Technical Guide

Basic Configurations

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1 Introduction

This guide will provide the basic configurations to quickly set up your own managed network. The guide highlights the minimum steps required for a wired or wireless network in each of the EWS controller’s features; Service Zones, Authentication, Page Customization and User Policy Management and AP Management.

An introduction to Edgecore’s Wide Area AP Management (WAPM) will include a comprehensive guideline to manage a remote Edgecore Access Point (AP) by establishing a CAPWAP Tunnel between the EWS and AP.

1.1 Pre-condition

a. Edgecore EWS controller is installed at the central site with uplink connected to WAN.

b. Edgecore AP is deployed locally under the layer 2 network or through the Layer 3 network at a remote site with internet connection at the uplink interface.

c. Confirm UDP ports 5246 & 5247 are open for connections between the EWS and AP.

※ EWS’s WAN interface and AP’s uplink interface can be connected to the same switch to simulate a scenario like deploying the AP at a remote location over the layer 3 network.

1.2 Complete Tunnel Network Topology

Remote users connected to an SSID with Complete Tunnel can be authenticated by the EWS and enforced by the EWS’s user policies. All data are routed back to the EWS Controller.
1.3 Split Tunnel Network Topology

※ Remote users connected to an SSID with Split Tunnel can be authenticated by the EWS Controller and user data will be routed locally.
# Configuration Flow Guideline

Below is a one-page step by step guideline for first time users in configuring the EWS.

## EWS Configuration Flow

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3 Configuration Steps

3.0 System - Initial Login

a. Connect your PC to the EWS’s LAN port.
b. Access into EWS’s Web Management Interface (WMI) by entering 192.168.1.254 in your Web Browser.
c. Login to the EWS using the Default Username/Password: admin/admin.
※ Note: First time logging into the EWS will require changing the password.

3.1 System - WAN & LAN Interface Configuration

a. Go to System → WAN to configure the WAN1 Interface Type as “Dynamic”.

![UI Overview]

Login to proceed to the Welcome Page
b. Go to Status → Interfaces → WAN1 to verify WAN1 IP Address.

c. Go to System → LAN Ports to select “Tag-Based” as the LAN Port Mode and Apply.
d. Go to System → General and click the Configure button beside Management IP Address.

![General Settings](image)

![System Time](image)

d. Check the appropriate SZs and configure the preferred IP Addresses to allow access to the Web Management Interface.

※ Note: Unchecking all options and disabling the SSH/Telnet Service will result in being locked out of the EWS. Please be cautious when configuring the Management IP List.
3.2 Utilities - Admin Password Recovery

a. Go to Utilities → Administrator Accounts and click the “admin” Name to configure password recovery.

b. Apply the configured Email and Security Answer before setting up the SMTP server.
c. Setup SMTP Server to allow EWS to send Password Recovery Email to administrator.

3.3 System

3.3.1 System - Service Zones Configuration

a. Go to System → Service Zones and confirm WAN Subnet and Default Service Zone IP Address are in different subnets.

Example:

- WAN1 IP = 10.201.5.150 / Subnet = 255.255.255.0
- Default SZ IP = 192.168.1.254 / Subnet = 255.255.0.0
b. Click SZ1, Enable the Service Zone and configure the basic network settings.

3.3.2 System - Service Zone – Captive Portal Customization

a. Click configure to customize different Login Page Customization. Message Page Customization will provide customizations to message pages such as the login success page.

b. Click configure to customize different Login Page Customization. Message Page Customization will provide customizations to message pages such as the login success page.
c. Preview General Login Page in Default mode.

d. Preview General Login Page in Customize with Template selection with an uploaded logo and customized text.
3.4 Users

3.4.1 Users - Local Accounts

a. Go to Users → Internal Authentication, Local to create accounts using the Local Database.

b. Click Add to create single or multiple accounts at once.
c. Enter user account credentials and Apply. (Ex. test1/test1 and test2/test2)

d. Created accounts can be viewed on the Local User List.
3.4.2 Users - On-Demand Accounts

a. Go to Users → Internal Authentication → On-Demand and click Billing Plan’s Configure button to modify Billing Plans.

b. Click the Billing Plan number to create a billing plan.
c. Choose a Plan Type and configure the Plan parameters to achieve a complete User Management: Activation, Expiration, Quota, Unit Price and Group.

![Billing Plan Configuration](image)

- **Configure Plan parameters:**
  - Activation/Expiration
  - Quota
  - Unit Price
  - Group

![Billing Plan Configuration](image)

d. Confirm & Activate the Billing Plan.
3.4.3 Users - Creating On-Demand Accounts

a. Go to Users → Go to Users → On-Demand Accounts → Account Creation to create an On-Demand account using the configured Billing Plan. Click Create Single and Create.

b. The created account will be displayed in a new window.
c. Go to Users → On-Demand Accounts → Account List to confirm the created account.
3.5 Users

3.5.1 Users - Policy Configuration

a. Configure and select Firewall Profile, Privilege Profile, QoS Profile and Specific Route Profile to create Policy 1.

b. Go to Users → Firewall to configure User Firewall Rules to block a user’s access to an IP Address or Web Domain.
c. Click the Add button to create a new Firewall Rule.

d. Configure a new Firewall Rule (BlockFacebook) with preferred Source/Destination.
e. Check the checkbox and click the Enable button to Activate & Enable the Firewall Rule.

f. Go to Users → Policies → Privilege to configure the Maximum Concurrent Sessions of each user under this Policy. (Default = 500)
g. Go to Users → Policies → QoS to configure each Group/User’s bandwidth. To configure the QoS Bandwidth Control, Bandwidth Limitation on WAN must be enabled. Click the hyperlink to access the WAN configuration page.

![Image of WAN configuration page]

Click the hyperlink “Bandwidth limitation on WAN” and Enable the feature.

h. Please check the Bandwidth Limitation at WAN checkbox, Apply and restart the EWS to activate the changes.

![Image of WAN Traffic Settings]

Check the Enable Bandwidth Limitation on WAN checkbox and configure the Max Uplink/Downlink Bandwidth.
i. After the EWS has restarted, go to Users → Policies → QoS to configure the QoS 1 Profile as shown below.

j. Go to Users → Policies → Specific Routes to configure the Specific Route profile to direct user groups to a specified gateway.
3.6 Users

3.6.1 Users - Group Configuration

a. Go to Users → Groups → Configuration and select Group 1 to configure the Group parameters, Service Zones Group 1 is allowed access to and the Policy Profile applied when an account in this group connects to the specified Service Zone.

b. Go to Users → Groups → Configuration and select Group 1 to configure the Group parameters, Service Zones Group 1 is allowed access to and the Policy Profile applied when an account in this group connects to the specified Service Zone.
3.7 Devices

3.7.1 Devices - WAPM – CAPWAP Tunnel

a. Go to Devices, Enable Wide Area AP Management and click Enter to configure WAPM.

b. Go to CAPWAP to enable CAPWAP on the EWS. Certificates can be uploaded for establishing CAPWAP tunnels between the EWS and AP. The Control Channel IP Address should not be changed unless there is an IP conflict.
c. Configure the Template to be applied to Edgecore APs prior to adding the APs into WAPM. You may select the Template #, Country Code and begin configuring the General, VAP, Security settings of the AP.

![Image of VAP Configuration - Template1]  
Select the VAP-# for the RF Card. Enable the VAP  
Configure the ESSID for devices to scan and connect

VLAN is automatically enabled and configured when the Service Zone for CAPWAP Tunnel Interface is selected below

Select Complete Tunnel and the Service Zone

![Image of Template AP Setting]  
Select the Template #  
Select Country Code

Configure the General Settings, VAP Configuration, Security Settings by clicking each button

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e. Split Tunnel can be configured by selecting Split Tunnel at the CAPWAP Tunnel Interface. If a Complete Tunnel is already established to SZ-Public, a Split Tunnel cannot be established to the same Service Zone. For Split Tunnels, a VLAN is not required.

3.7.2 Devices - AP CAPWAP Configuration

a. Connect to the Edgecore AP on the WAN side either through a switch or directly to the AP’s uplink port via an Ethernet cable.
b. Enter the AP’s WMI using the AP’s Default IP Address: 192.168.1.1
   The default AP login username/password is admin/admin. After logging in, you are redirected
to the AP’s System Overview Page.

c. Go to System → General to configure the AP’s Name and Time Zone.
d. Go to System → Network Interface to configure the AP’s Static or Dynamic IP Address. After Saving a new Network Setting, a reboot is required.

e. Confirm updated System Name, Time and LAN Interface after reboot.
f. Go to System → CAPWAP to enable CAPWAP and select the appropriate Discovery Method. A reboot is required after saving the new CAPWAP configuration. Note: Select Static Discovery if the EWS’s WAN has a Static IP Address. Select DNS SRV Discovery if the EWS’s WAN has a valid Domain Name. The following example shows using Static Discovery where the EWS’s WAN IP is entered under AC Address.

![CAPWAP Configuration](image)

```
<table>
<thead>
<tr>
<th>No.</th>
<th>AC Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.70.16.98</td>
</tr>
</tbody>
</table>
```

Fill in Controller’s IP address

g. Go to Devices → WAPM → AP List to confirm if the AP is automatically added into the AP List. The CAPWAP Status displaying “Run” means the AP can be managed using the EWS and can be applied a Template.

![AP List](image)

The AP’s WMI can also be access via the AP Admin Web (Only for Complete/Split Tunnel VAPs)
h. Check the AP’s checkbox and click Apply Settings. Select the Template and Apply. The Status of the AP will change from Online → Applying.

i. Confirm AP’s status after the Template is applied and the AP returns online. The “Go” button can also be used to enter the AP’s WMI remotely.
j. Confirm the AP’s CAPWAP Tunnel Status by entering the AP’s WMI using the AP Admin Web’s Go button. The CAPWAP Status should show “Run (EWS IP)” and Data Channel as “Active”. The VAP should also display a green checkmark under TUN.
3.8  Client Login

3.8.1  Client Login - User Flow & Monitoring

a.  Client device associated with the SSID and logged in successfully through the browser. The user may proceed to surf the web or logout using the logout button on the successfully logged in page. If logged in with an On-Demand account, the login successful page will display the remaining quota.

b.  Go to Status → Monitor Users → Online Users to monitor online users and view details.
c. Go to Users → On-Demand Accounts → Account List to view On-Demand Accounts and their statuses.

![On-Demand Account List showing Remaining Quota of each user account]

4 Remarks

Please contact Edgecore’s Technical Support Team at ecwifi@edge-core.com for additional inquiries.