

CERIO
Amplify your Wireless Network



Introduction to **CW-300N**



CenOS 5.0 Software Core

eXtreme Power 11n 2.4GHz 2x2
Ceiling Wall PoE Access Point (500mW)



- 500mW at 2.4Ghz eXtreme High Power AP
- Supports bandwidth of up to 300mbps
- Supports 3 Operation Modes (CenOS 5.0)
- 2x2 Built-in 2.4Ghz Omni-Directional Antennas
- IEEE 802.3af/at Power over Ethernet
- Supports 802.11r/k Fast Roaming Protocol
- Integrates a long-range power amplifier and high sensitivity receiver to deliver unmatched reliability and performance at large coverage application

Advanced Features



- Supports 802.11n/11g/11b wireless standards
- Operation modes include: AP with WDS Mode, Control Access Point Mode, Client Bridge Mode, and WISP Mode
- Supports PoE Bridge function (PoE Pass-through)
- 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 Ping Watchdog feature, the OS smartly reboots the system before a major crash.
- Software includes LED Control

Hardware Overview



Main Device Front Panel

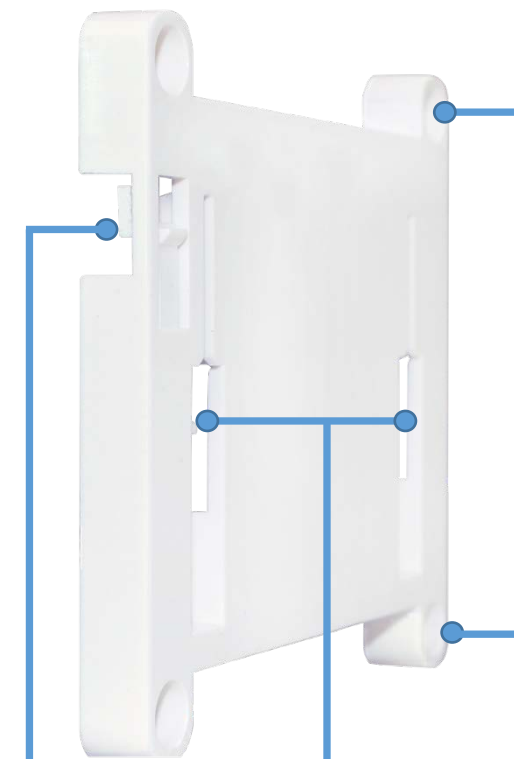


Wi-Fi LED

Ethernet LED

Power LED

Mounting Bracket



Mounting Clips

Screw Holes

Bracket Security Lock

Main Device Side Panel



Reset Button

RJ45 Port for LAN Link or PoE In

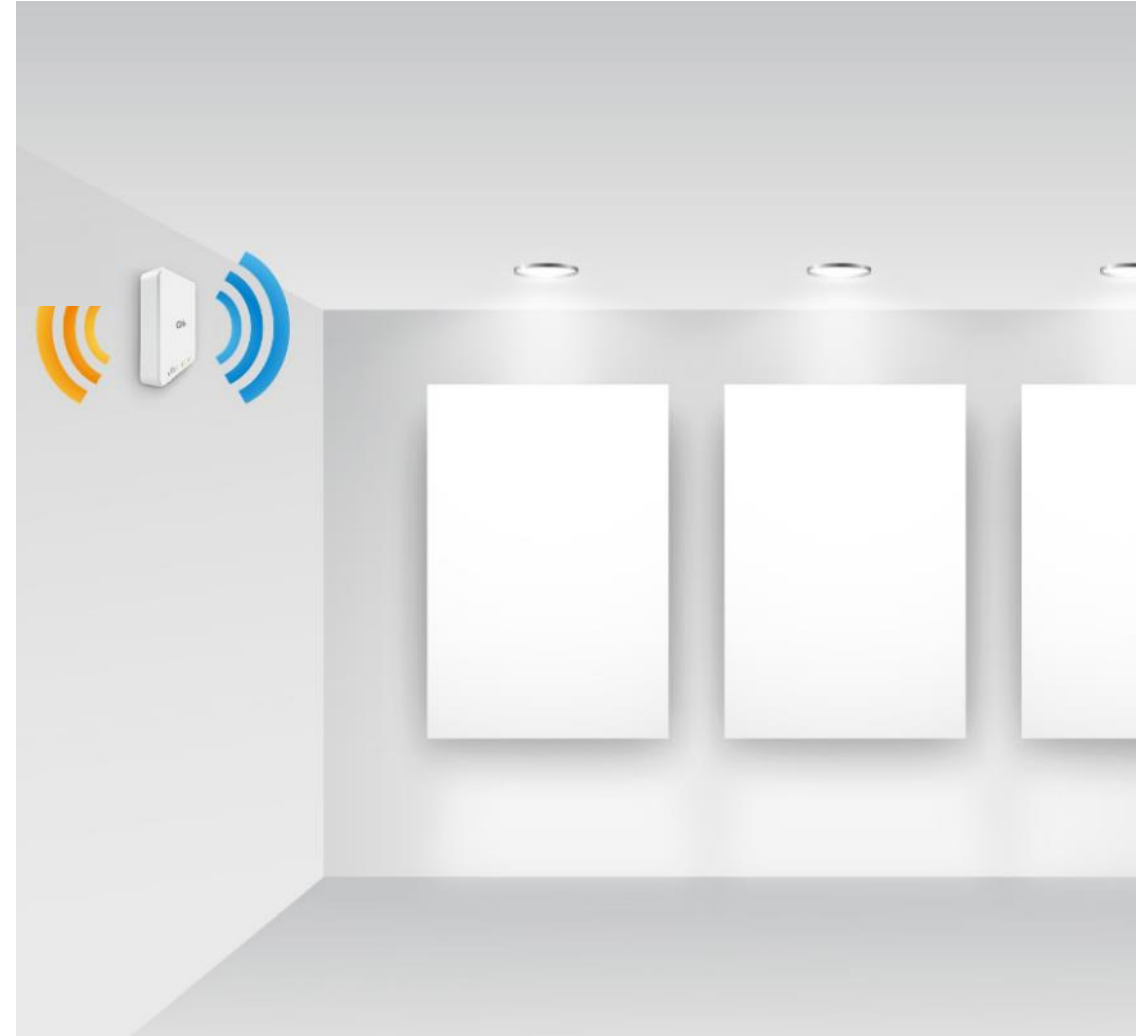
Input for DC12V Power Adapter

Versatile Mounting

Ceiling Mount Supported

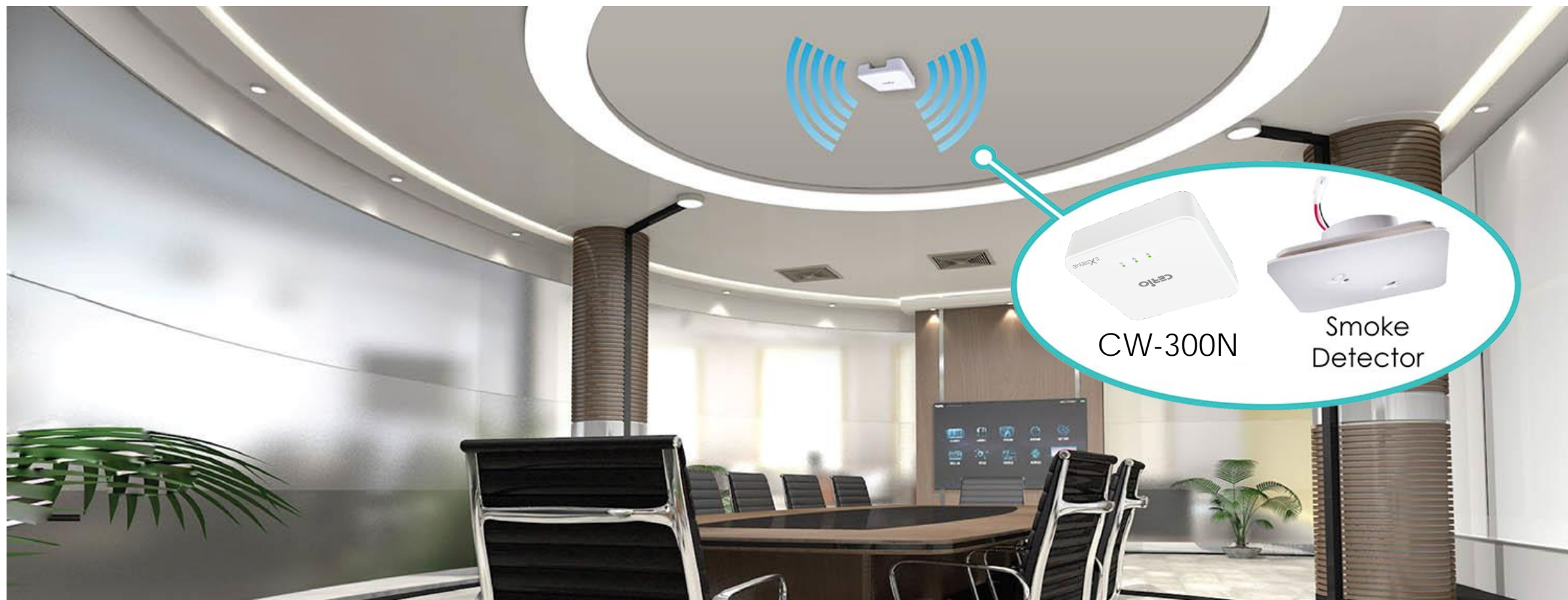


Wall Mount Supported

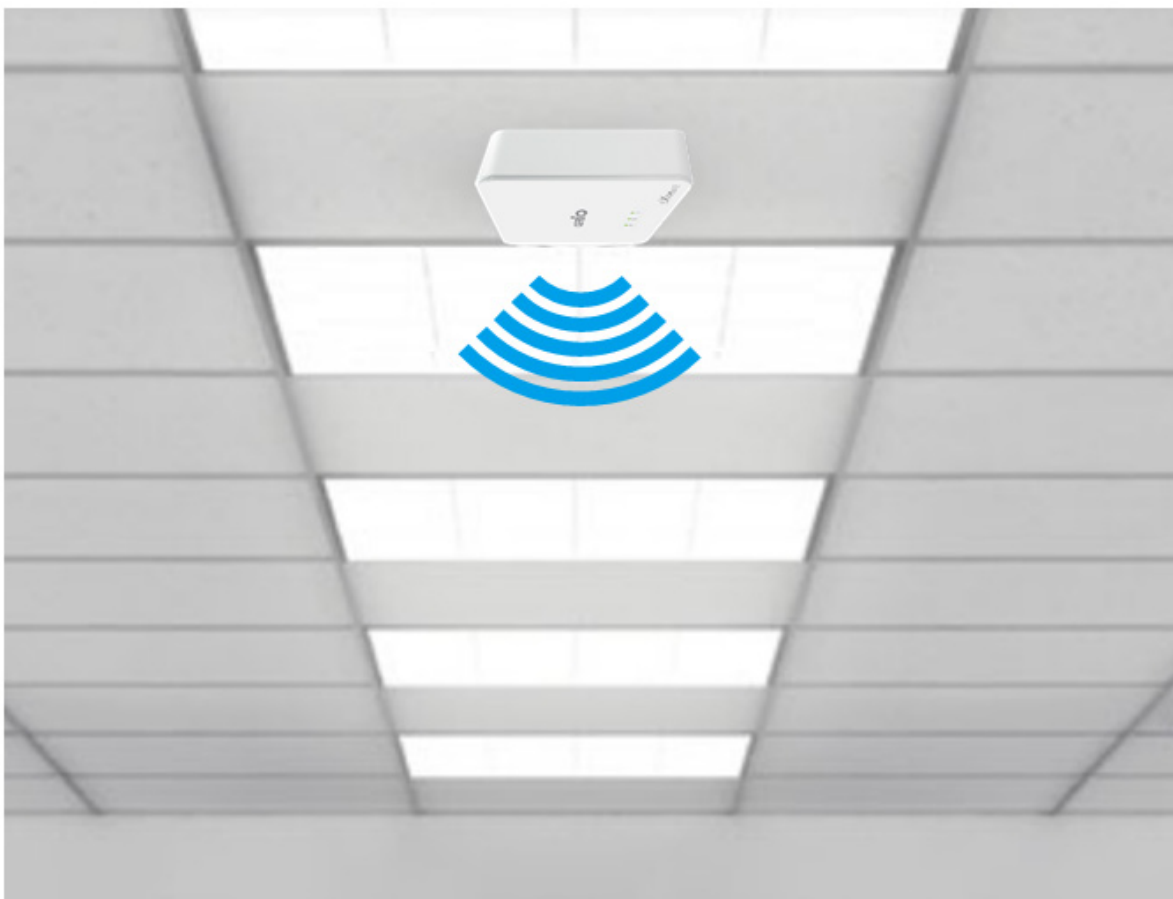


Seamless Integration — CERIO

CW-300N's elegant design makes it perfect for a wide range of deployments. The device also looks similar to a smoke detector, allowing it to reduce visibility and blend into its environment.



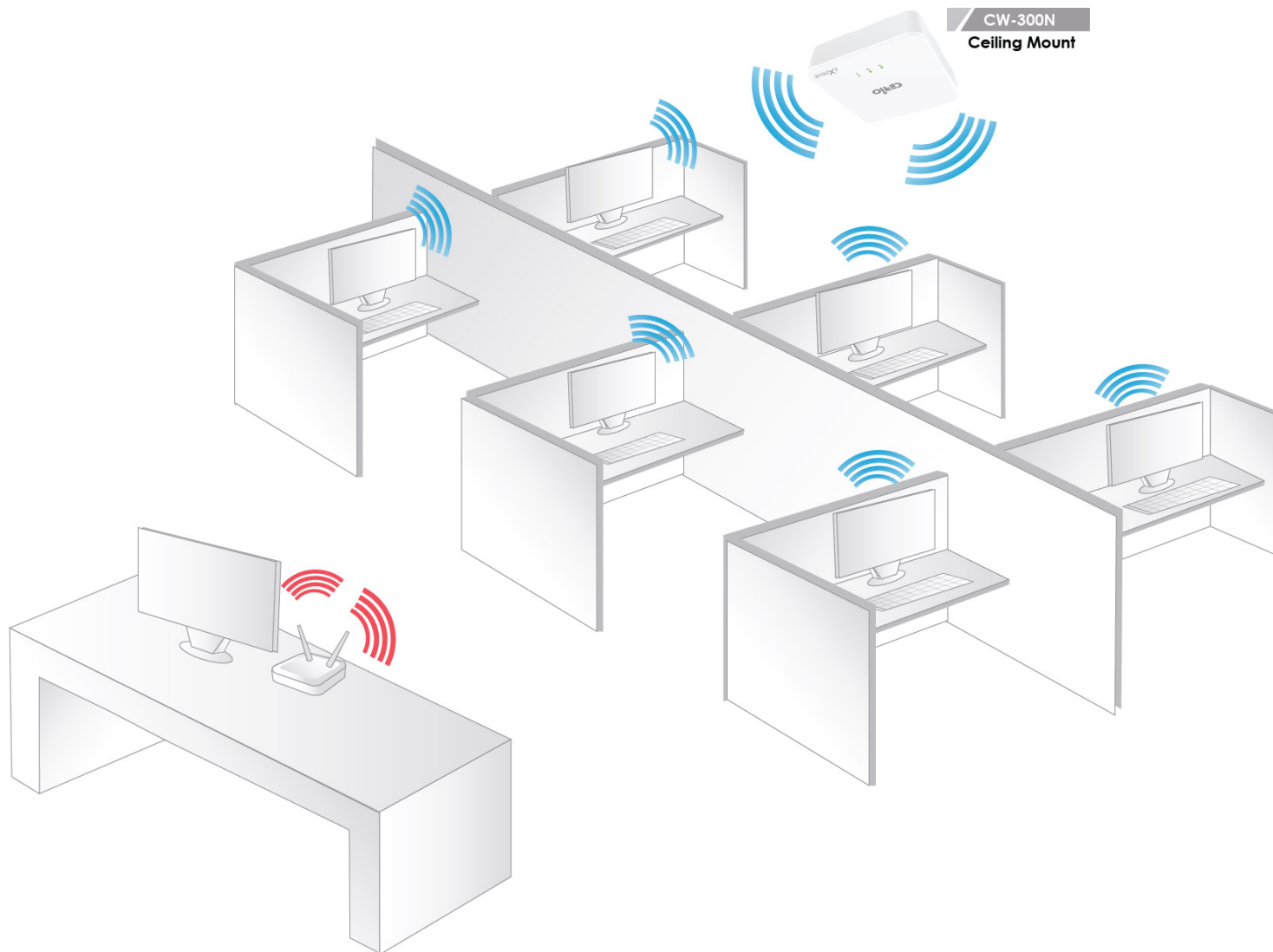
Power Source Options



CW-300N provides two power input options through its 802.3af/at Power over Ethernet design, and an integrated DC power input jack.

Users can conveniently power CW-300N using PoE in places without power outlets, while always maintaining a DC input power option.

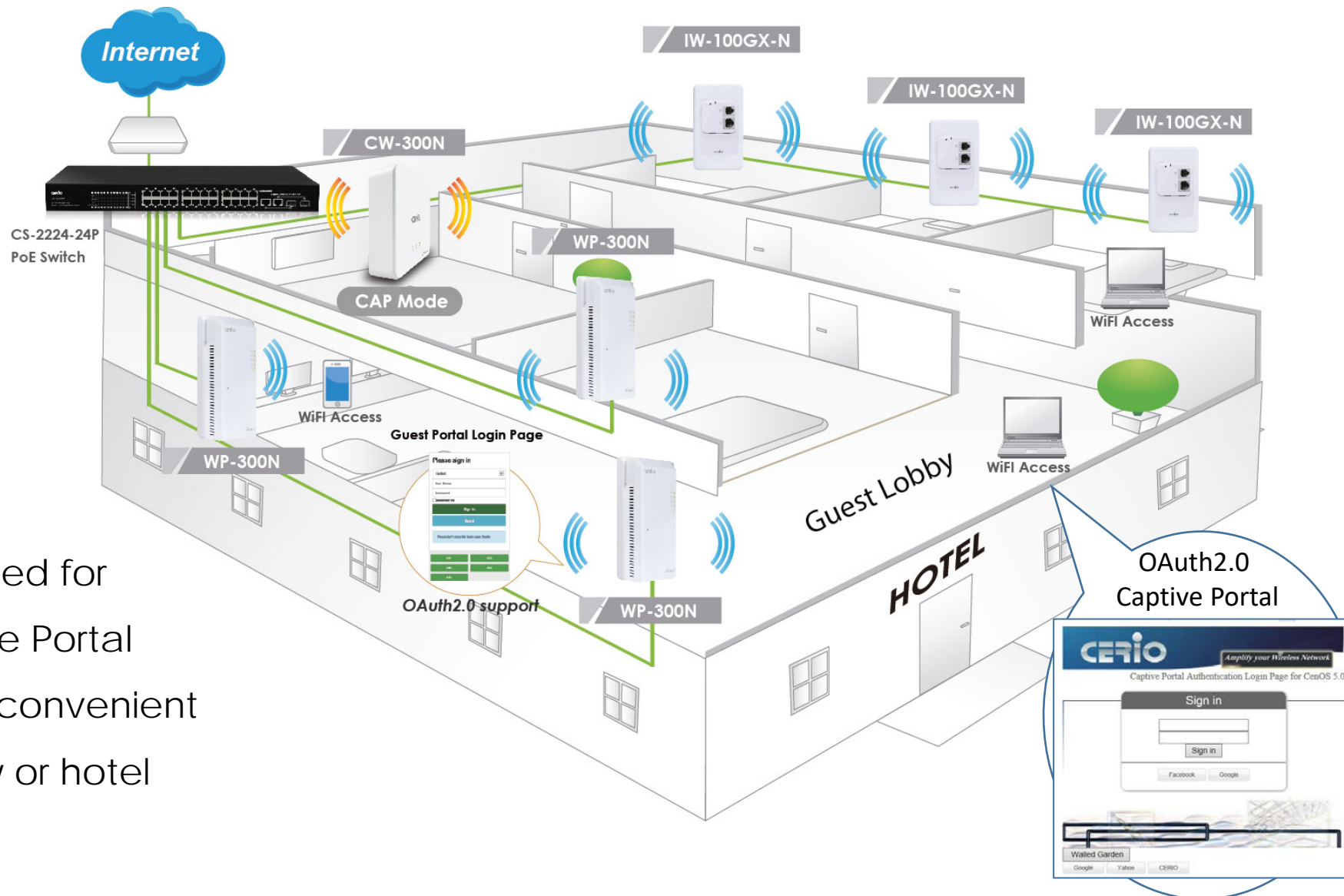
Ideal for Office Deployment—CERIO



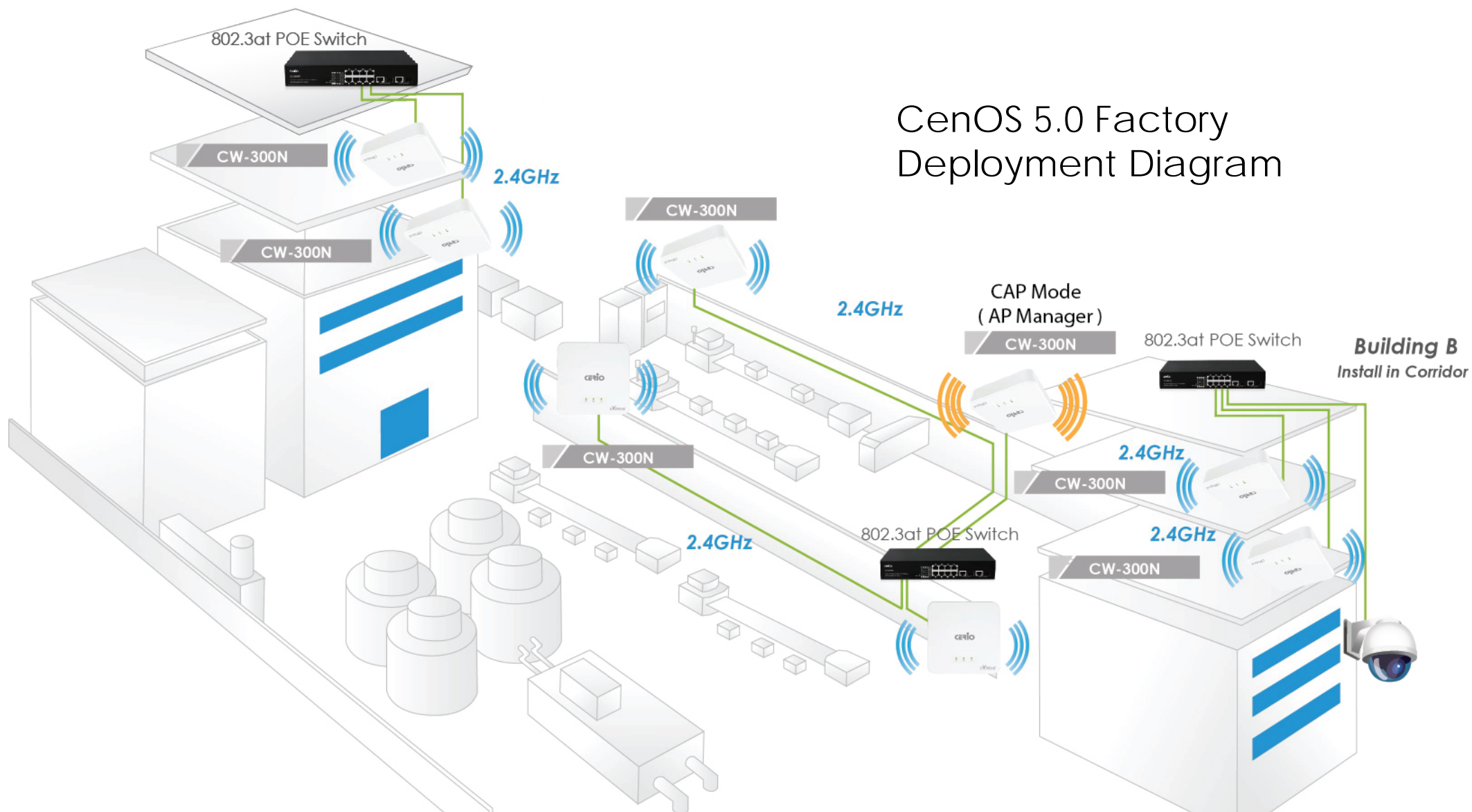
CW-300N is perfect for office deployment because of its ceiling mount design. By mounting the device on ceilings, clients can avoid **Line of Sight interferences** from barriers such as office cubicles. This ensures that your office space does not have Wi-Fi dead zones.

CW-300N with CenOS 5.0 allows for better device security, and also provides a **wider Wi-Fi coverage** in hotel rooms and lobby areas.

CAP mode provides **AP management** without the need for additional hardware. Captive Portal Authentication can provide convenient client login in the hotel lobby or hotel restaurants.

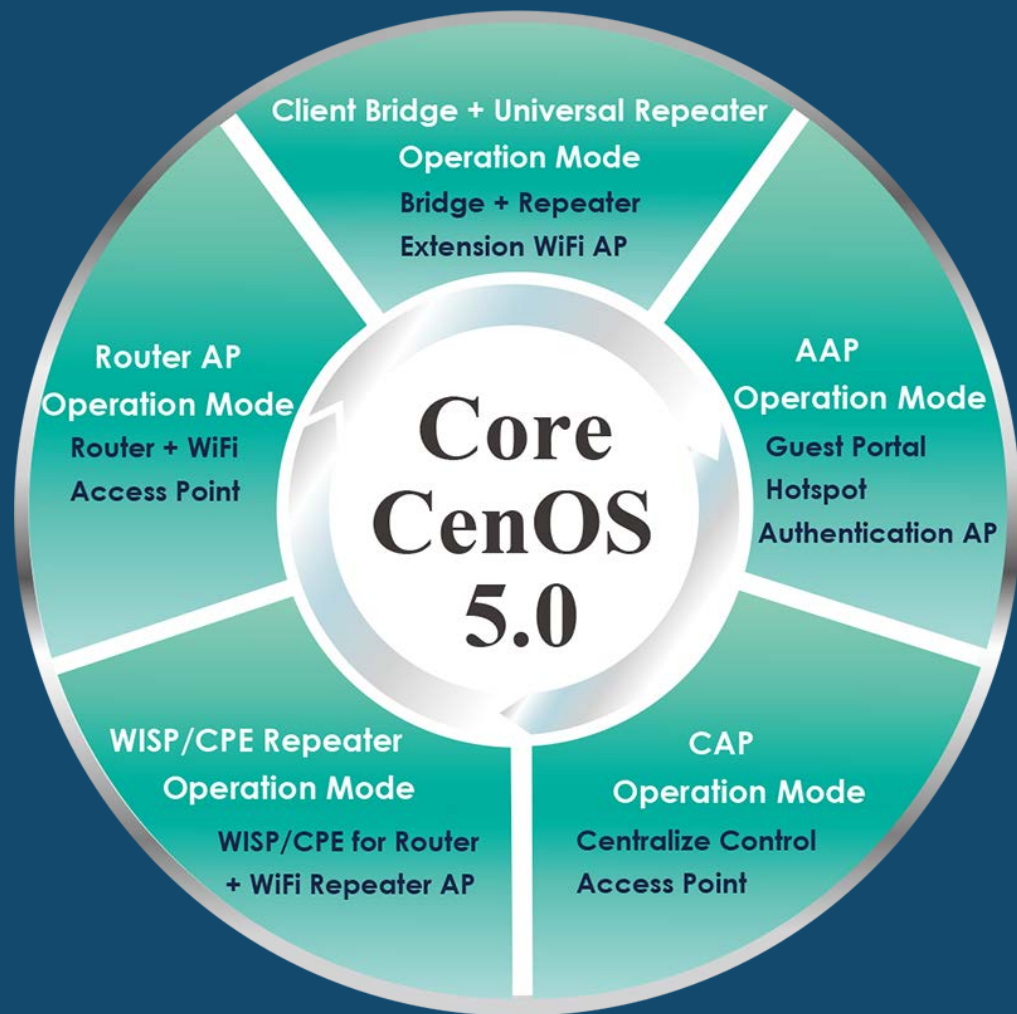


Enterprise Deployment



CenOS 5.0 Factory Deployment Diagram

Software Overview



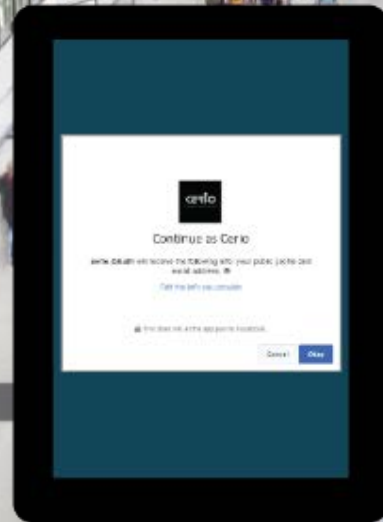
Only Cerio's special model supports CAP / Router mode

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.)



Integrated AP Management

Centralized AP Management

AP Management

AP Controller

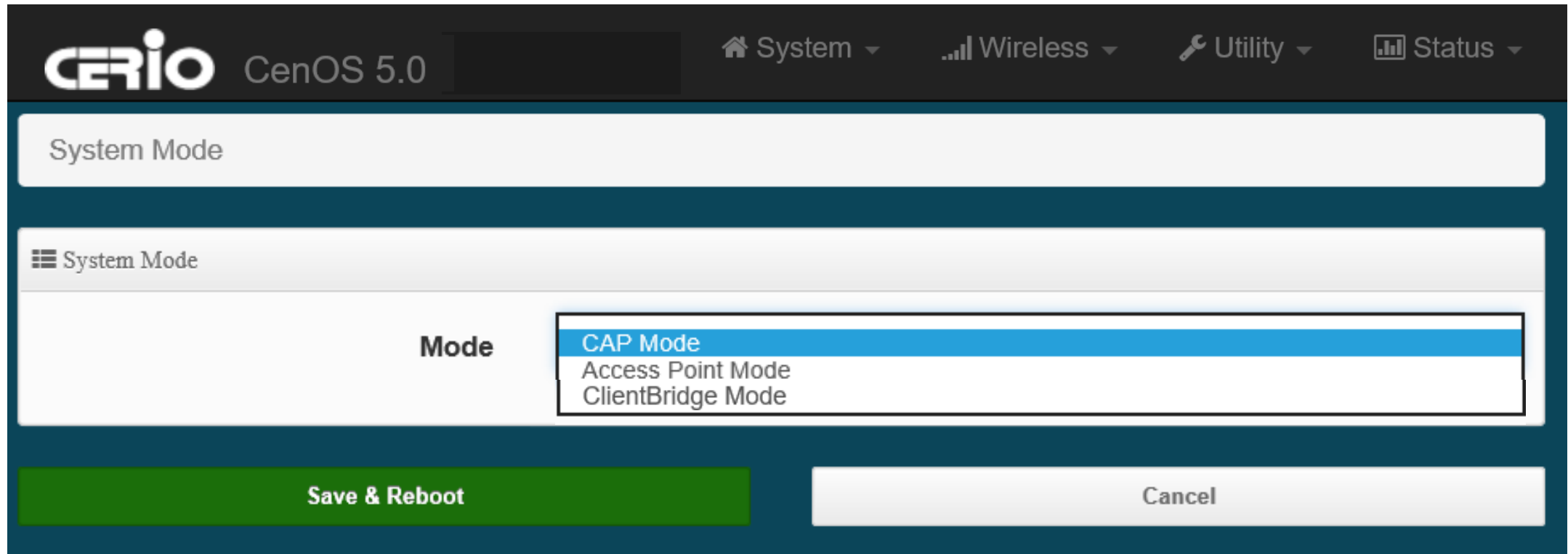


Fast and Convenient Client Login

Captive Portal Authentication



CW-300N supports three different Operation Modes: Control Access Point, Access Point Mode with WDS, and Client Bridge + Repeater Mode



The screenshot displays the CERIO web interface for configuring the System Mode. The header includes the CERIO logo, the version 'CenOS 5.0', and navigation options: System, Wireless, Utility, and Status. The main content area is titled 'System Mode' and features a dropdown menu with the following options:

Mode
CAP Mode
Access Point Mode
ClientBridge Mode

At the bottom of the interface, there are two buttons: a green 'Save & Reboot' button and a white 'Cancel' button.

Control Access Point — CERIO

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

The screenshot displays the CERIO web management interface. At the top, there is a navigation bar with the CERIO logo on the left and menu items for System, AP Control, Utility, and Status on the right. The main content area is divided into several sections:

- Overview Panel:** Contains system configuration fields:
 - Mode:** A dropdown menu currently set to "CAP Mode".
 - System Name:** A text field containing "CW-300N".
 - System Time:** A text field containing "2015/01/01 08:02:42".
 - System Uptime:** A text field containing "01:44".
- Information Panel:** A section on the right side of the interface.
- Memory Gauge:** A semi-circular gauge showing memory usage at 76%, with a scale from 0 to 100%.
- AP Control Dropdown Menu:** A dark grey menu is open over the "AP Control" navigation item, listing the following options:
 - Scan Device
 - Batch Setup
 - AP Setup
 - Group Setup
 - Map Setup
 - Authentication Profile
 - Status

Scan AP Device

Filter Device

VLAN#

Default Password

Sort

Update IP Address & Netmask

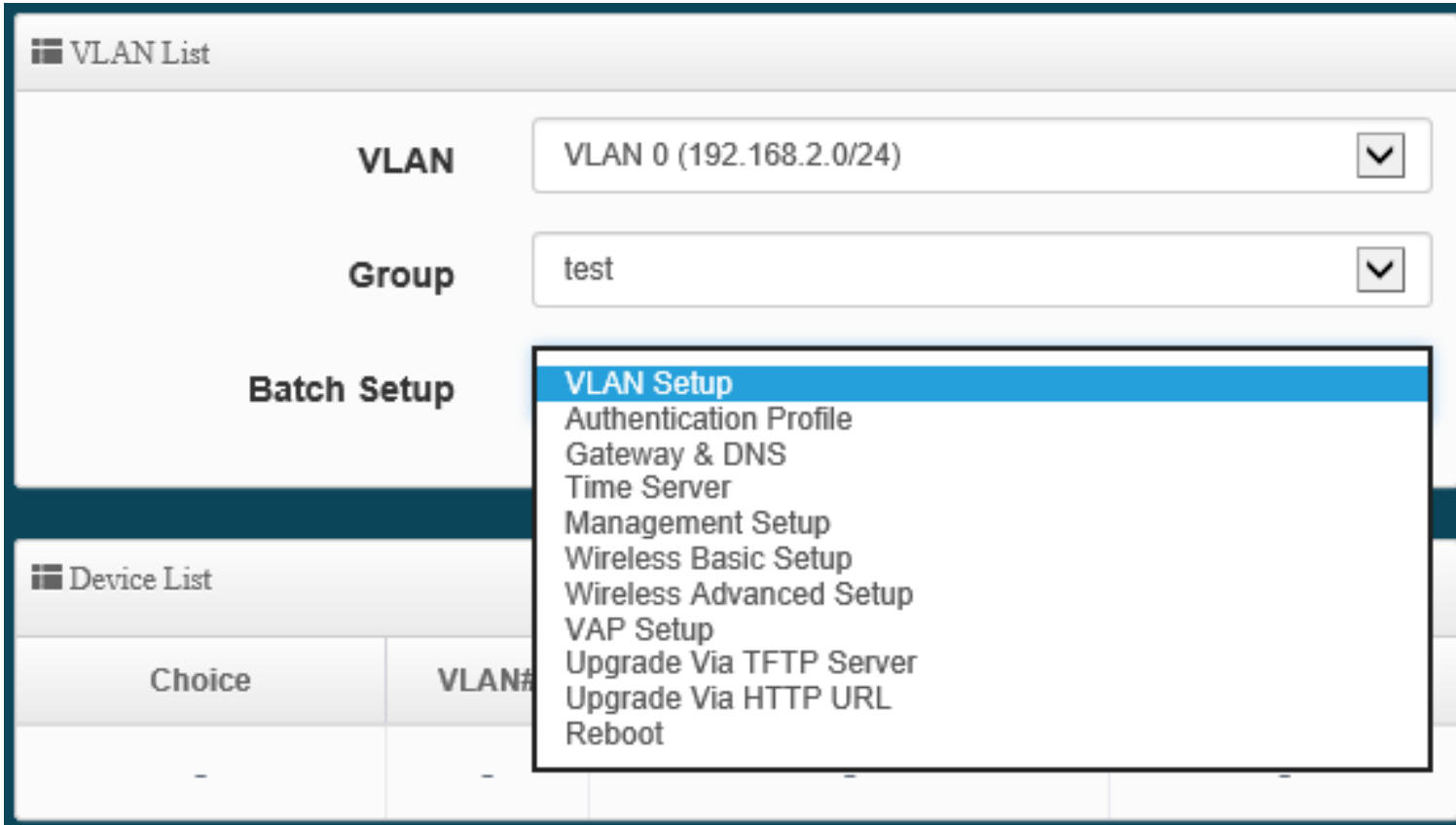
Control Port

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 CERIO Batch Setup interface. At the top, there is 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' section with a dropdown menu currently 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, there is a 'Device List' table with columns for 'Choice' and 'VLAN#', both containing 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.

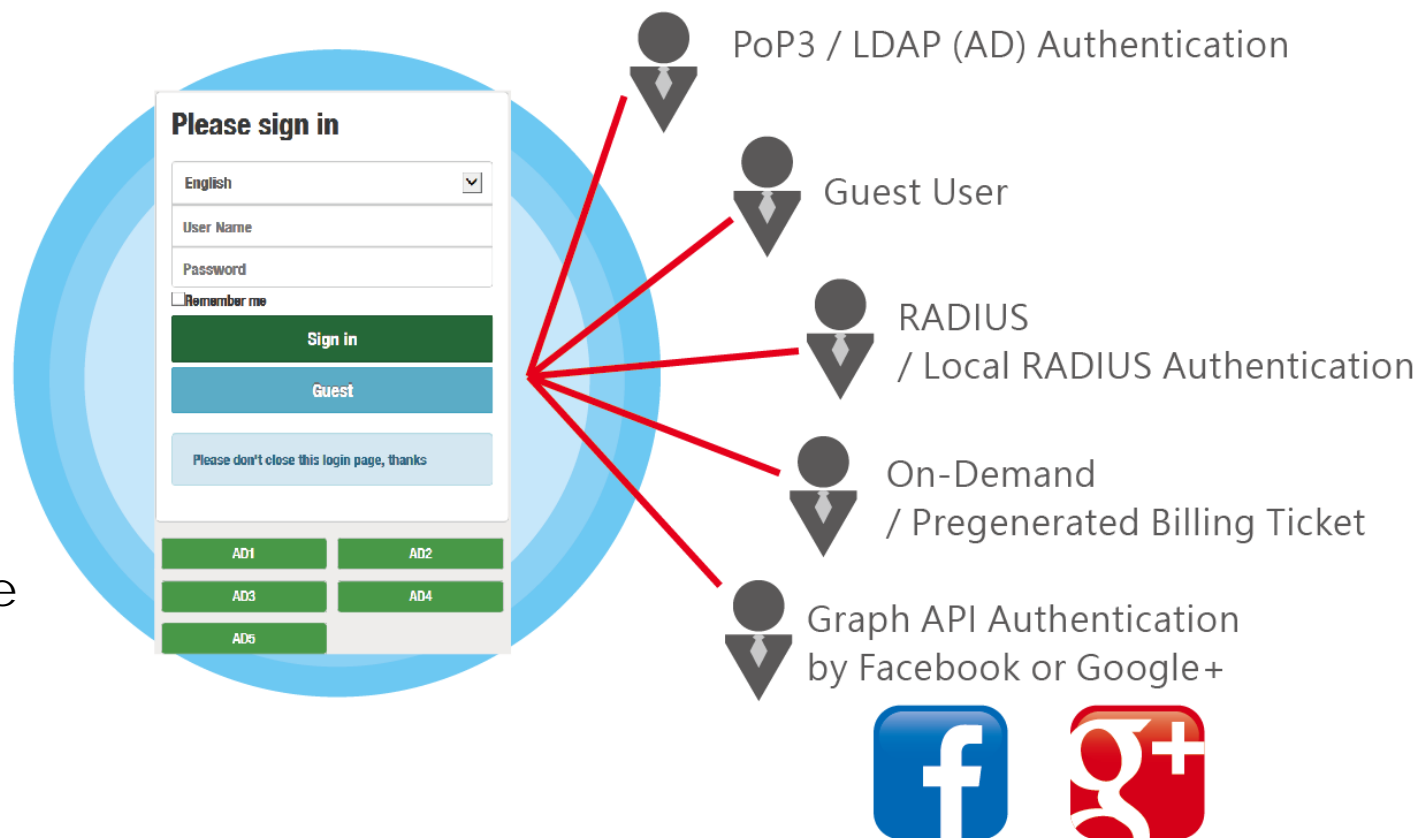
CAP Mode also supports Map Setup function for organizing your AP network. Administrators can create maps by uploading floor plan URLs and dragging APs to the correct location. Once complete, administrators can monitor AP statuses such as uptime, data rates, and connected clients

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



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

Guest configuration interface showing settings for Service, Login Type, Count Limit, Login Time, QoS, Upload, and Download.

Service	<input checked="" type="radio"/> Enable	<input type="radio"/> Disable
Login Type	<input checked="" type="radio"/> One Time	<input type="radio"/> Multiple Time
Count Limit	<input type="text" value="10"/>	
Login Time	<input type="text" value="10"/>	Minutes
QoS	<input type="radio"/> Enable	<input checked="" type="radio"/> Disable
Upload	<input type="text" value="512"/>	Kbps
Download	<input type="text" value="512"/>	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

Local User List interface showing a table with columns for #, Name, and Action.

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

Customized Login Page

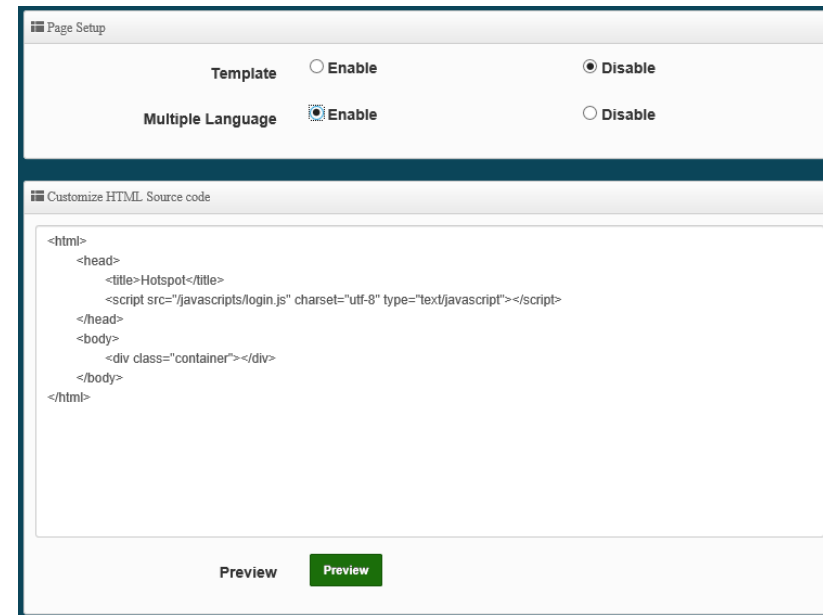
Administrators can create a customized Login Page which can become a platform for:

(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



CW-300N's design supports a total of 8 Virtual LANs (VLAN) and 8 SSIDs.

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

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

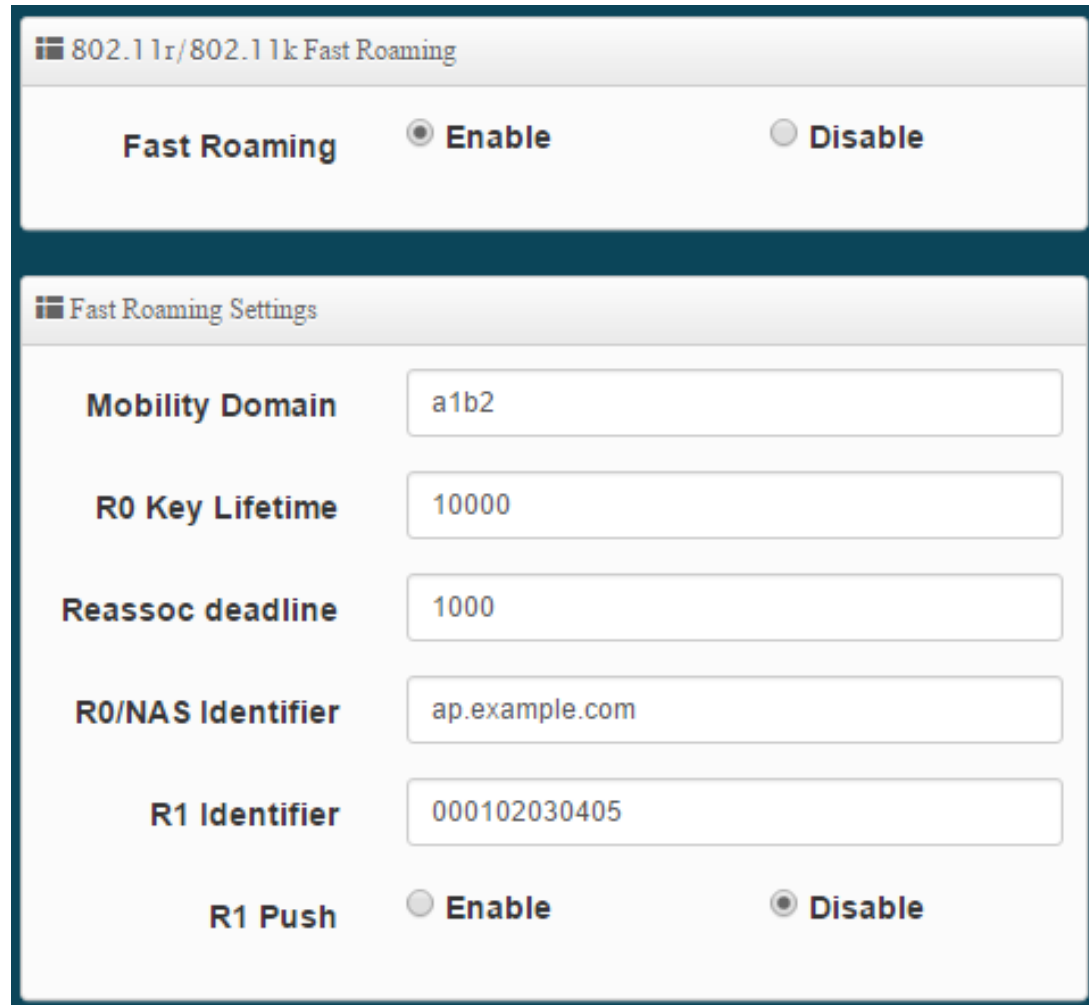
The image shows two screenshots of a web interface. The top screenshot is titled 'WDS Setup' and contains the following elements: a 'WDS Setup' section with radio buttons for 'Enable' (selected) and 'Disable'; an 'Authentication' dropdown menu set to 'AES'; and a 'PassPhrase' text input field. The bottom screenshot is titled 'WDS Client Setup' and displays a table with 8 rows. Each row has an 'Enable' checkbox and a 'MAC Address' text input field. All checkboxes are currently unchecked.

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"/>

CW-300N with CenOS 5.0 supports WDS Setup when operating in **Access Point Mode**

CW-300N'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

R0 Key Lifetime

Reassoc deadline

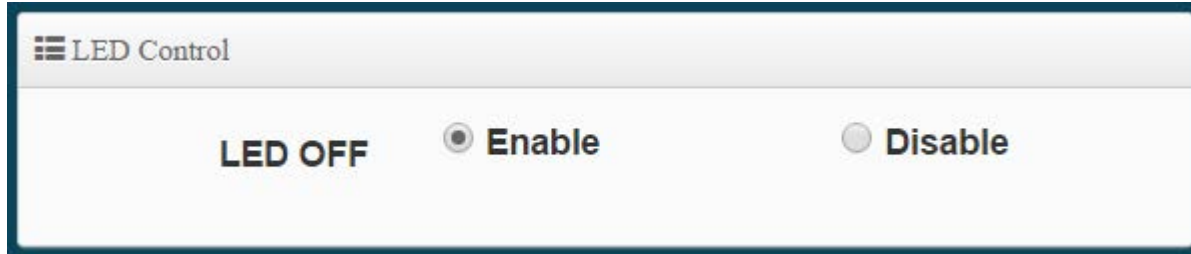
R0/NAS Identifier

R1 Identifier

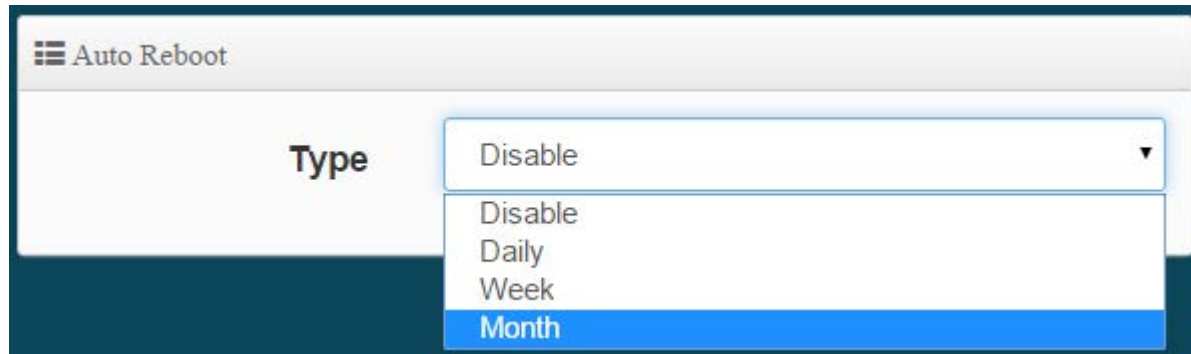
R1 Push Enable Disable

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.



PoE Bridge- Supply power to subsequent devices such as IP Cameras and Access Points through RJ45 cabling.

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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