

CERIO
Amplify your Wireless Network

Introduction to OW-300N2-A2

CenOS 5.0 Software Core

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Amplify your Wireless Network



eXtreme Power 11n 2.4GHz
2x2 Outdoor Access Point (1000mW)

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Product Overview



- 1000mW at 2.4Ghz eXtreme High Power Access Point
- Supports bandwidth of up to 300mbps
- Supports 5 Operation Modes (CenOS 5.0)
- Two 10/100Mbps Fast Ethernet Ports
- IEEE802.3af/at compliant **Passive PoE** Design
- Water resistant IP68 Die-cast Aluminum Housing
- Integrates a long-range power amplifier and high sensitivity receiver to deliver unmatched reliability and performance at large coverage application

- Supports 802.11n/11g/11b wireless standards
- Operation modes include: Router Mode, AP with WDS Mode, Control Access Point Mode, Client Bridge Mode, and WISP Mode
- Can broadcast up to 8 SSIDs, all of which support VLAN tagging
- Control Access Point mode can centrally manage up to 16 AP devices without the need for an additional AP Controller
- Supports Captive Portal Authentication for easy client login
- Supports OAuth2.0 for user login through Facebook/Google+
- Integrates 802.11r/k Fast Roaming Protocol
- Supports Ping Watchdog feature, the OS smartly reboots the system before a major crash.



OW-300N2-A2 Features — CERIO



OW-300N2-A2 incorporates a built-in heater with smart sensory control that automatically turns on when device PCB temperatures drop below 0°C. This makes OW-300N2-A2 perfect for cold weather deployment.



OW-300N2-A2 utilizes a 10dBi built-in panel antenna and also 2 external N-Type antenna connectors. Users have the option of choosing which design to use. (Users cannot operate built-in and external antennas simultaneously)



OW-300N2-A2 supports passive Power over Ethernet in to conveniently power the device through CAT5 cabling.

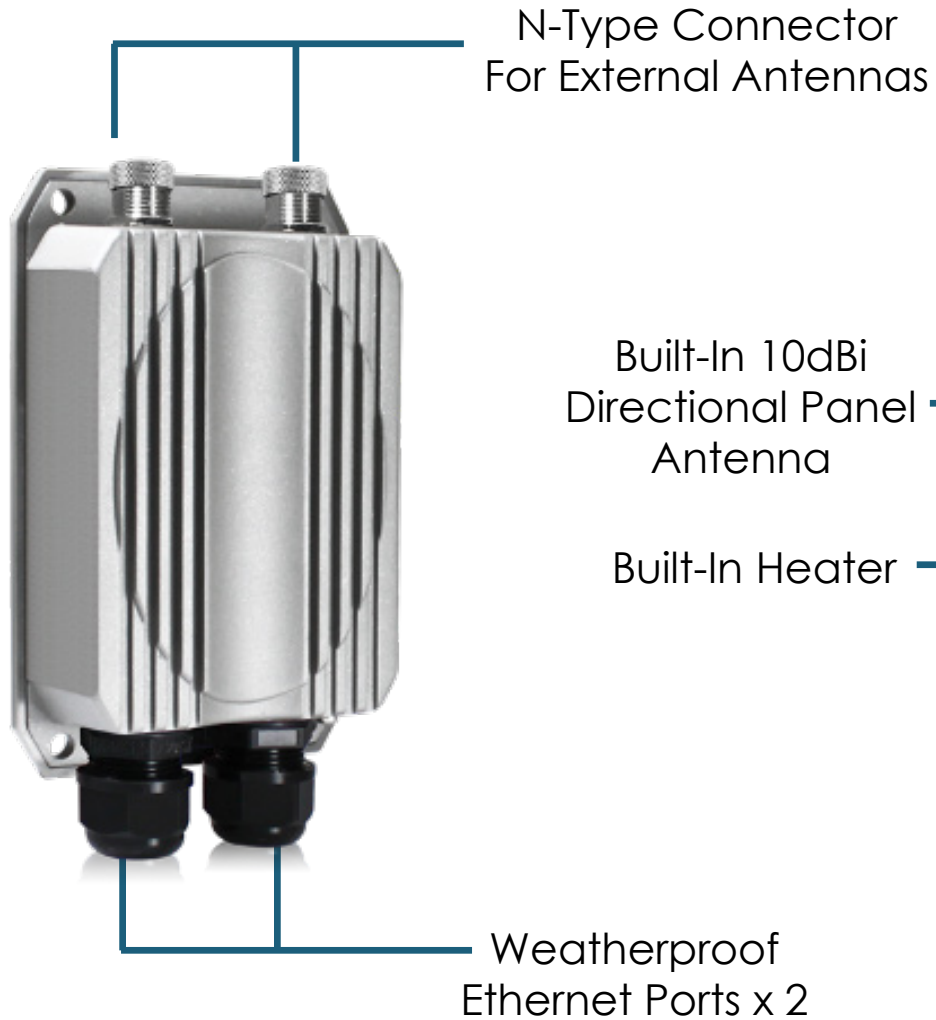


OW-300N2-A2 utilizes IP67/IP68 approved weatherproof aluminum die-cast housing for quality device protection and durability.

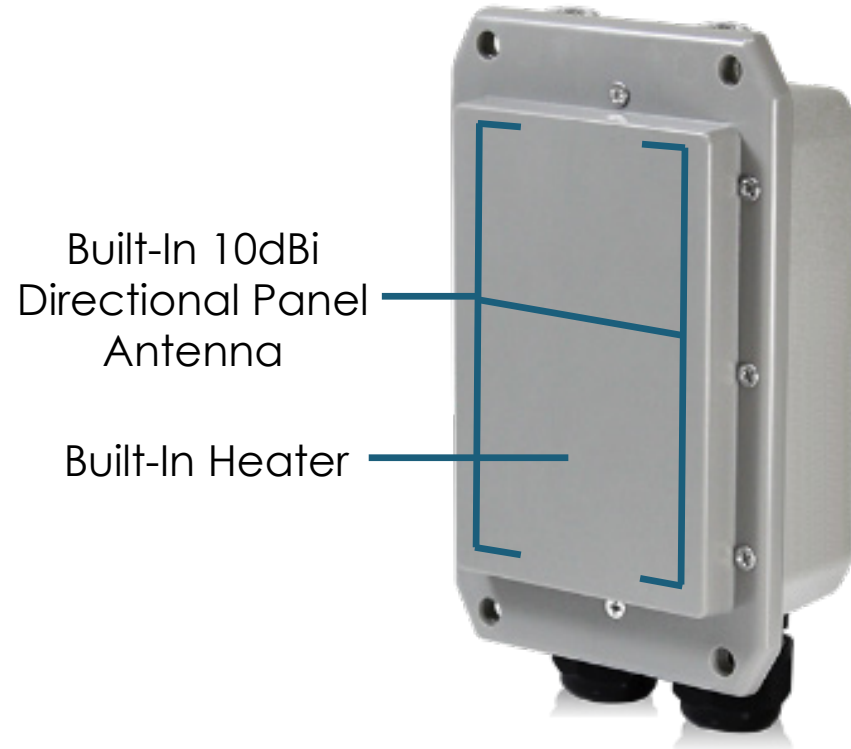
OW-300N2-A2 Overview



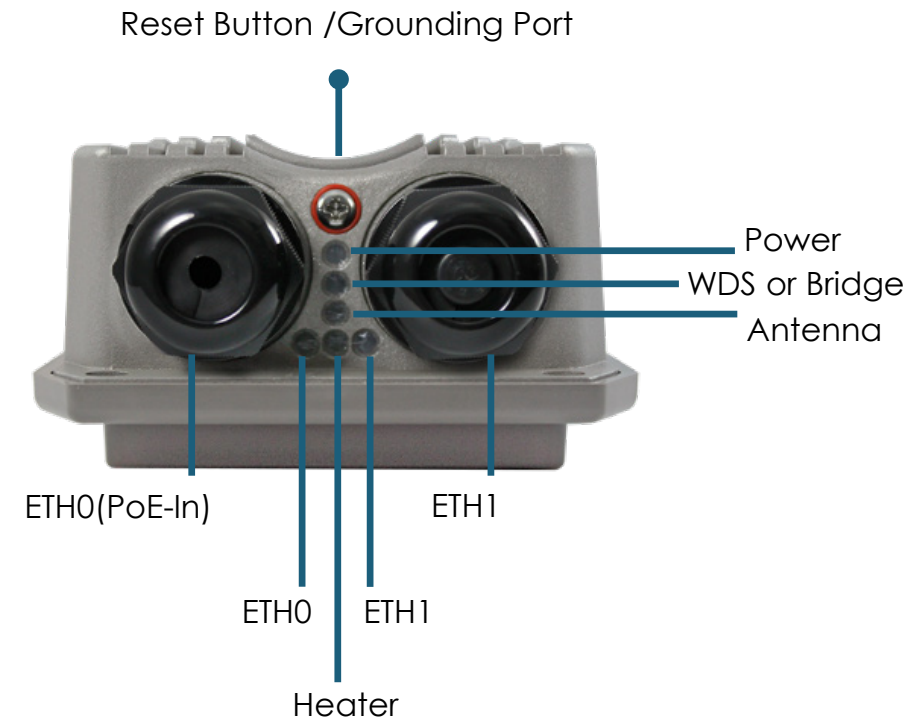
Front Panel



Back Panel



Bottom Panel



*Ethernet Ports utilize **Weatherproof** protective design



General Setup

MAC Address	8c:4d:ea:04:f4:78
Country	Taiwan
Band Mode	802.11ac
Auto Channel	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Channel	
Tx Power	Level 9
Antenna Switch	<input checked="" type="radio"/> Internal <input type="radio"/> External
Slot Time	9 Distance
ACK Timeout	30

N-Type Connector
For External Antennas

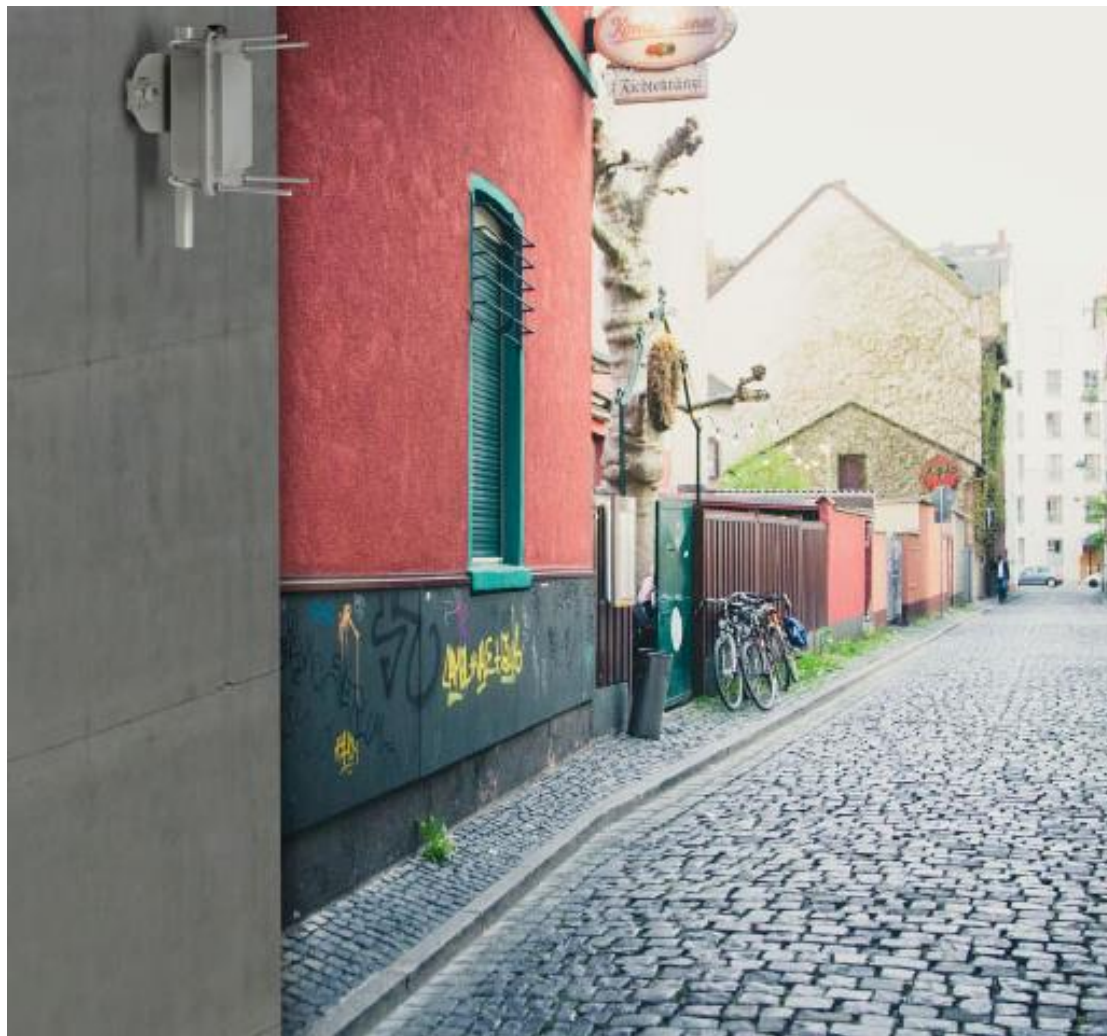


Built-In 10dBi
Directional Panel Antenna

Administrators can choose between using the **built-in 2.4GHz directional antenna** or the external **N-Type connectors** by logging into the software user interface.

Versatile Mounting

Wall Mount Supported



Pole Mount Supported



AP Station Deployment — CERIO



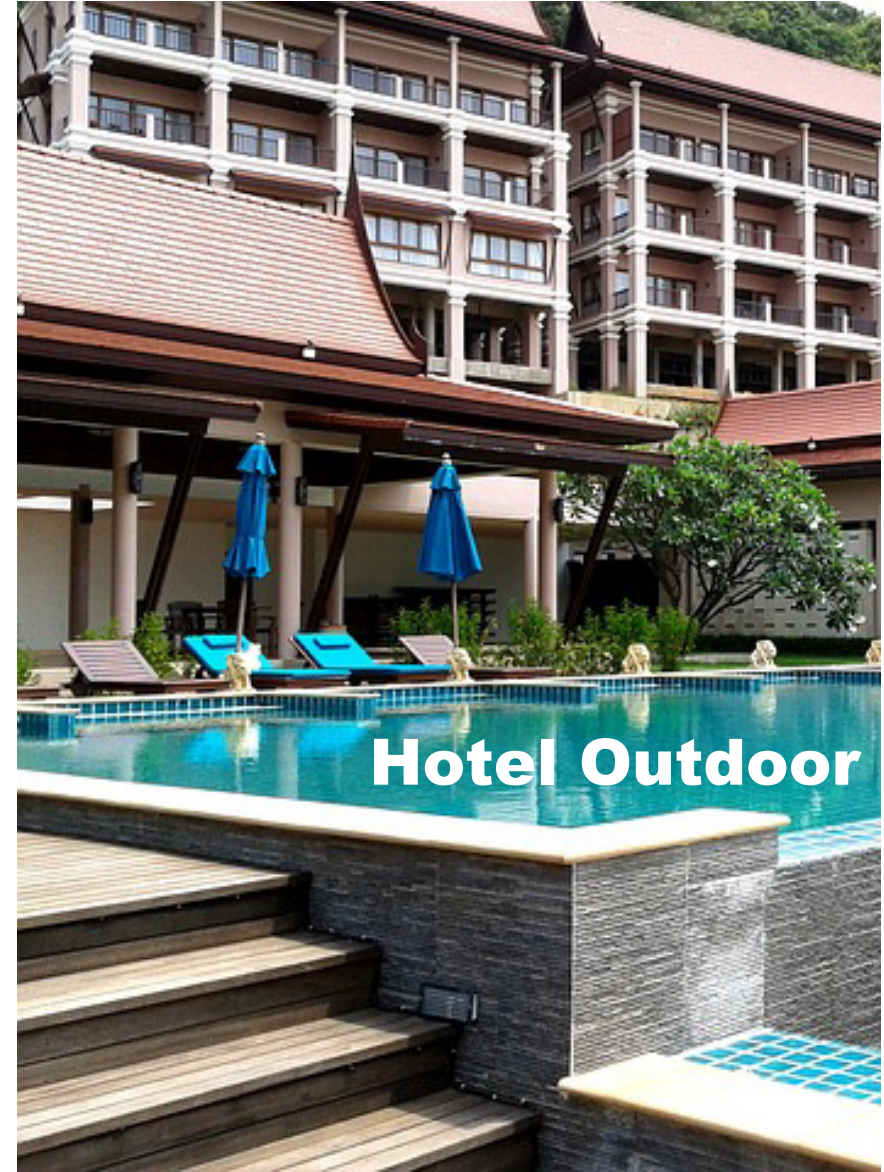
OW-300N2-A2 operate on the 2.4GHz frequency band, and are perfect for AP station deployment

CERIO's OW-300N2-A2 utilizes weather proof die-cast housing, making it a reliable device for outdoor deployment.

Users can deploy OW-300N2-A2 as an **Access Point Station** in:

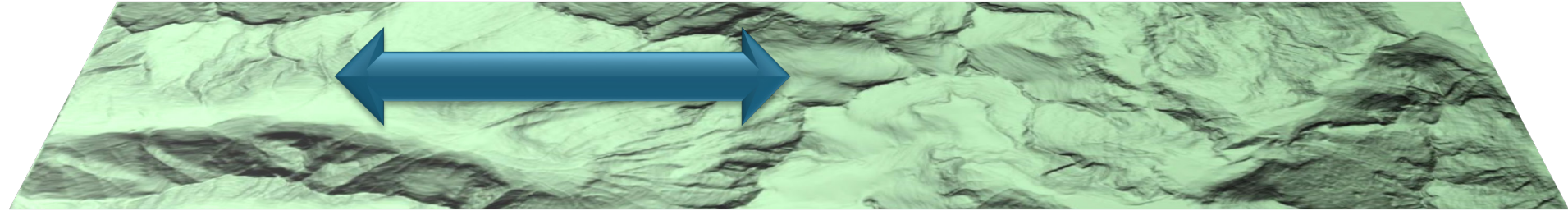
- Public Spaces- Parks, Pools, etc
- Schools and Universities
- Company campuses
- Businesses/Restaurants with outdoor seating

Ideal Deployment — CERIO



Tested connection distances using **OW-300N2-A2** with built-in 10dBi directional panel antenna.

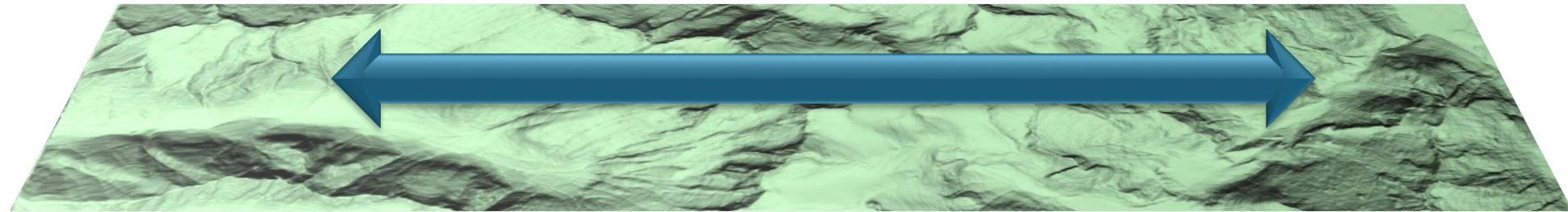
3.7+ Kilometers



Average 64.4Mbps Bandwidth

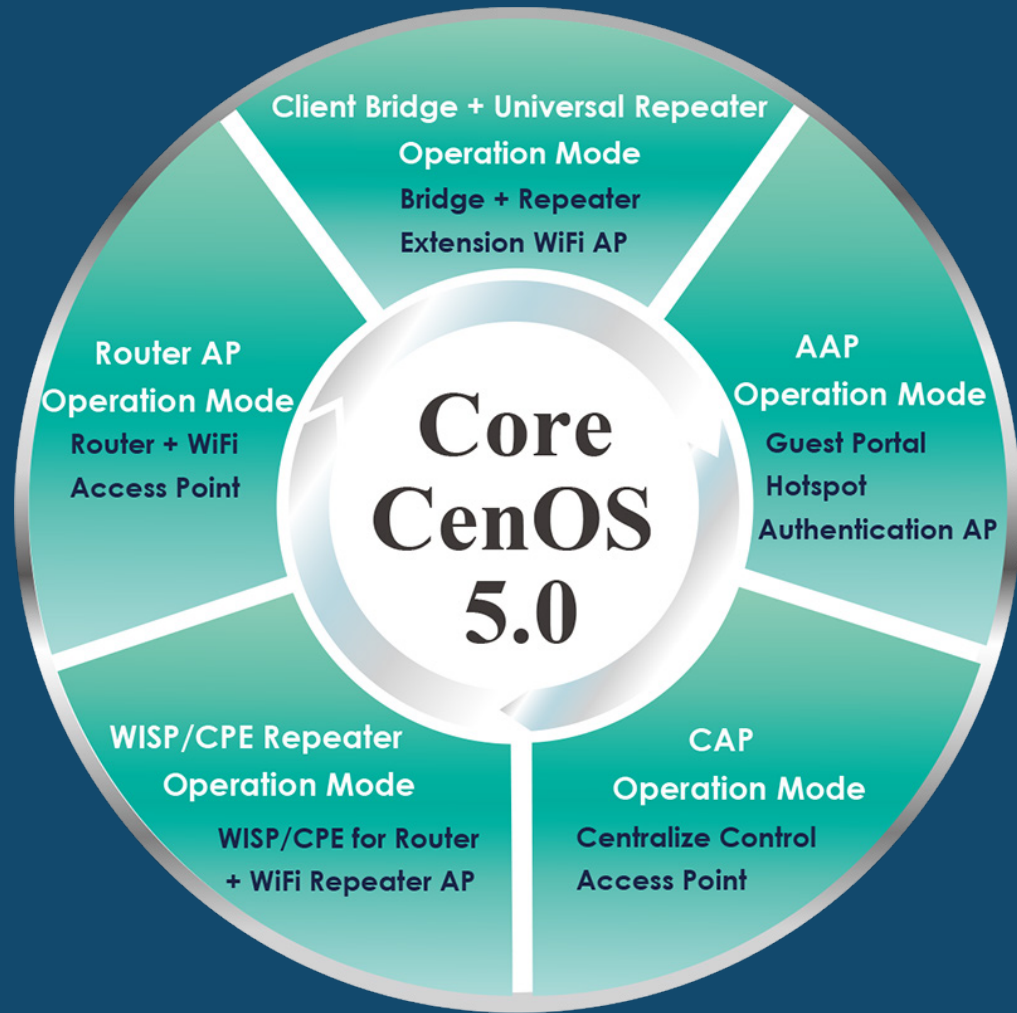
Tested connection distances using **OW-300N2-A2** with external antennas

10+ Kilometers



Average 8.4Mbps Bandwidth

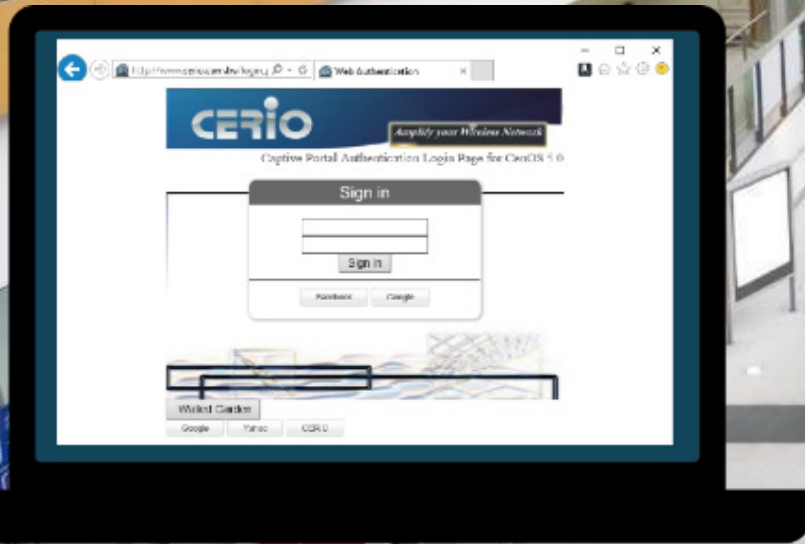
Software Overview



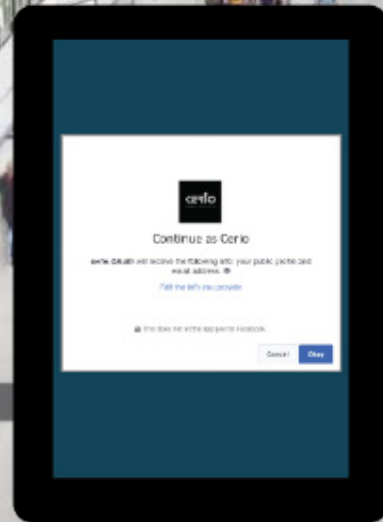
Only Cerio's special model supports CAP / Router mode

Captive Portal Authentication

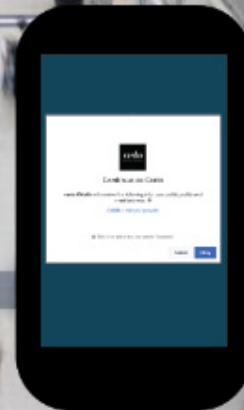
Captive Portal Authentication conveniently allows wireless clients to access the network through a customized web login portal.



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.)



*Router Mode does **NOT support** Captive Portal Login*

Integrated AP Management

Centralized AP Management



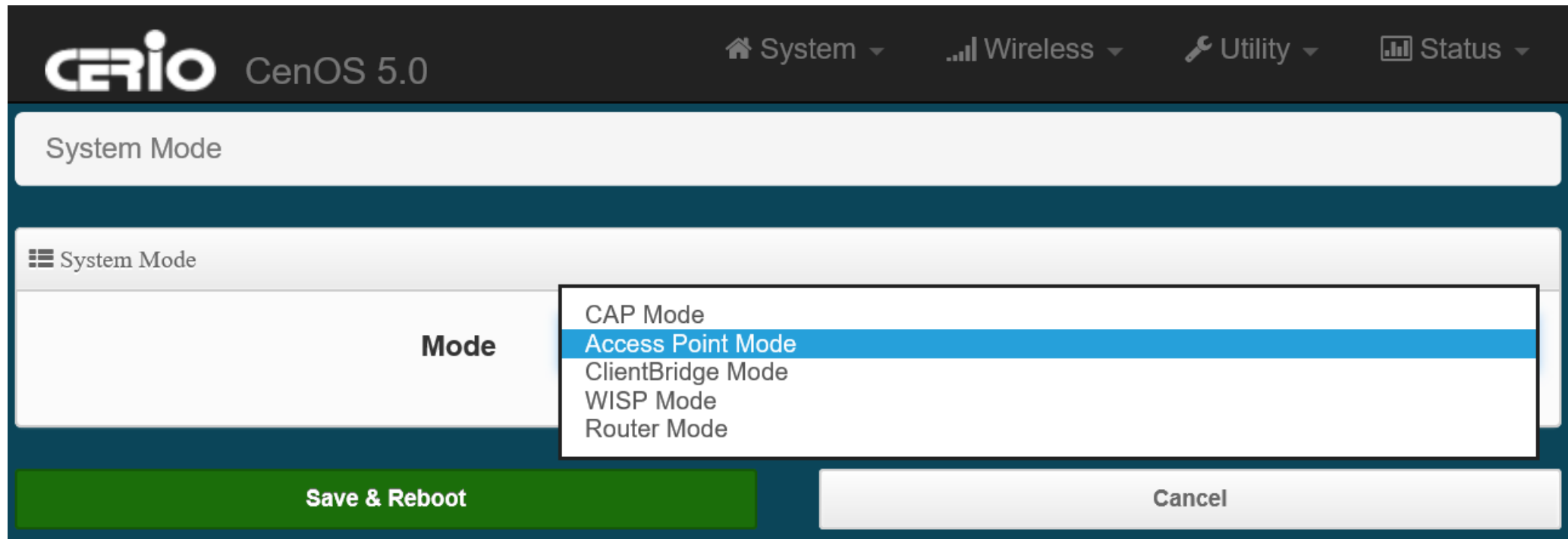
AP Controller



Fast and Convenient Client Login

Captive Portal Authentication

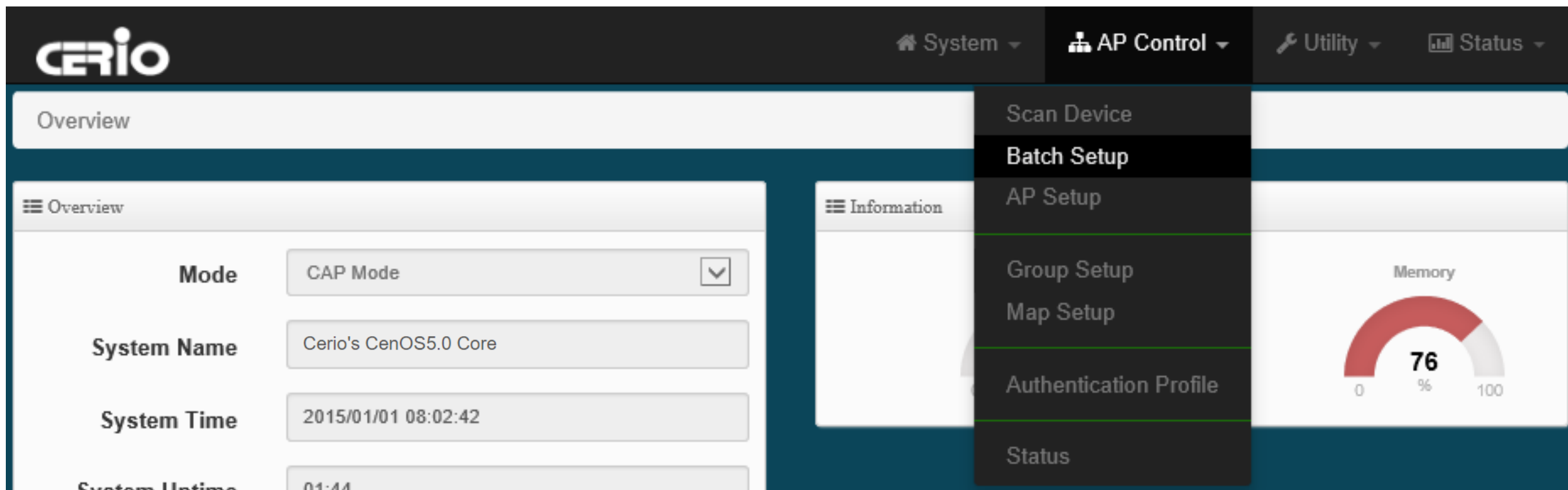
OW-300N2-A2 supports five different Operation Modes: Control Access Point, Access Point Mode with WDS, Client Bridge + Repeater Mode, WISP/CPE Repeater AP Mode, and Router Mode



*Notice: Router Mode does **NOT support** Client Authentication*

Control Access Point — CERIO

Control Access Point (CAP) Mode's converts the device into a centralized AP management controller. When OW-300N2-A2 is in CAP Mode, it can centrally manage up to **16 AP devices**.



The screenshot displays the CERIO web interface. The top navigation bar includes the CERIO logo, a home icon, and menu items for System, AP Control, Utility, and Status. The AP Control menu is expanded, showing options: Scan Device, Batch Setup, AP Setup, Group Setup, Map Setup, Authentication Profile, and Status. The main content area is divided into two panels. The left panel, titled 'Overview', shows system configuration details: Mode (CAP Mode), System Name (Cerio's CenOS5.0 Core), System Time (2015/01/01 08:02:42), and System Uptime (01:44). The right panel, titled 'Information', features a 'Memory' gauge showing 76% usage, with a scale from 0 to 100.

System Information	Value
Mode	CAP Mode
System Name	Cerio's CenOS5.0 Core
System Time	2015/01/01 08:02:42
System Uptime	01:44

Resource	Usage
Memory	76%

Scan AP Device

Filter Device

VLAN#

Default Password

Sort

Update IP Address & Netmask

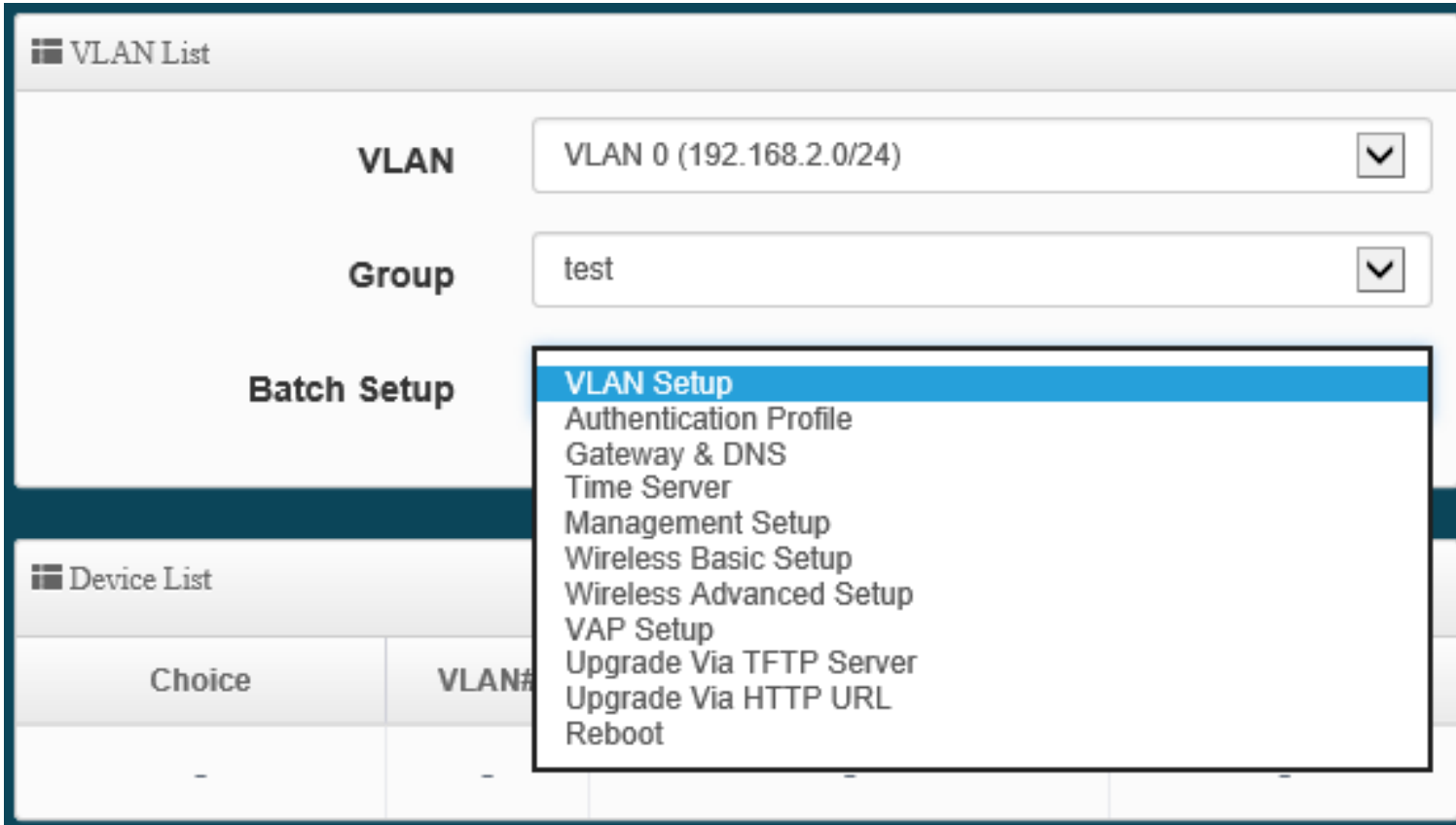
Control Port

VLAN TAG

IP Address

Netmask

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



The screenshot shows the 'Batch Setup' interface in CERIO. It features a 'VLAN List' section with two dropdown menus: 'VLAN' set to 'VLAN 0 (192.168.2.0/24)' and 'Group' set to 'test'. Below these is a 'Batch Setup' dropdown menu that is open, showing a list of configuration options: 'VLAN Setup' (highlighted), 'Authentication Profile', 'Gateway & DNS', 'Time Server', 'Management Setup', 'Wireless Basic Setup', 'Wireless Advanced Setup', 'VAP Setup', 'Upgrade Via TFTP Server', 'Upgrade Via HTTP URL', and 'Reboot'. At the bottom, a 'Device List' table is partially visible with columns for 'Choice' and 'VLAN#', showing a single row with dashes.

Choice	VLAN#
-	-

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.

VLAN Setup

Apply

VLAN

VLAN Mode Enable Disable

Access Point 0 Enable Disable

802.1d Spanning Tree Enable Disable

Control Port Enable Disable

IAPP

IP Setup

Apply Enable Disable

IP Mode Enable Disable

IP Address

Netmask

ETH0 VLAN Tag Setup

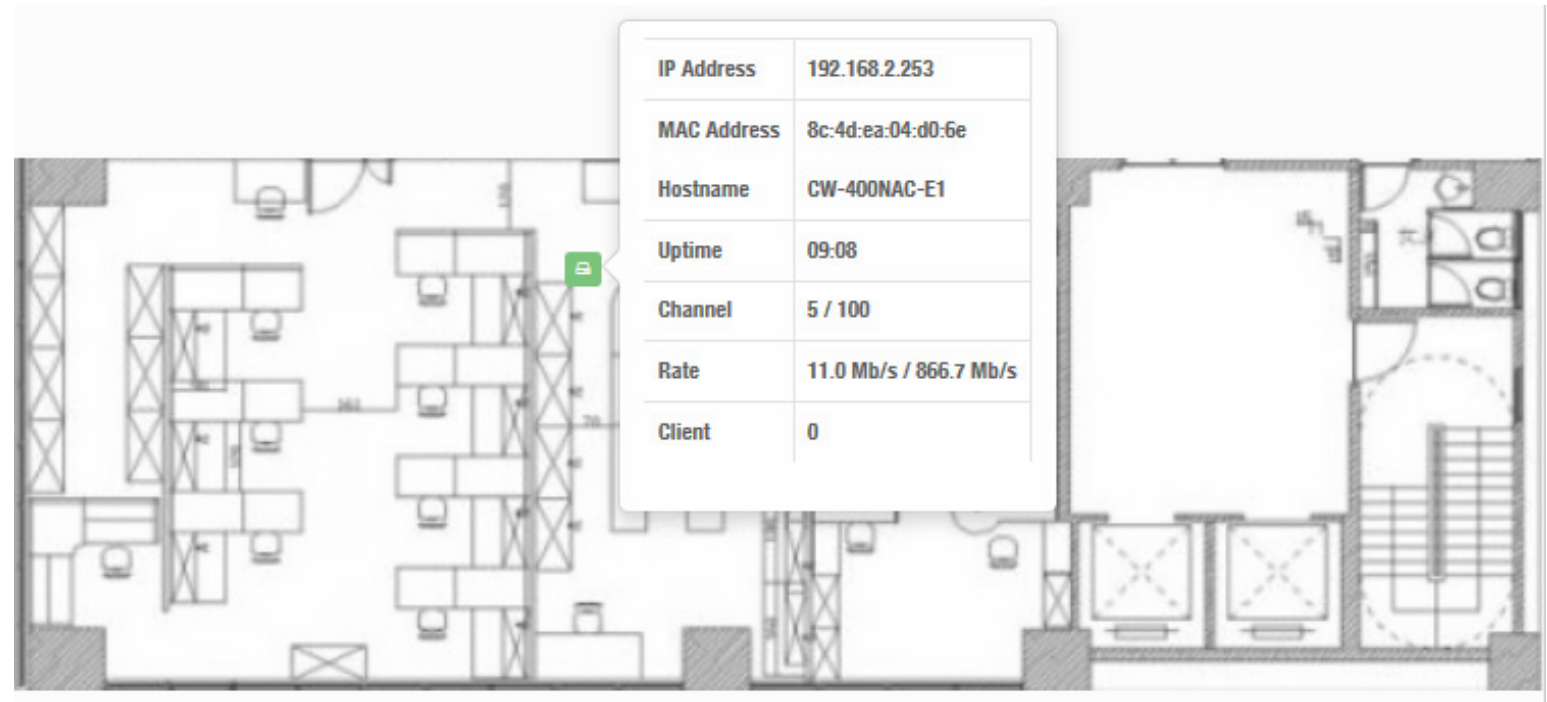
ETH0 Enable Disable

VLAN TAG

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

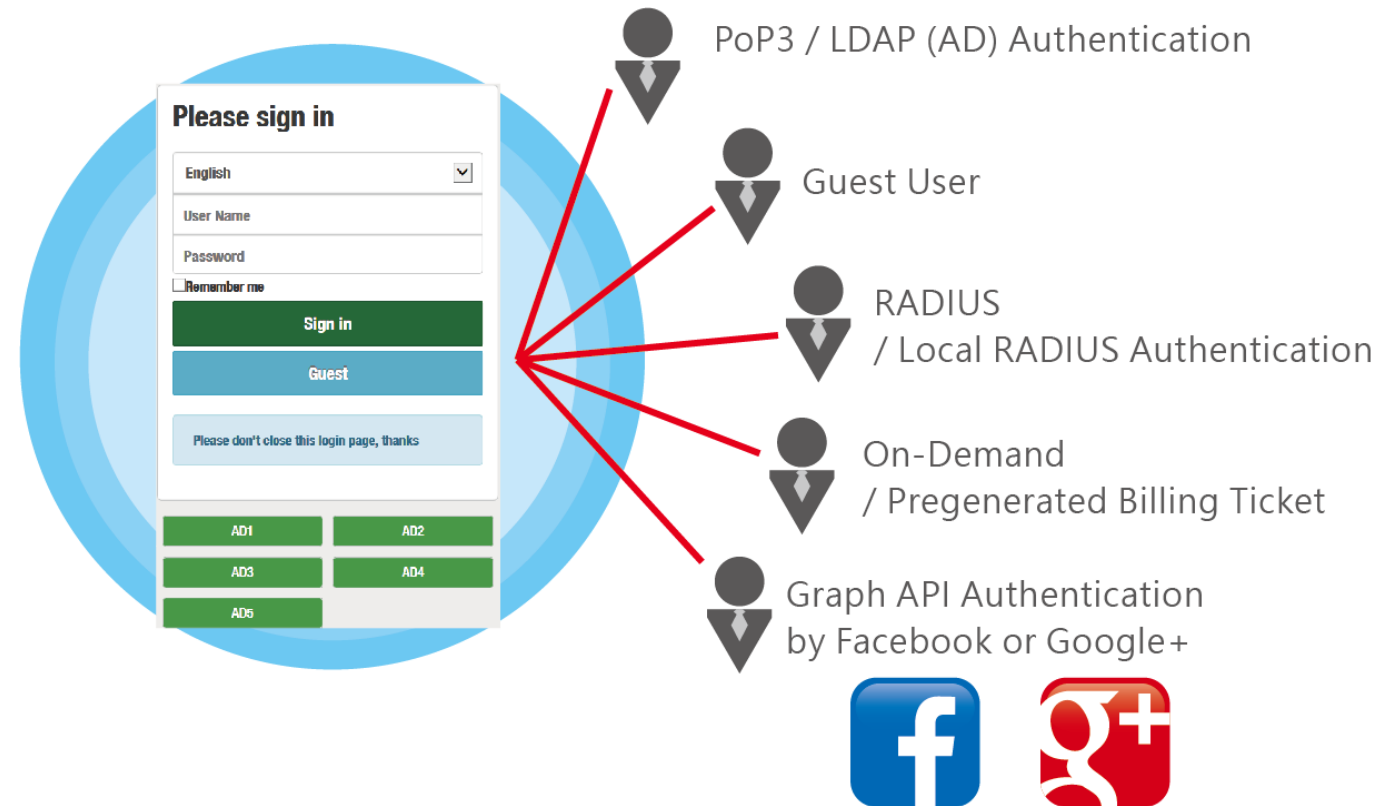
CAP Mode also supports Map Setup function for organizing your AP network. Administrators can create maps by uploading floor plan URLs and dragging APs to the correct location. Once complete, administrators can monitor AP statuses such as uptime, data rates, and connected clients

Map List				Create New Map
#	Name	Description	Action	
1	1F_plan	Location Map for man...	View	▼



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



*Notice: Router Mode does **NOT support** Client 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.

OAuth 2.0 Provider List Create New Provider			
#	Active	Provider	Action
1	On	Google	Edit ▾
2	On	Facebook	Edit ▾



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

The screenshot shows the 'Guest' configuration page. It includes the following settings:

- Service**: Enable, Disable
- Login Type**: One Time, Multiple Time
- Count Limit**:
- Login Time**: Minutes
- QoS**: Enable, Disable
- Upload**: Kbps
- Download**: Kbps

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

The screenshot shows the 'Local User List' table with the following data:

#	Name	Action
1	Test Account 1	Delete
2	Test Account 2	Delete

Customized Login Page

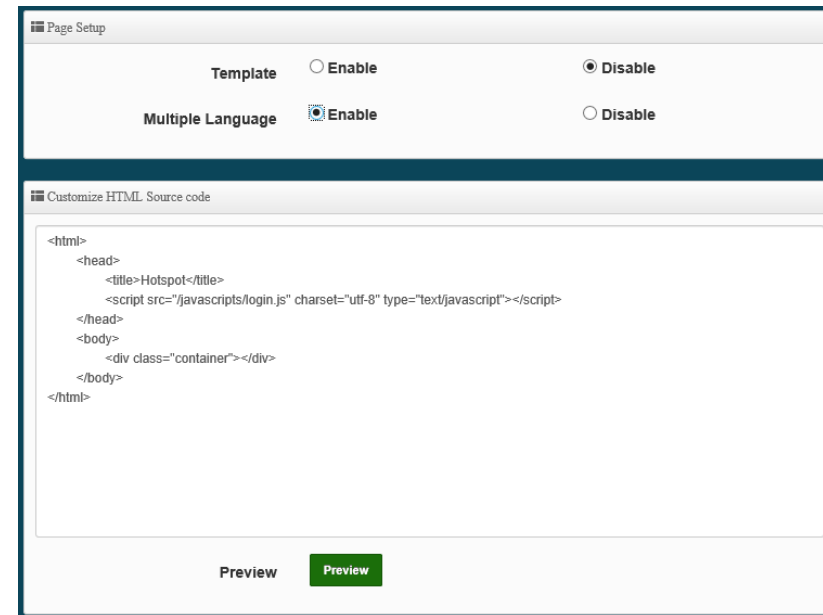
Administrators can create a customized Login Page which can become a platform for:

(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.




Customized Login Page



Customize through HTML Code

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.

 Bandwidth Control

Peer Users	<input checked="" type="radio"/> Enable	<input type="radio"/> Disable
Upload	<input type="text" value="512"/>	Kbps
Download	<input type="text" value="512"/>	Kbps
Total	<input checked="" type="radio"/> Enable	<input type="radio"/> Disable
Upload	<input type="text" value="1024"/>	Kbps
Download	<input type="text" value="1024"/>	Kbps

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

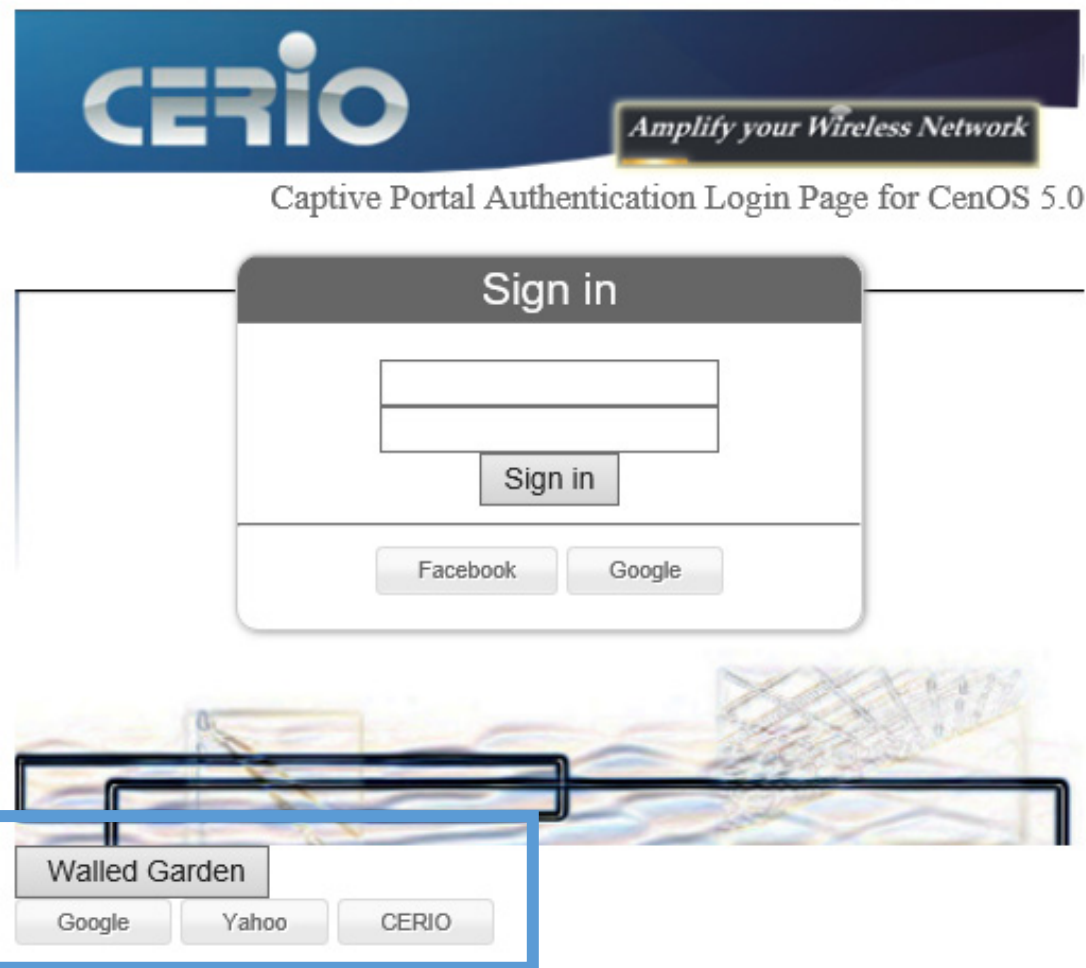
Walled Garden

Display Name (4 -32 chars)

IP Address/Domain

Full URL

Enabled Walled Garden Websites



OW-300N2-A2's design supports a total of 8 Virtual LANs (VLAN) and 8

VLAN Setup						
VLAN List						
#	VLAN Mode	Flag	IP Address	Netmask	Radio 0	Action
0	On	Native ETH0 Native ETH1 Access Control	192.168.2.254	255.255.255.0	NGS_AP0	Network
1	Off	ETH0.101 ETH1.101	-	-	NGS_AP1	Network



Supports 8 VLANs

Each VLAN supports 1 SSIDs



ETH1 VLAN Tag Setup	
ETH1	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
ETH1 Tag	<input checked="" type="checkbox"/> 1-4096

OW-300N2-A2 supports up to **4096** Tags. This is a crucial feature that ensures successful directing of packet traffic for VLANs that span across multiple switches.

WDS Setup

WDS Setup Enable Disable

Authentication

PassPhrase

WDS Client Setup

Enable	MAC Address
<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>

OW-300N2-A2 with **CenOS 5.0** supports **WDS Setup** when operating in **Access Point Mode**

OW-300N2-A2's Access Point mode supports up to **8** WDS links, and includes a WDS Status page to monitor the WDS connection strength.

(8x WDS on the 2.4GHz frequency band)

802.11r/802.11k Fast Roaming

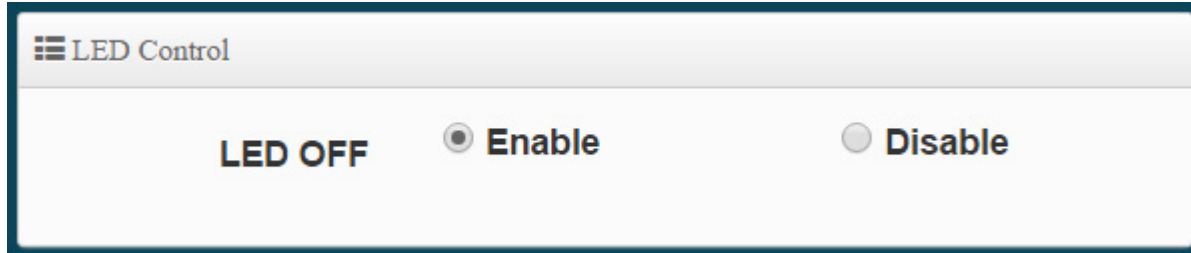
Fast Roaming **Enable** **Disable**

Fast Roaming Settings

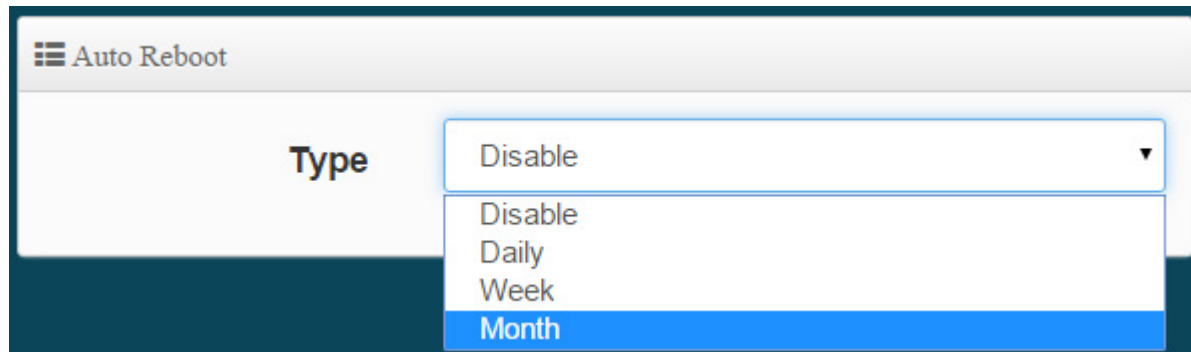
Mobility Domain	<input type="text" value="a1b2"/>
R0 Key Lifetime	<input type="text" value="10000"/>
Reassoc deadline	<input type="text" value="1000"/>
R0/NAS Identifier	<input type="text" value="ap.example.com"/>
R1 Identifier	<input type="text" value="000102030405"/>
R1 Push	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

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.



LED Control- Allows the devices LED lights to be disabled to reduce blinking irritation in sensitive environments.



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

CERIO

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<https://goo.gl/hqjOkR>



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