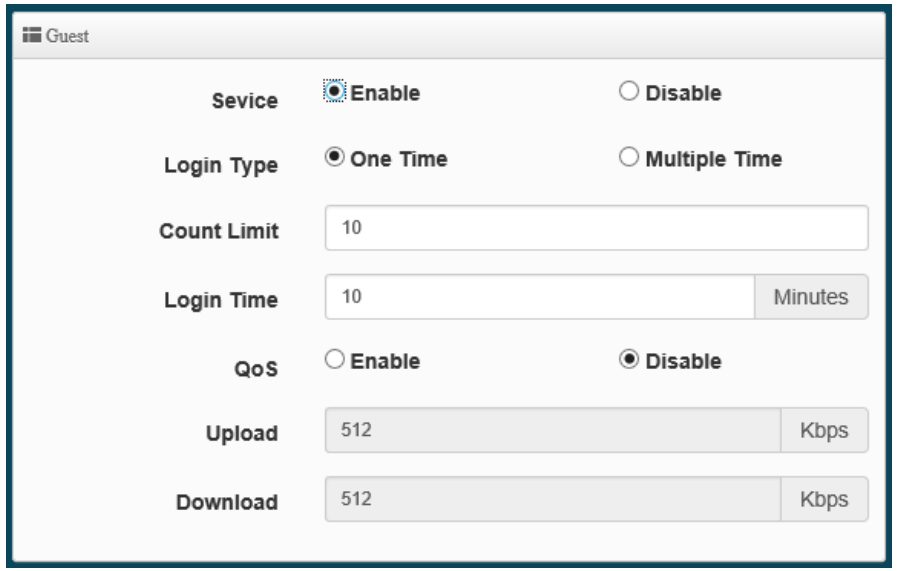
CenOS 5.0 supports multiple methods of authentication for user management, security and convenience.

OAuth2.0 : Allows devices to use third-party credentials such as Facebook and Google+ for user authentication. This provides login convenience for public clients and also allows administrators to collect data through Facebook / Google analytics.

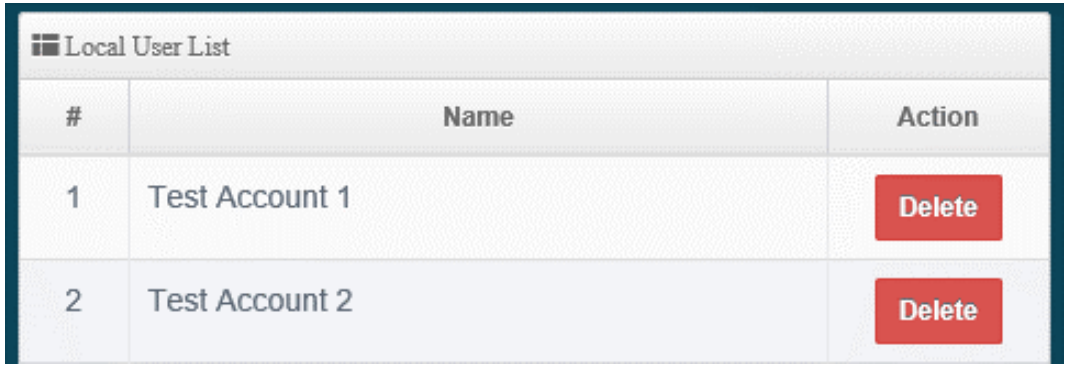


Authentication

Guest Login : Provides limited WiFi connection to clients to an open network. Limitations can be put in place to manage client limits, connection time, and control bandwidth



Local User: Provides fixed authentication user accounts for controlled client login and data management. Administrators can track Local Account usage, connection time, etc. CenOS 5.0 supports up to 10 Local User accounts

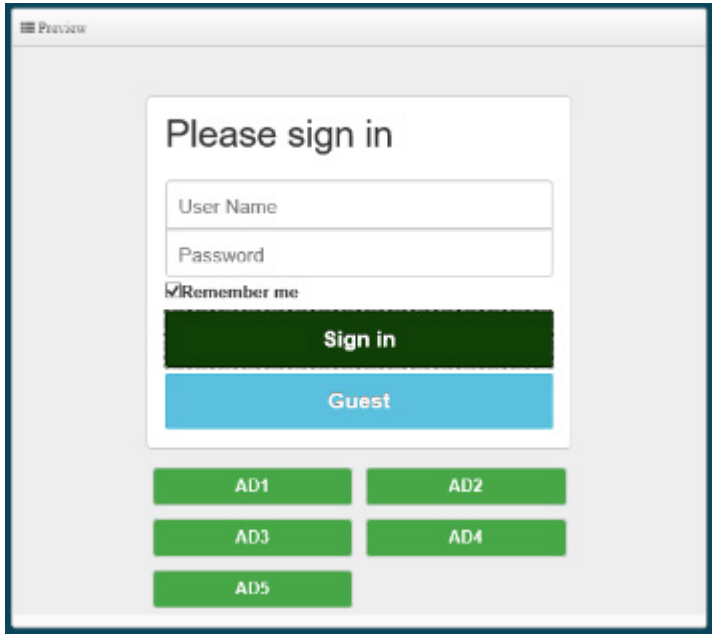


Customized Login Page

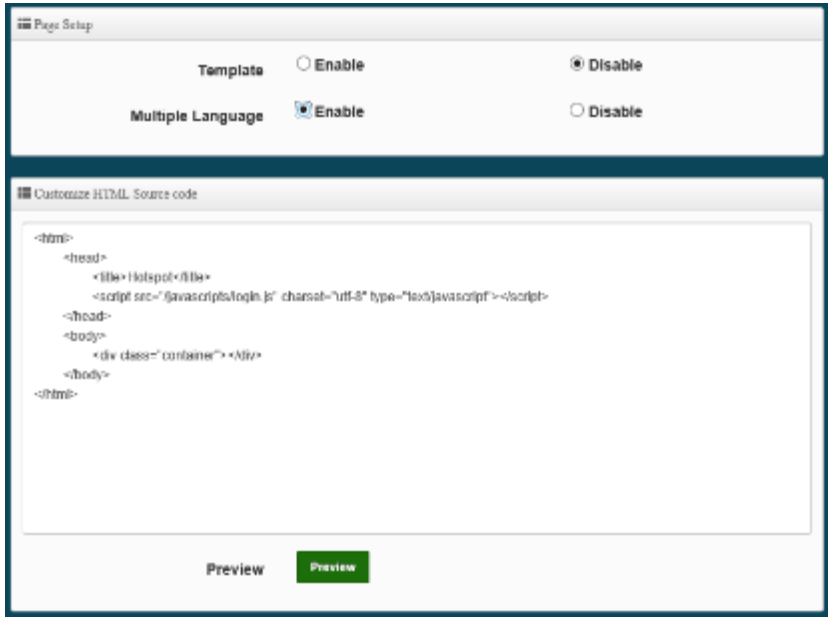
Administrators can create a customized Login Page which can become a platform for:

(1.) Promotions **(2.)** Brand Exposure **(3.)** Advertisements **(4.)** Platform for providing Information

This customized Captive Portal supports login through **1.** Guest Users **2.** Local Accounts **3.** Facebook, Google+, etc using OAuth2.0.



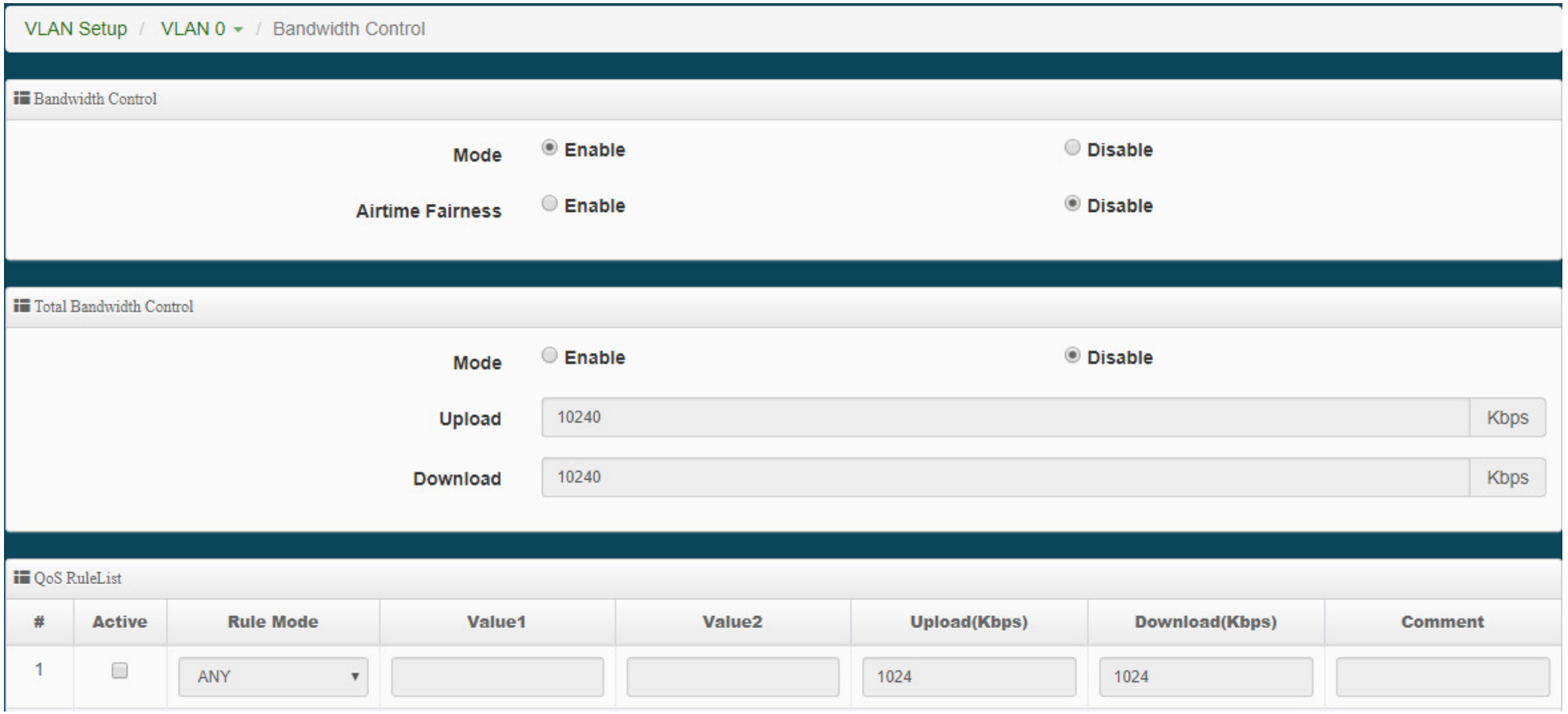
Default Template



Customize through HTML Code

Bandwidth Control

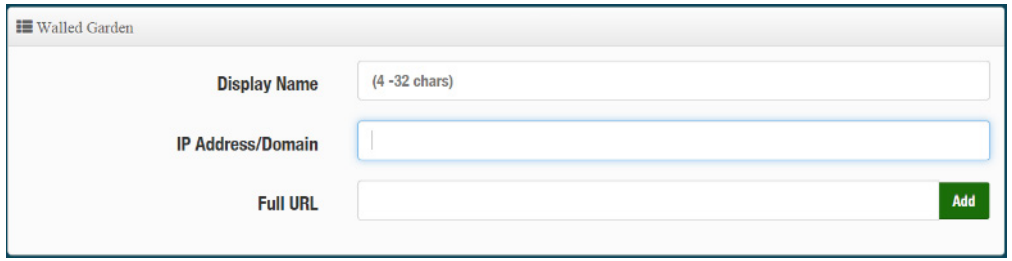
Bandwidth Control of connected clients allows administrators to control individual user upload and download speeds, as well as set a maximum limit on the total amount of bandwidth that can be used at a single time.

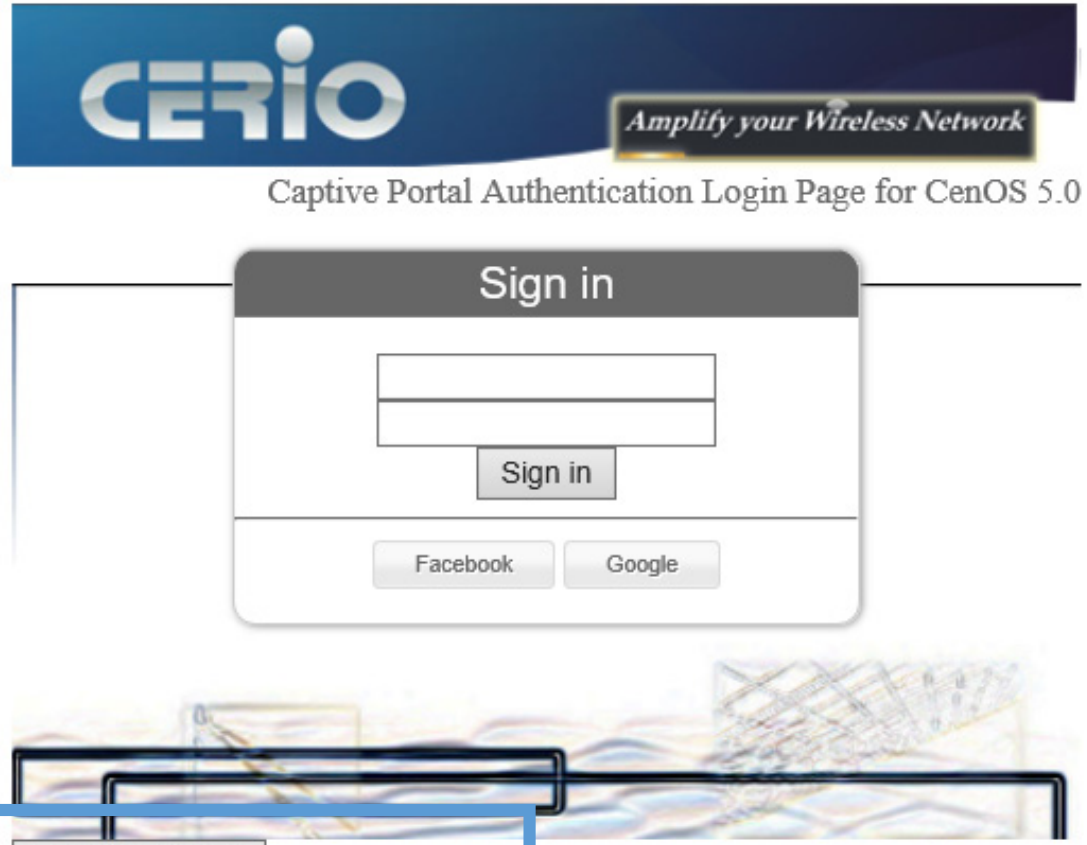


Walled Garden

Modes Walled Garden function allows administrators to create a browsing environment that controls user access and accessible information. This function is ideal for directing users to specific parts of the Web such as;

1. Paid Content
2. Self-Promotions
3. Free access to specific websites
4. Advertisement web pages

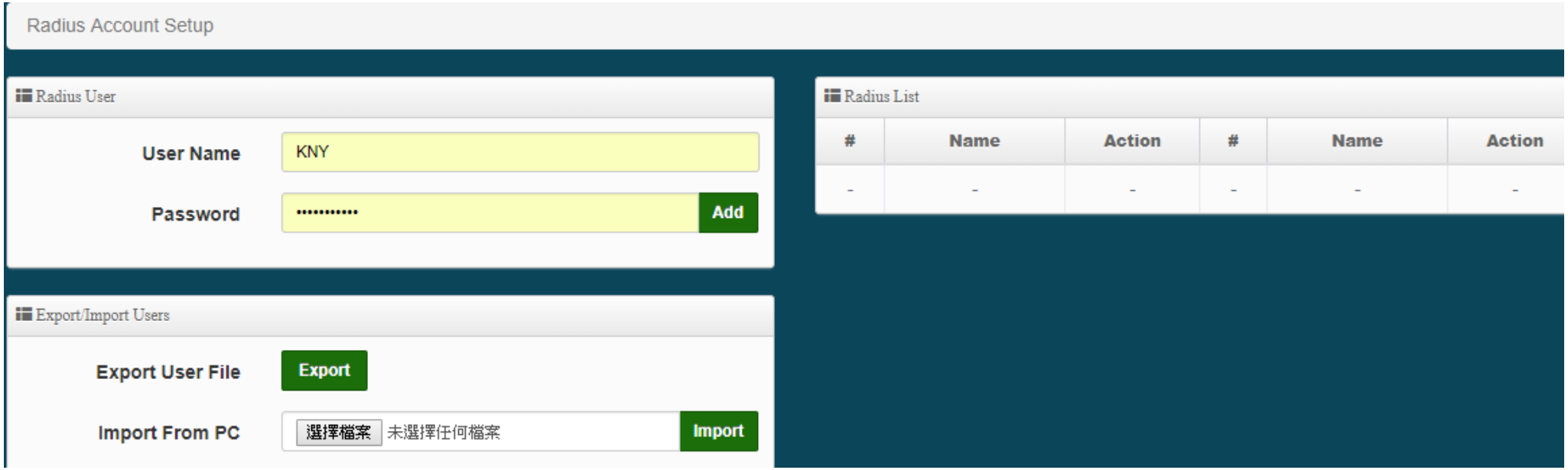




Enabled Walled Garden Websites

Built-in 802.1x RADIUS

Supports integrated 802.1x RADIUS Server authentication for small to medium network environments. This supports a maximum of 50 built-in RADIUS Users.

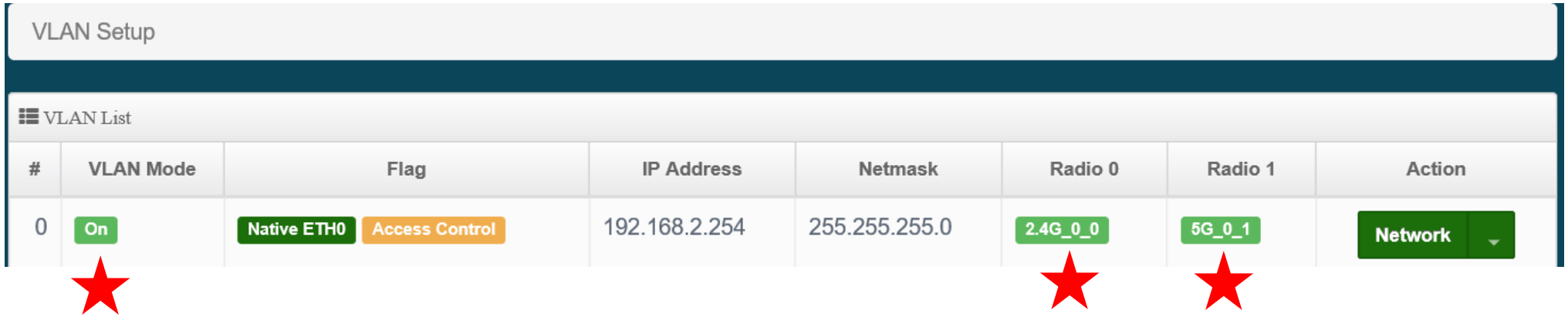


Increased Security- Individual user sessions are encrypted uniquely, which prevents other users from acquiring private information

Cost Efficient – The built-in RADIUS server design removes the need to purchase additional equipment such as external servers.

Virtual LANs & SSIDs

OW-400/408 A1's Dual Band radio design supports a total of 16 Virtual LANs (VLAN) and 32 SSIDs. Each VLAN supports two SSIDs, one on the 2.4GHz frequency band and one on the 5GHz frequency band.

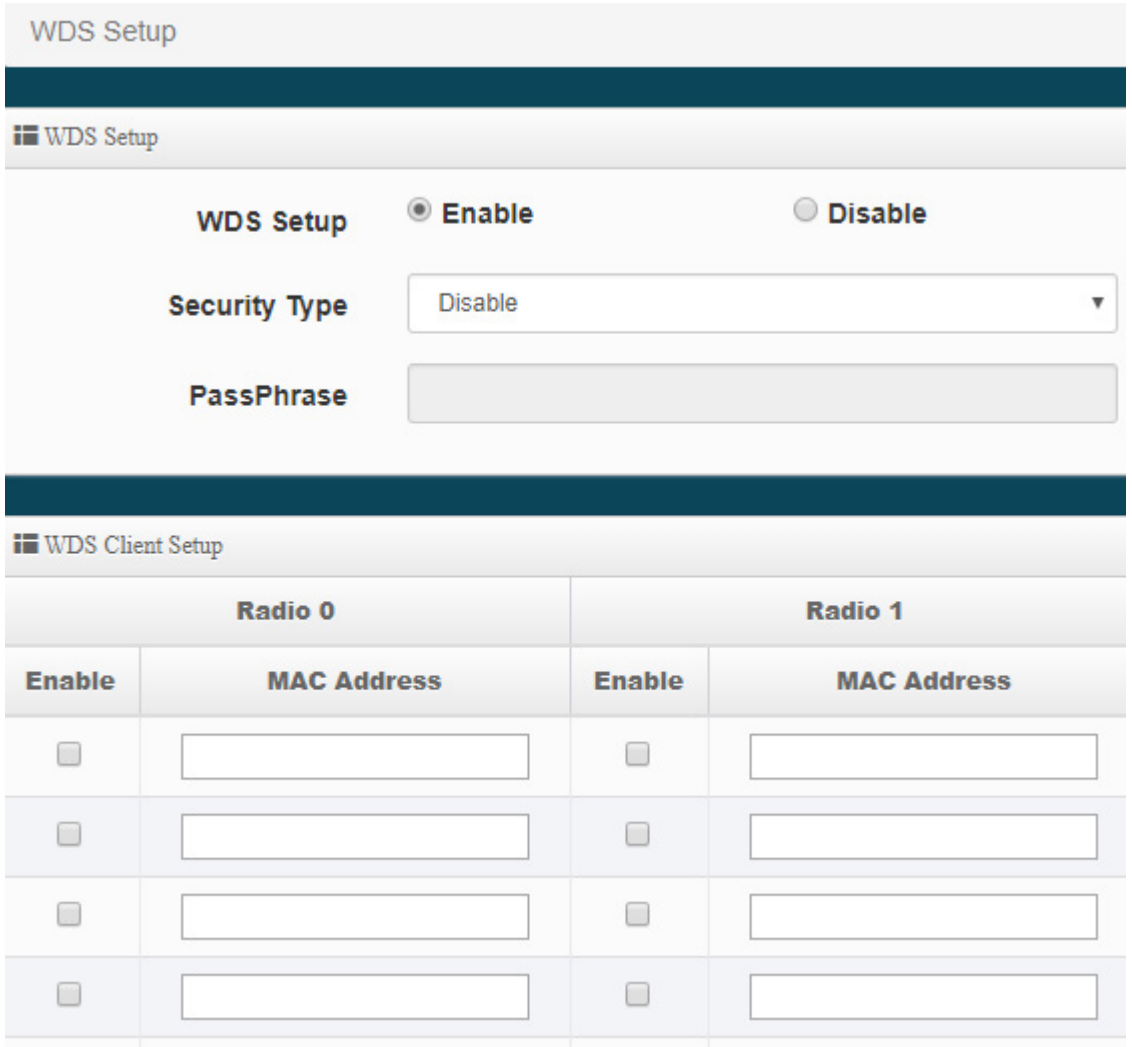


Supports 16 VLANS (#0 to 15)

Each VLAN supports 2 SSIDs, one for 2.4G and one for 5G

Support up to **4096** Tags. This is a crucial feature that ensures successful directing of packet traffic for VLANs that span across multiple switches.

WDS Support



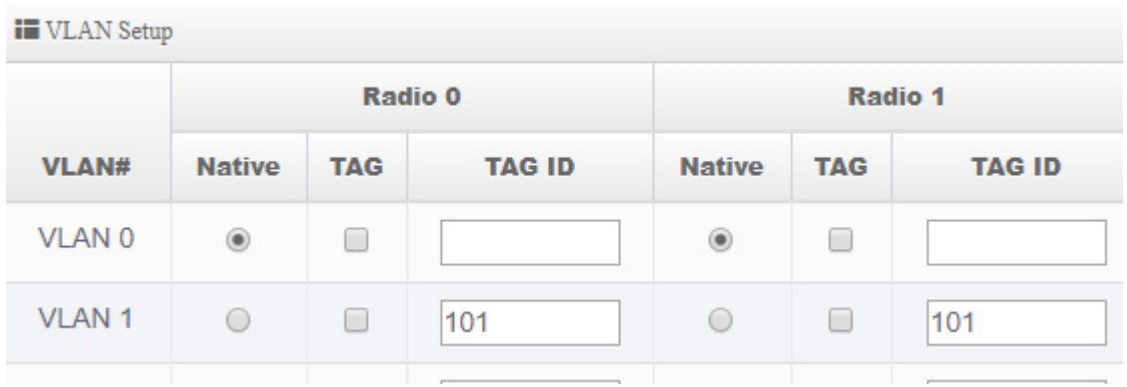
OW-400/408 A1 with **CenOS 5.0** supports **WDS Setup** when operating in **Access Point Mode**

OW-400/408 A1's Access Point mode supports **8** WDS links per radio for a total of **16 links** per device

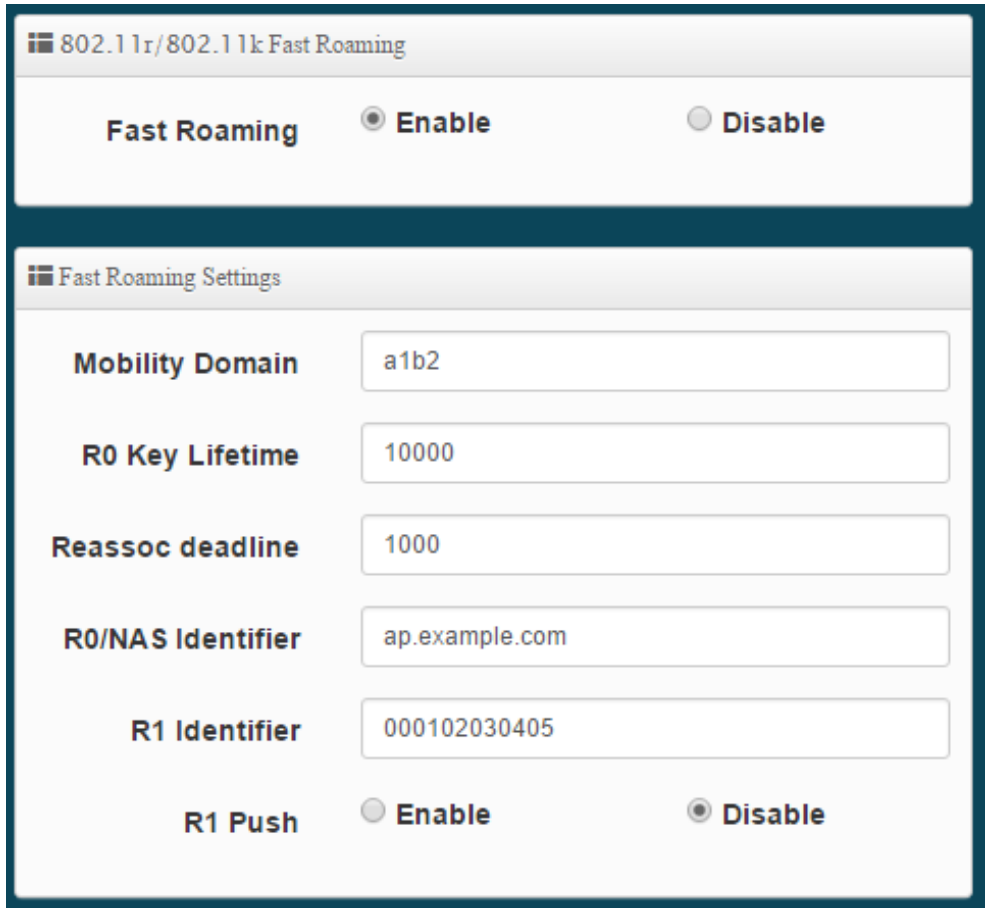
(*8x WDS on the 2.4GHz frequency band* ***)***

(*8x WDS on the 5GHz frequency band* ***)***

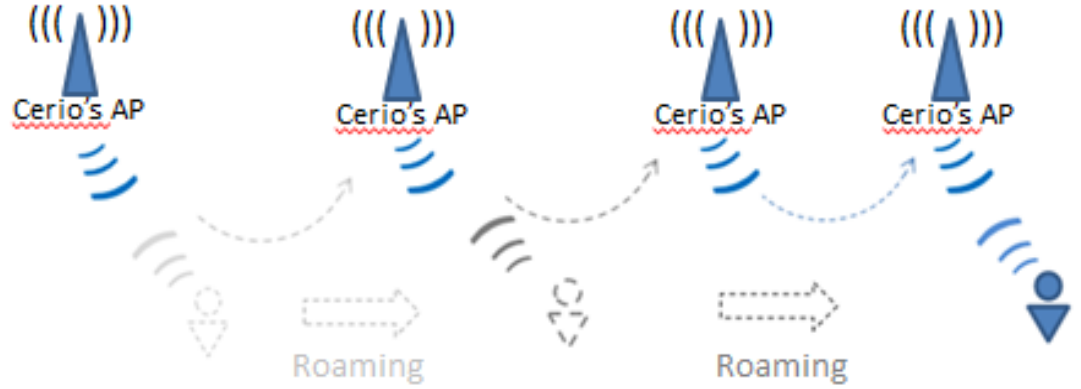
Supports multi-tags on same WDS channel



Fast Roaming

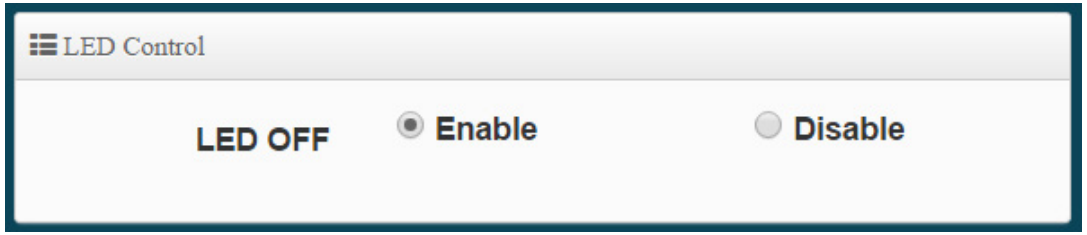


802.11k- Smartly provides roaming client with information regarding nearby APs and their channels, which prepares the client for easier roaming.

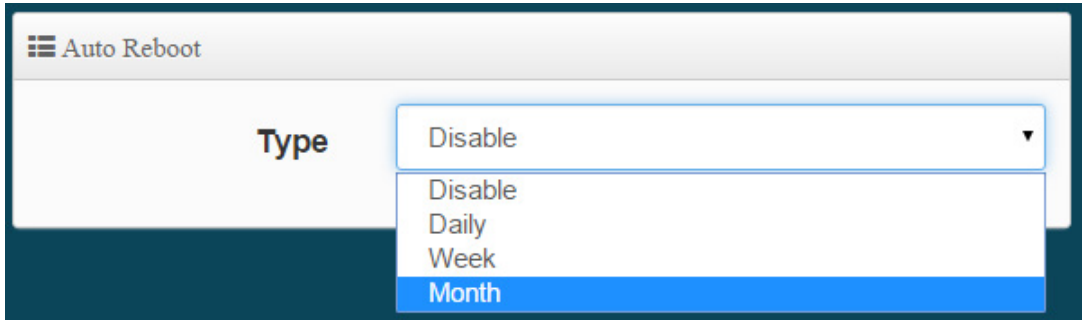


802.11r- Stores encryption keys on all the APs within the network. This simplifies the authentication process when clients roam to new APs, greatly reducing CPU loading and latency.

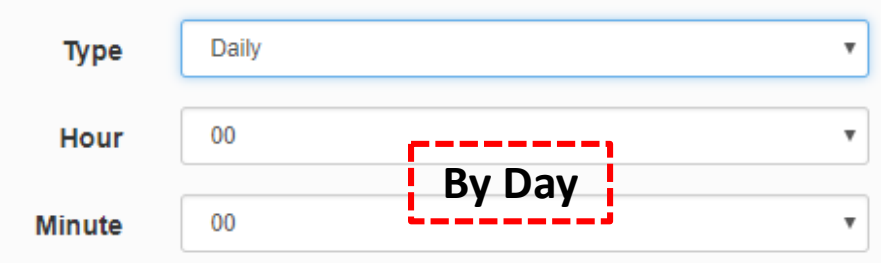
Additional Features

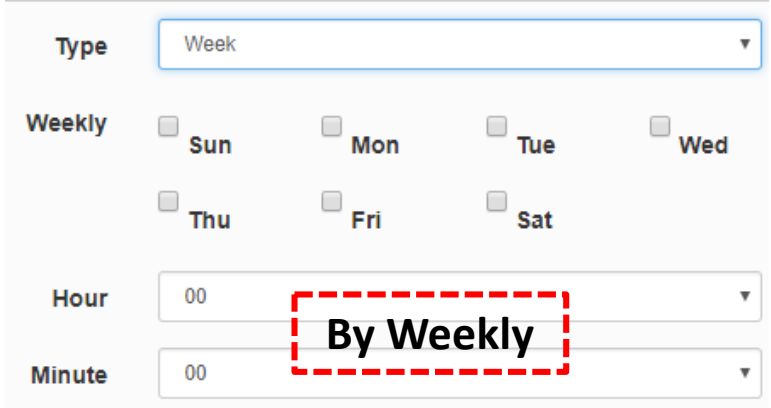


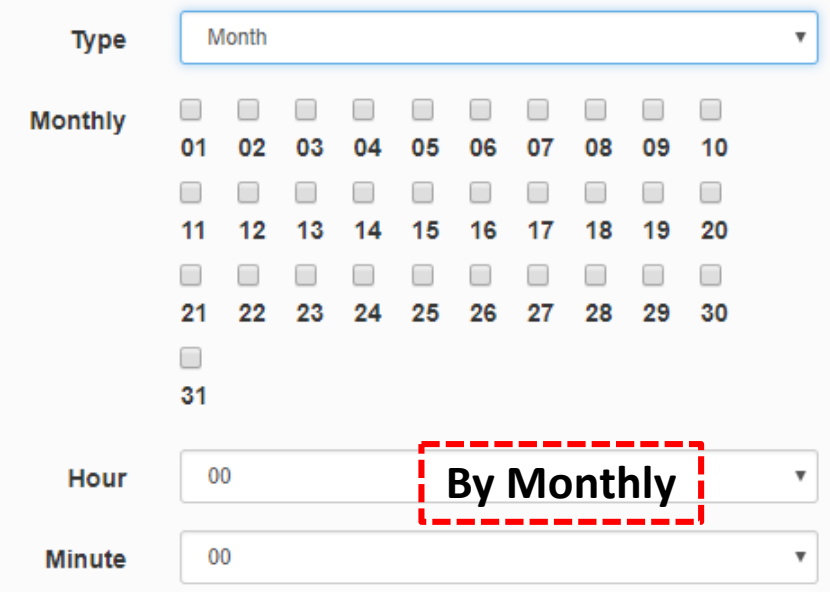
LED Control- User can select LED disable or enable by their preferences or environmental needs



Auto Reboot- Setup device auto reboot schedule to reduce CPU overloading and device crashes.







What we do

Innovation & Design

Our R&D team continues to incorporate the newest wireless protocols and features to make our products perfect for enterprise deployment.

Wireless Solutions

Our Field Application Engineers and Specialists have unparalleled experience providing the perfect solution for any wireless projects (e.g. Hotels, Long Distance PTP Backhaul, Universities)

Software Development & Design

Our software provides a high featured and easily operated User Interface and also supports centralized AP Management for convenient device deployment.

Outstanding Customer Service

CERIO's customer service staff are experts on our products and possess clear and patient communication skills.

Contact Information

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