Unleashed Configuration – Additional Requested Feature Guide

Firmware Version: 200.12

Additional Requested Feature Guide

When creating, modifying, or configuring an WLAN, there are specific details than can be used to facilitate the right experience for the project requirements. In this presentation, we will explore additional requested features for wireless LAN settings that can be used to tailor a Wi-Fi deployment.

Agenda

- Chapter 1 - Getting Started
- Chapter 2 - How to Create a Single Band SSID
- Chapter 3 - How to Create a VLAN Specific SSID
- Chapter 4 - How to Hide an SSID
- Chapter 5 - How to enable Wi-Fi Calling
- Chapter 6 - Dedicating an AP as a WLAN Controller Only
- Chapter 7 - How to Add a Secondary Preferred Master

Chapter 1 - Getting Started

- Connecting to the Unleashed Network
- Security Warning
- Unleashed Login Page
- Unleashed Dashboard

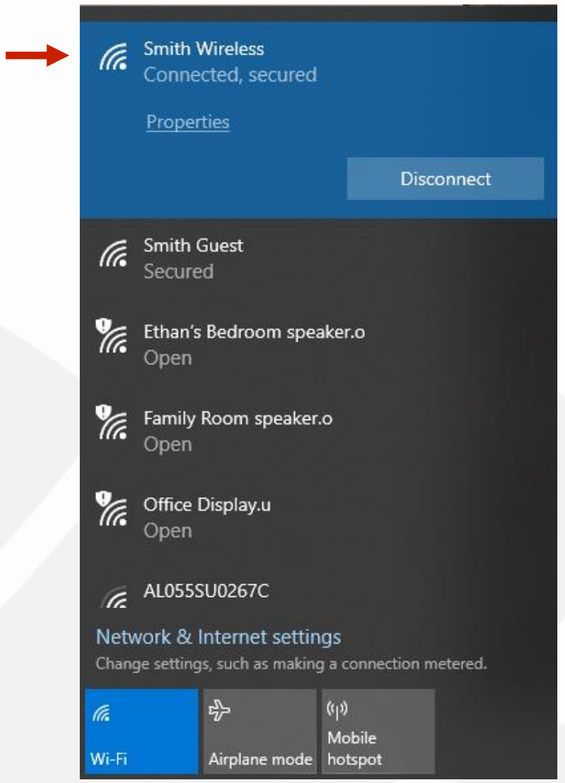
Chapter 1 - Getting Started

Connecting to the Unleashed Network

Using the Wi-Fi configuration settings on your client device (such as a laptop or mobile device), select and associate to an Unleashed WLAN, and launch a web browser.

Now connect to any non-client isolating Unleashed WLAN.

In your browser's URL bar, enter the following address and press Enter: **unleashed.ruckuswireless.com**

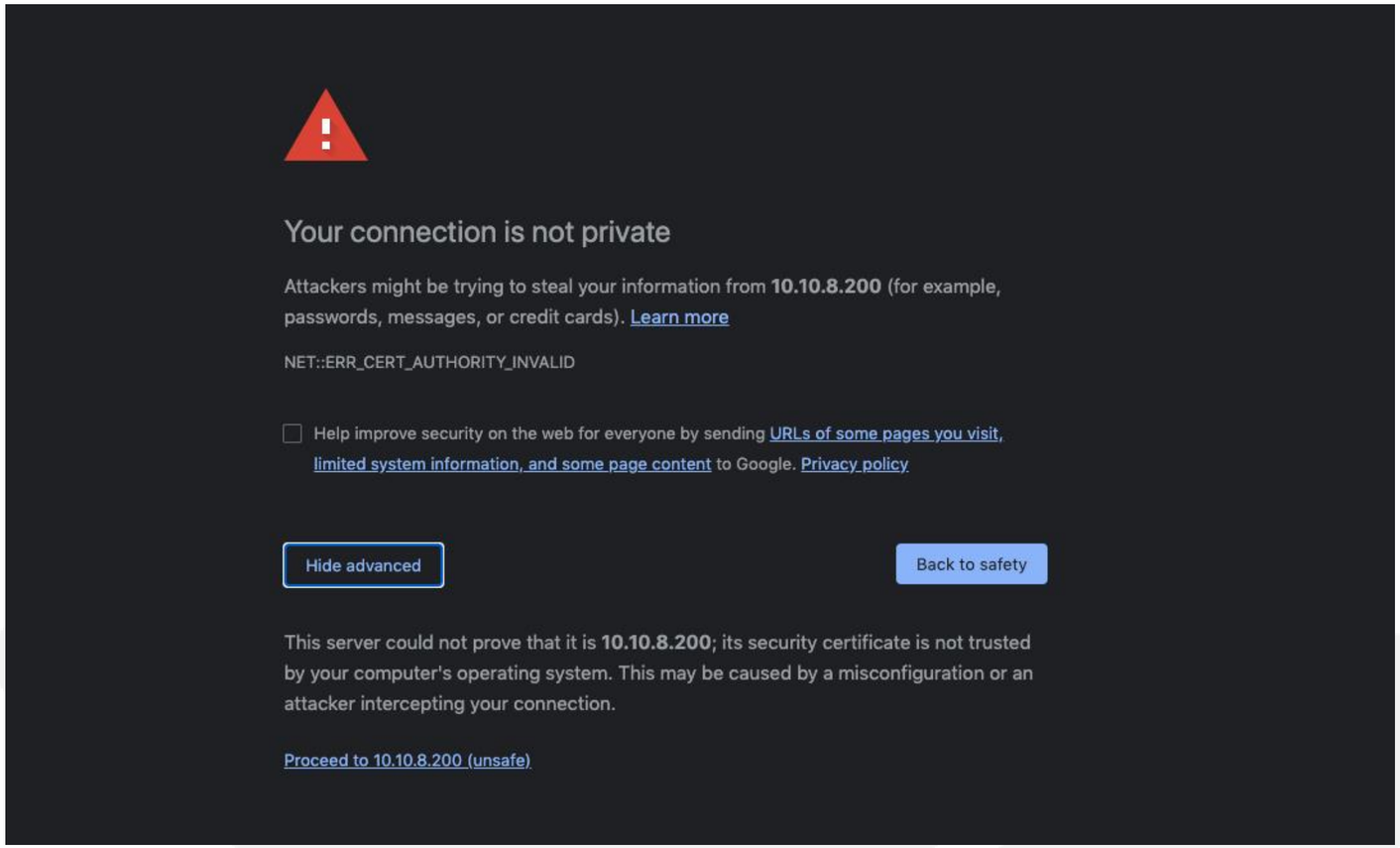


Chapter 1 - Getting Started

Security Warning

Depending on your browser, you may be presented with a security warning stating "This connection is not trusted" (Firefox) or "Your Connection is Not Private" (Chrome) or "There is a problem with this website's security certificate" (Internet Explorer). This is normal, as the Unleashed AP does not have an SSL certificate that is recognized by your browser.

Accept the exception as needed per browser and proceed.



Chapter 1 - Getting Started

Unleashed Login Page

This is the login page for the Unleashed Network.

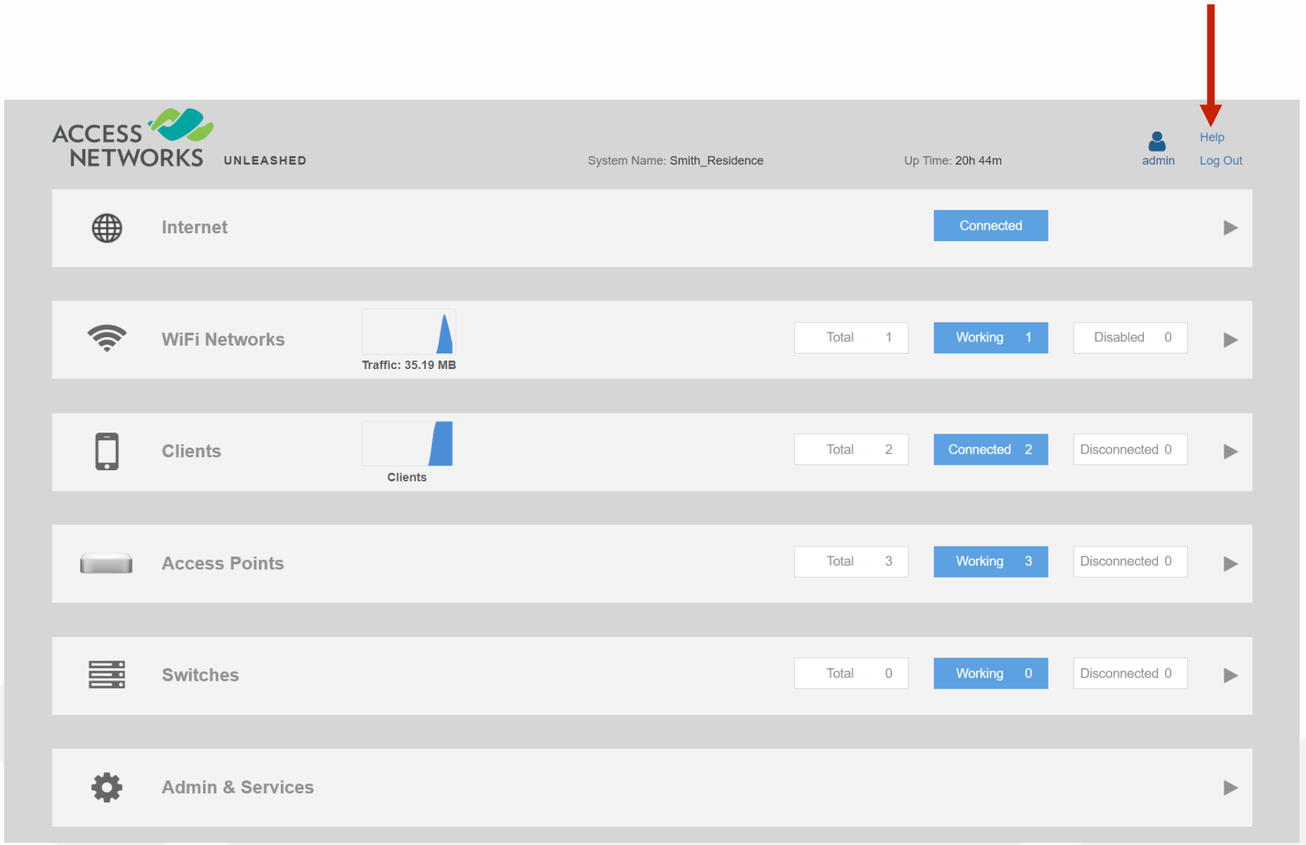
Enter the “Username”, “Password”, and click “Unleash” to login.

Chapter 1 - Getting Started

Unleashed Dashboard

After successful login, you will be presented with the Unleashed Dashboard, which displays an overview of your Ruckus Unleashed Network.

At any point during the setup process, you can access the complete Unleashed help page by clicking on “Help” in the upper right corner of the Unleashed web interface.



Chapter 2 - How to Create a Single Band SSID

- What is a Single Band SSID
- Wi-Fi Networks Dashboard
- Create a New WLAN

Chapter 2 - How to Create a Single Band SSID

What is a Single Band SSID

With today's technology most Wi-Fi devices are capable of using the 802.11 standards associated with both the 2.4GHz and 5GHz frequency bands.

However, some devices cannot use both bands, others perform better on one frequency over the other, and sometimes it is necessary to use only one frequency to avoid interference.

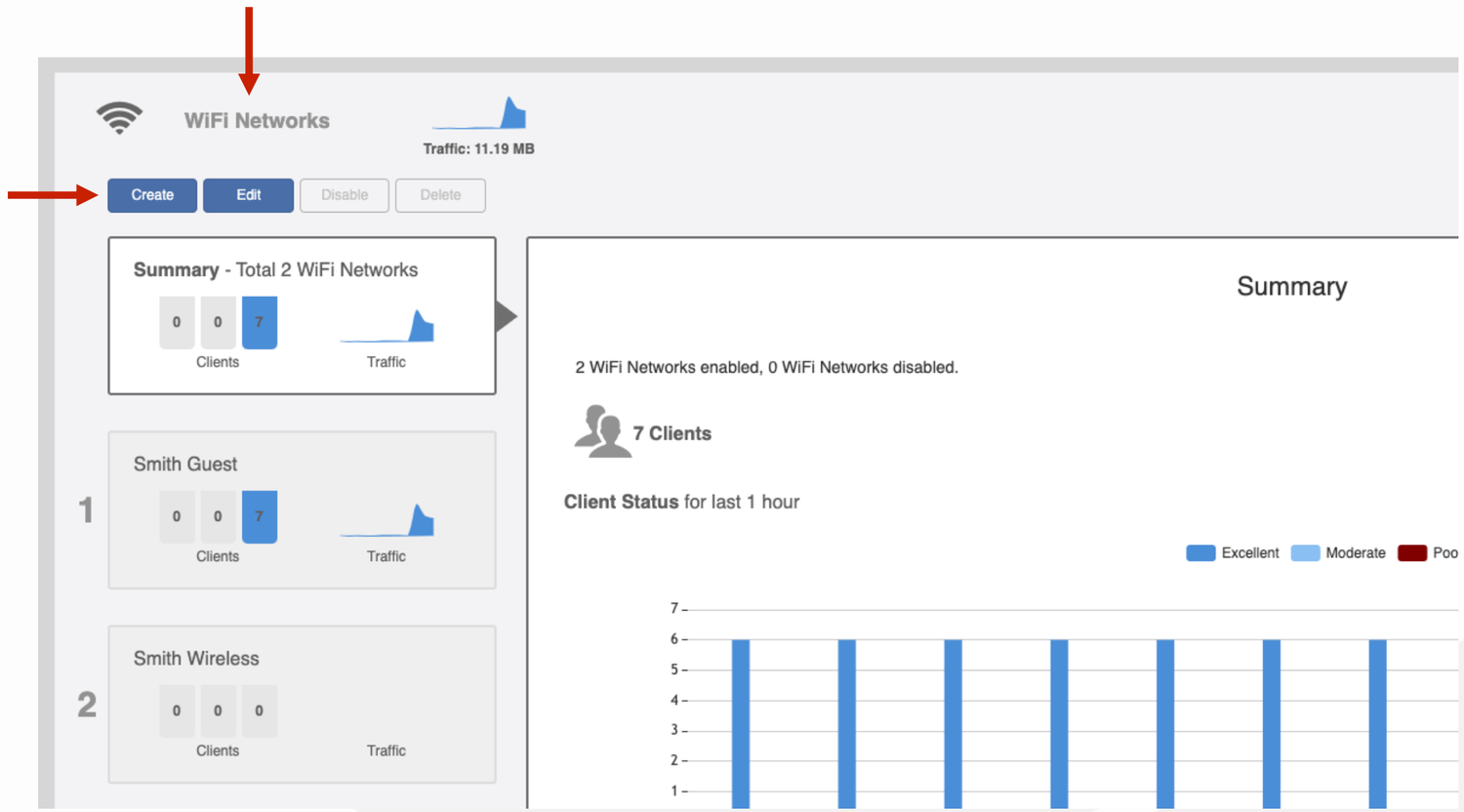
To ensure optimal performance, it is sometimes necessary to restrict a WLAN to operate on only a single frequency band. This can be done by creating a new WLAN or editing an existing WLAN so that it operates on only a single frequency band.

Chapter 2 - How to Create a Single Band SSID

Wi-Fi Networks Dashboard

To create a new WLAN that will operate on only a single frequency band, first click anywhere on “WIFI Networks”.

Click on the “Create” button to generate a new WLAN.



Chapter 2 - How to Create a Single Band SSID

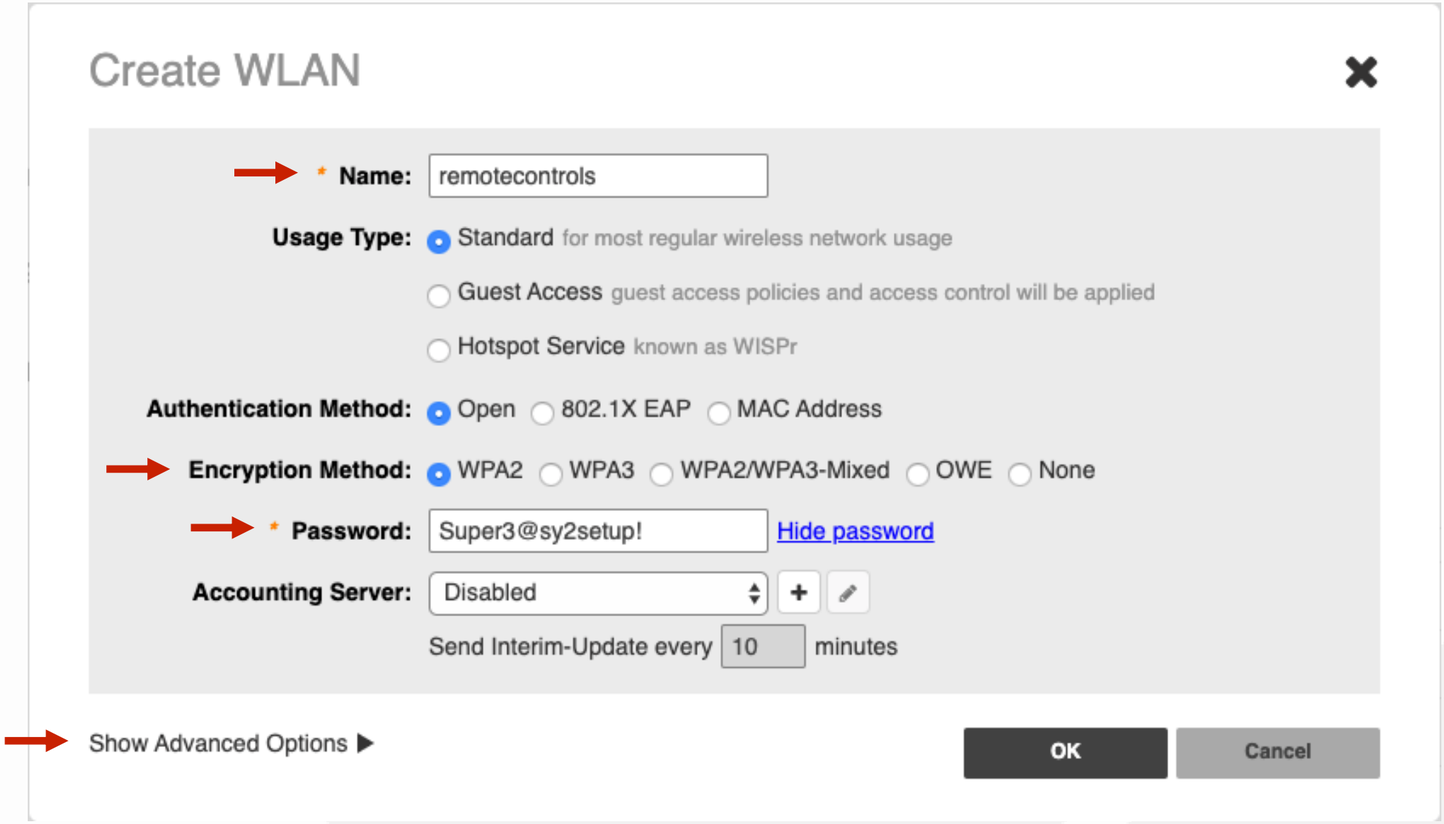
Create a New WLAN

In the new dialog box, enter the SSID (broadcasted name) of the WLAN under “Name”.

Select the encryption method.

Enter the passcode for the new WLAN.

Click on ”Show Advanced Options”.



Chapter 2 - How to Create a Single Band SSID

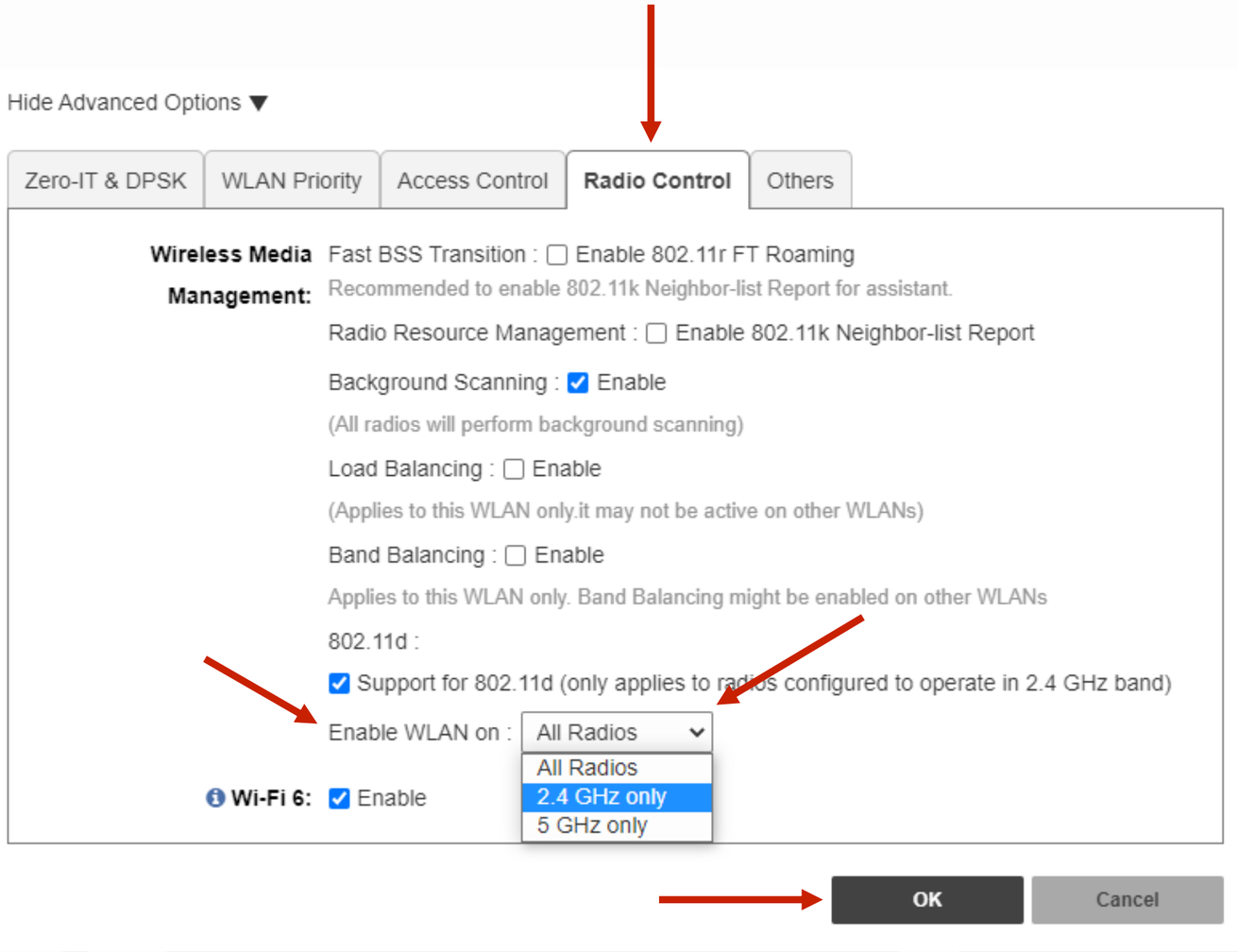
Create a New WLAN

Click on the ”Radio Control” tab.

Scroll down to the “Enable WLAN on :” area.

From the drop-down selection window, click on the appropriate band from the listing.

Then click “OK” to continue.



Chapter 3 - How to Create a VLAN Specific SSID

- What is a VLAN Specific SSID
- LAN Requirements for VLAN Specific SSIDs
- Selecting a WLAN to Modify
- Adding VLAN tagging to a WLAN

Chapter 3 - How to Create a VLAN Specific SSID

What is a VLAN Specific SSID

VLANs have become a commonly used method of segmenting and controlling Local Area Network (LAN) traffic.

In order for a device to connect wirelessly to a specific VLAN you will need to configure a separate SSID for each VLAN and then use something called tagging (802.1Q) to notify the LAN that wireless data from this SSID is associated with a specific VLAN.

Prior to configuring your WLAN, it is important to ensure all LAN requirements have been met.

Chapter 3 - How to Create a VLAN Specific SSID

LAN Requirements for VLAN Specific SSIDs

Ethernet switch ports for all managed access points (AP) must be configured as Trunk Ports.

Ethernet switch ports for each managed AP must have 802.1Q tagging enabled and belong to VLANs matching the VLAN IDs associated with each WLAN.

Valid VLAN IDs are between 2 and 4094.

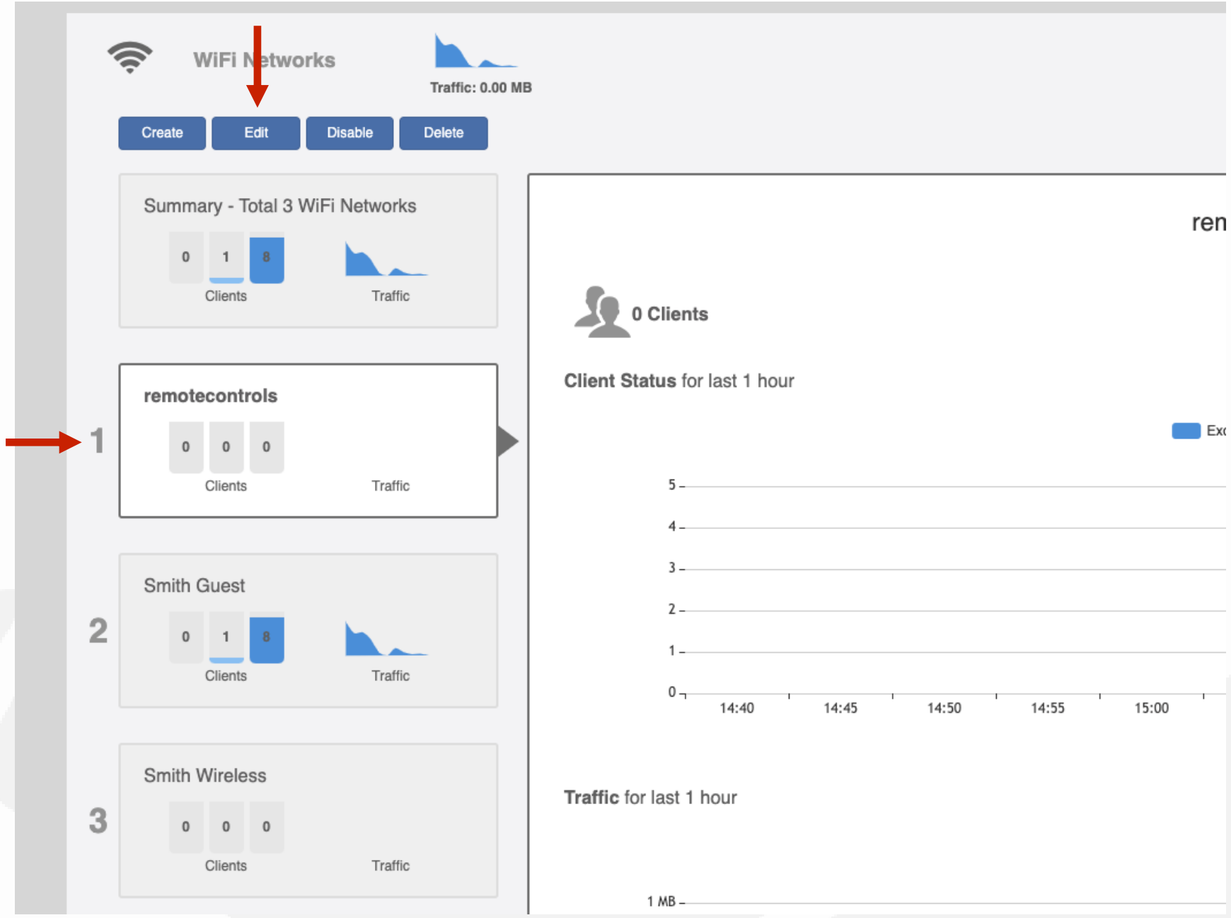
Chapter 3 - How to Create a VLAN Specific SSID

Selecting a WLAN to Modify

It is crucial the WLAN does not have “Client Isolation” enabled. Review this step before modifying the VLAN ID associated with the selected WLAN.

To begin, select the WLAN you would like to modify.

Then select the “Edit” to continue.

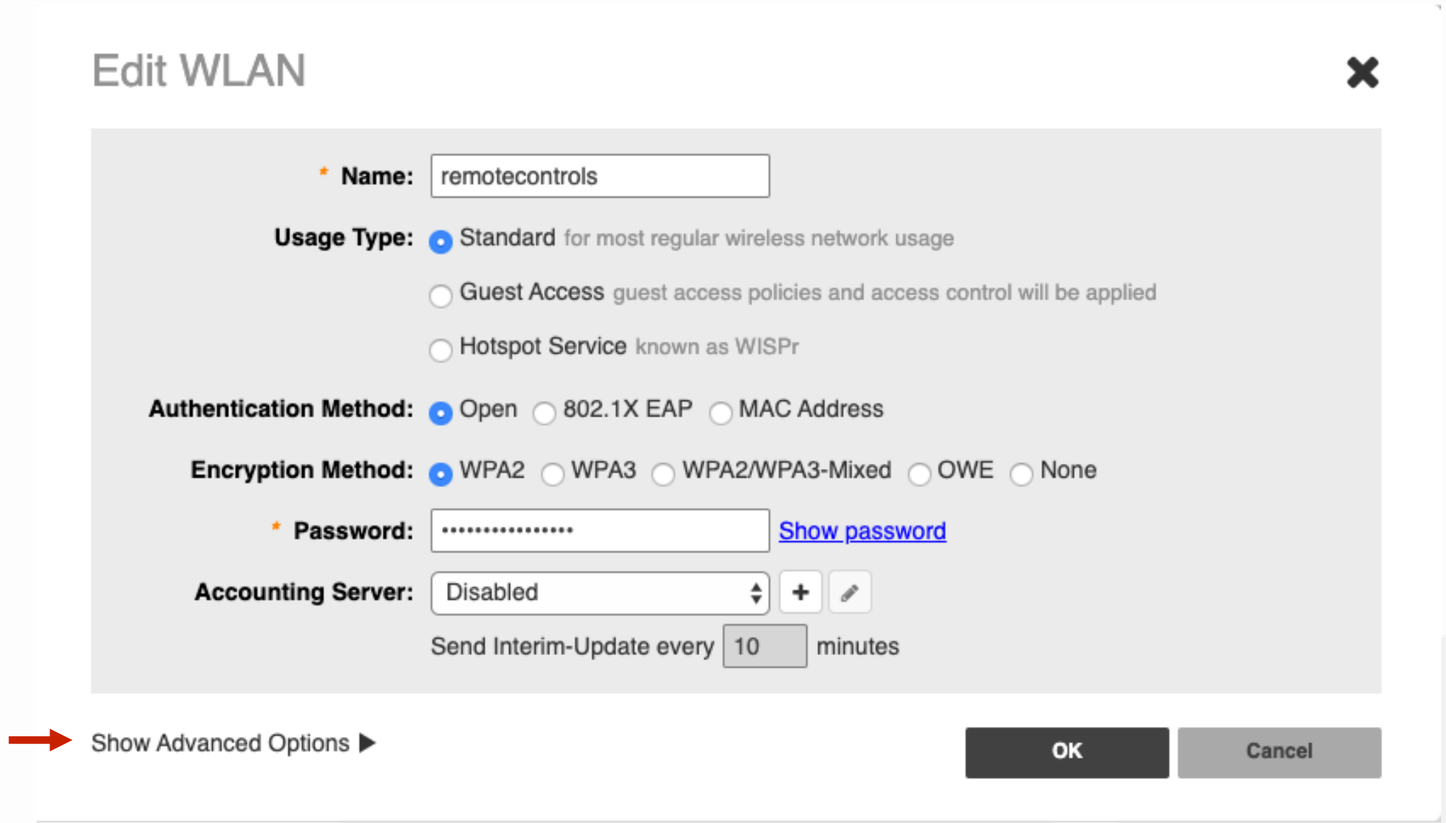


Chapter 3 - How to Create a VLAN Specific SSID

Adding VLAN tagging to a WLAN

This will open the “Edit WLAN” window for the WLAN.

Click on ”Show Advanced Options”.



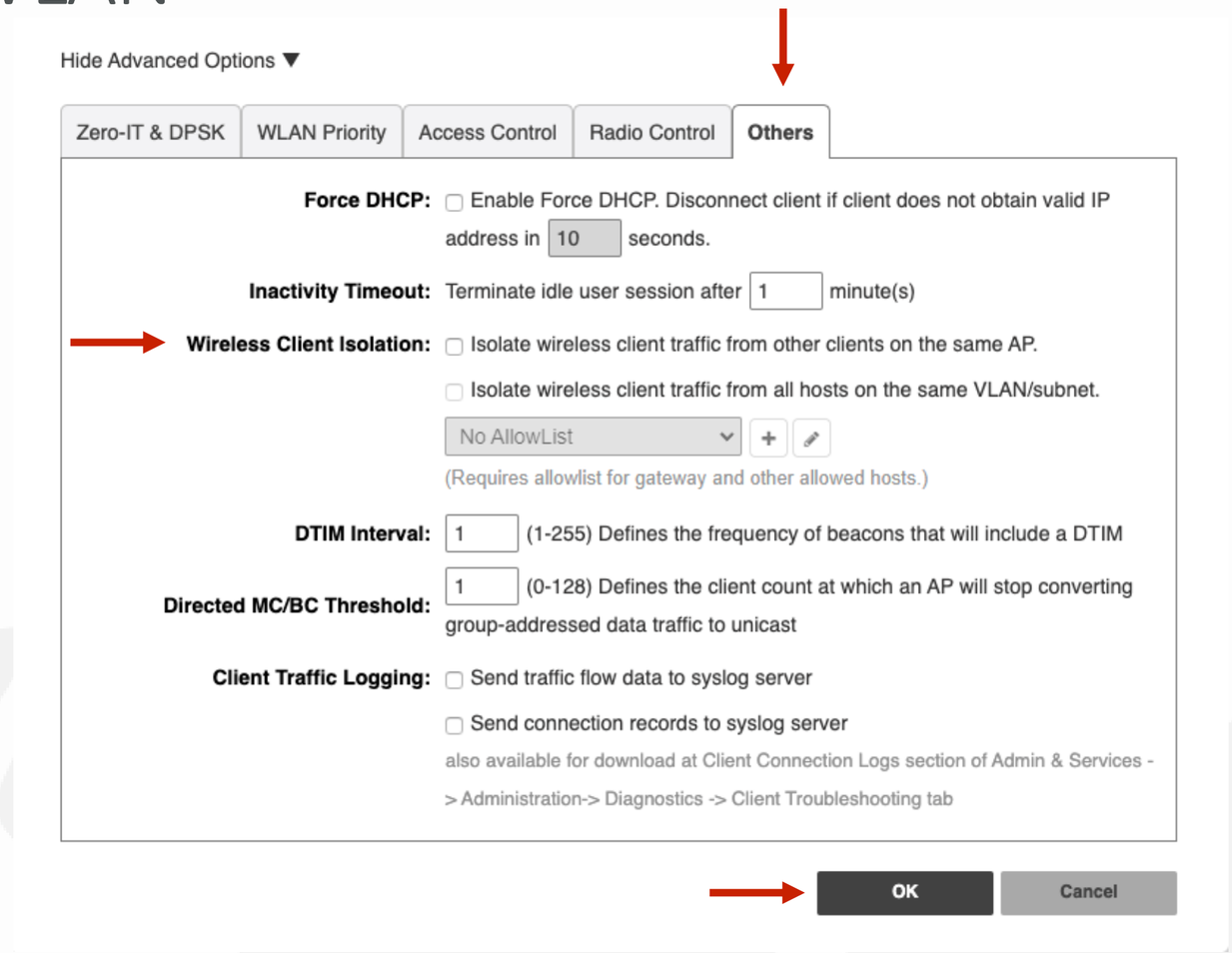
Chapter 3 - How to Create a VLAN Specific SSID

Adding VLAN tagging to a WLAN

Click on the tab labeled “Others”.

Review “Wireless Client Isolation”. Ensure the box is not selected. If the box is enabled, then de-select the box.

Select “Ok” to save this setting.



Chapter 3 - How to Create a VLAN Specific SSID

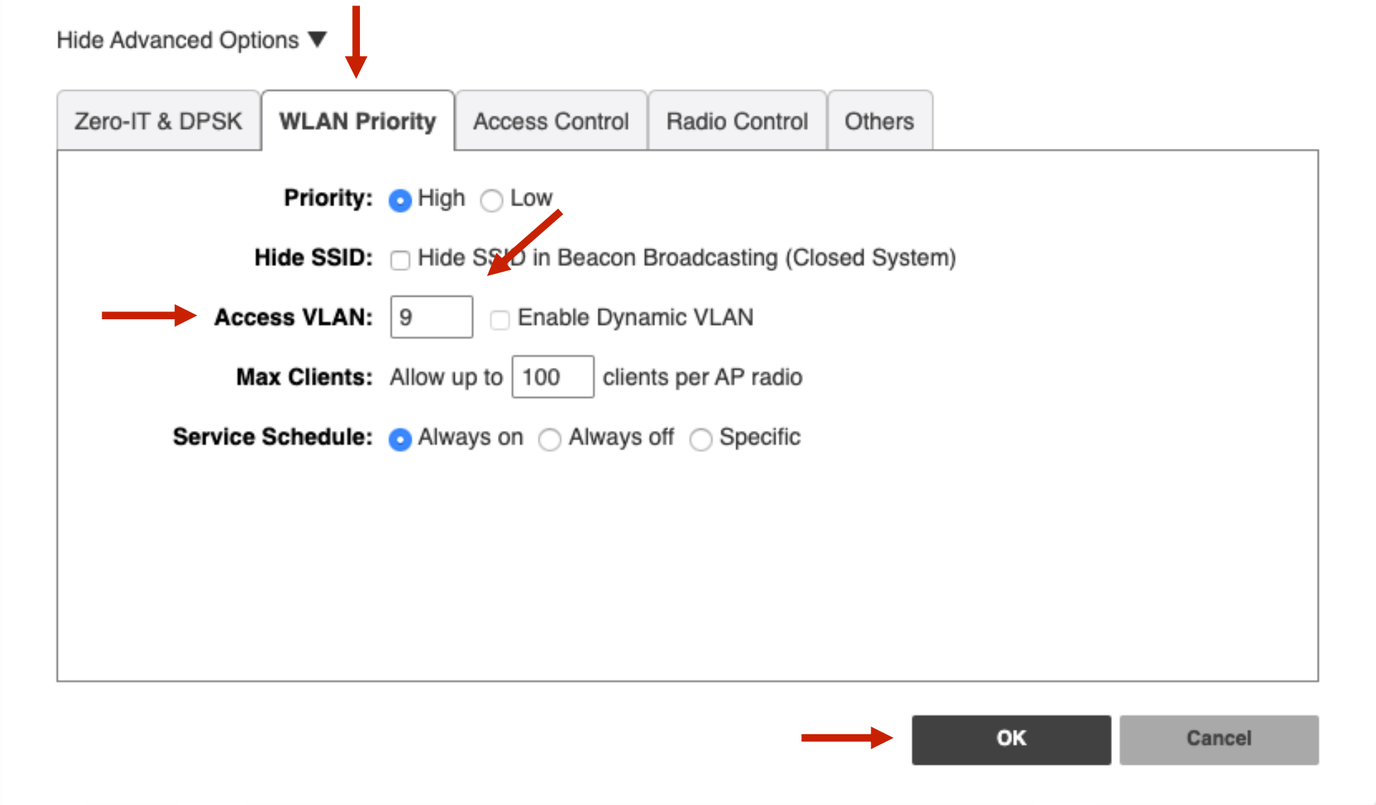
Adding VLAN tagging to a WLAN

Next, click “WLAN Priority” tab to add your VLAN ID.

Find the “Access VLAN” area.

Enter the VLAN ID for the VLAN you would like the client devices on this WLAN to be a part of.

Then click “OK” to continue.



Chapter 4 - How to Hide a SSID

- What is a Hidden SSID
- Selecting a WLAN to Modify
- Setting a WLAN as “Hidden”

Chapter 4 - How to Hide a SSID

What is a Hidden SSID

SSID or Service Set Identifier is the broadcasted name of a WLAN. By broadcasting the SSID, different devices can see the available wireless networks nearby.

However, there are times when hiding an SSID can be beneficial.

When you hide an SSID, the access points will disable the broadcast of the characters for WLAN name. Yet, devices that have previously authenticated to this invisible SSID will still be able to connect.

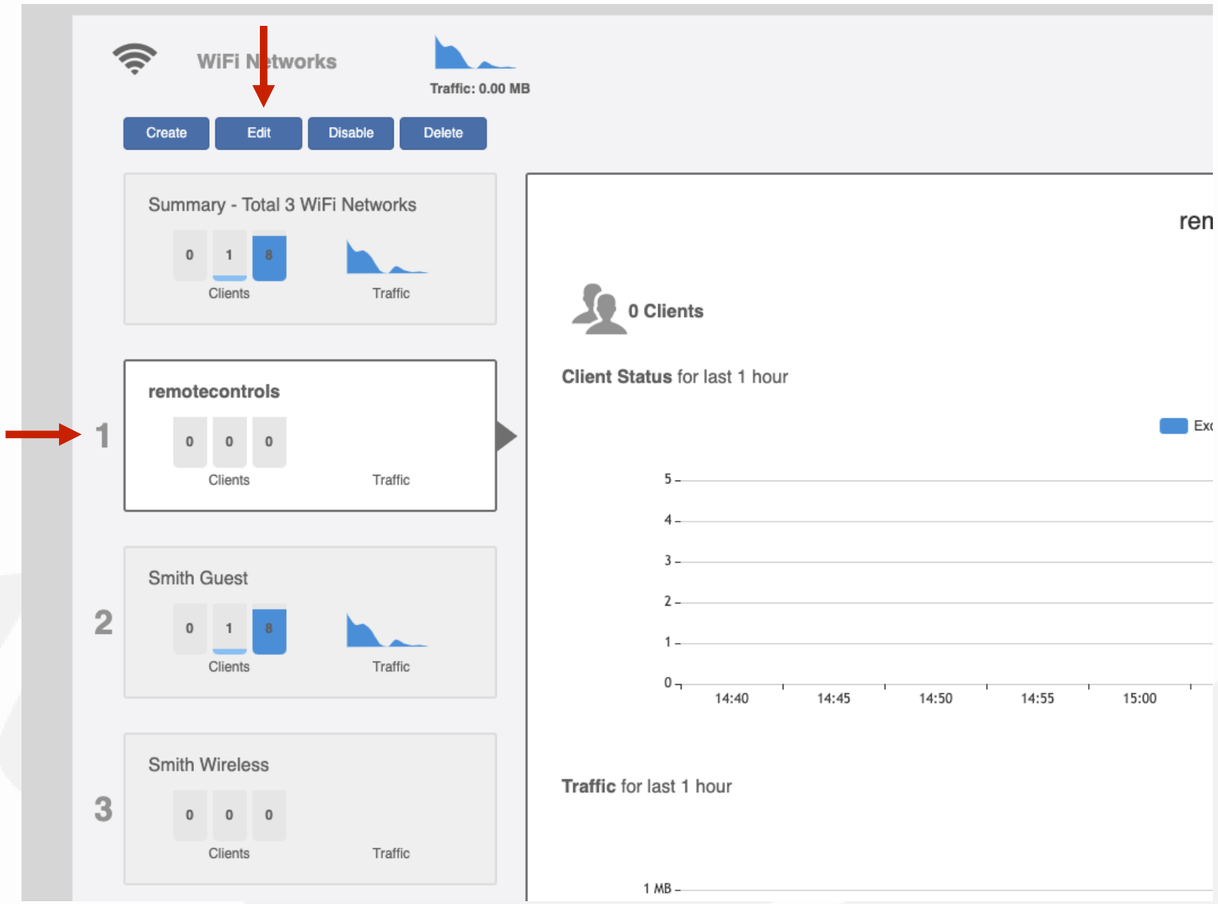
This example will demonstrate a use case for hiding an SSID.

Chapter 4 - How to Hide a SSID

Selecting a WLAN to Modify

To begin, select the WLAN you would like to modify.

Then select the “Edit” to continue.

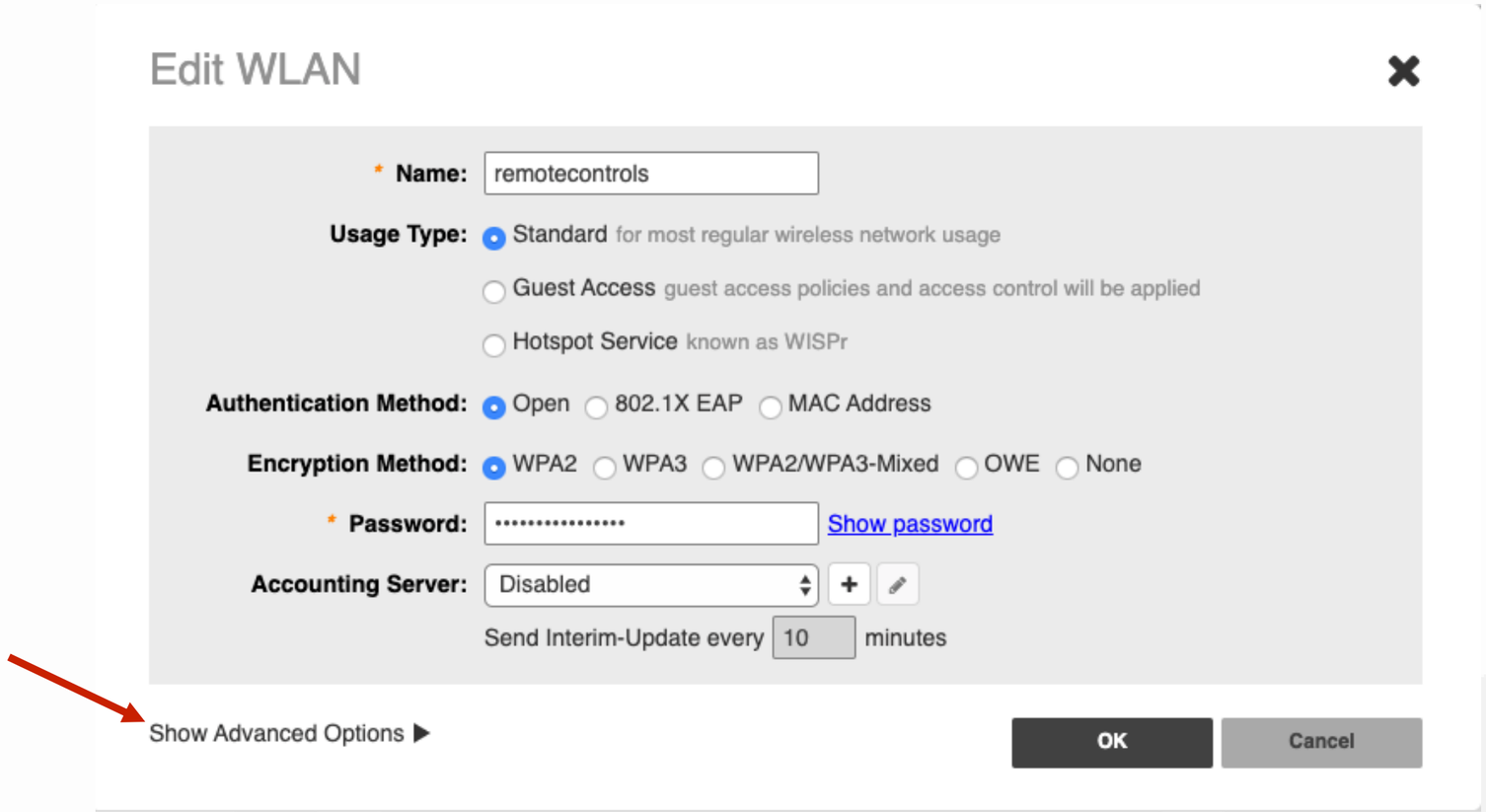


Chapter 4 - How to Hide a SSID

Setting a WLAN as “Hidden”

This will open the “Edit WLAN” window for the WLAN.

Click on ”Show Advanced Options”.



Chapter 4 - How to Hide a SSID

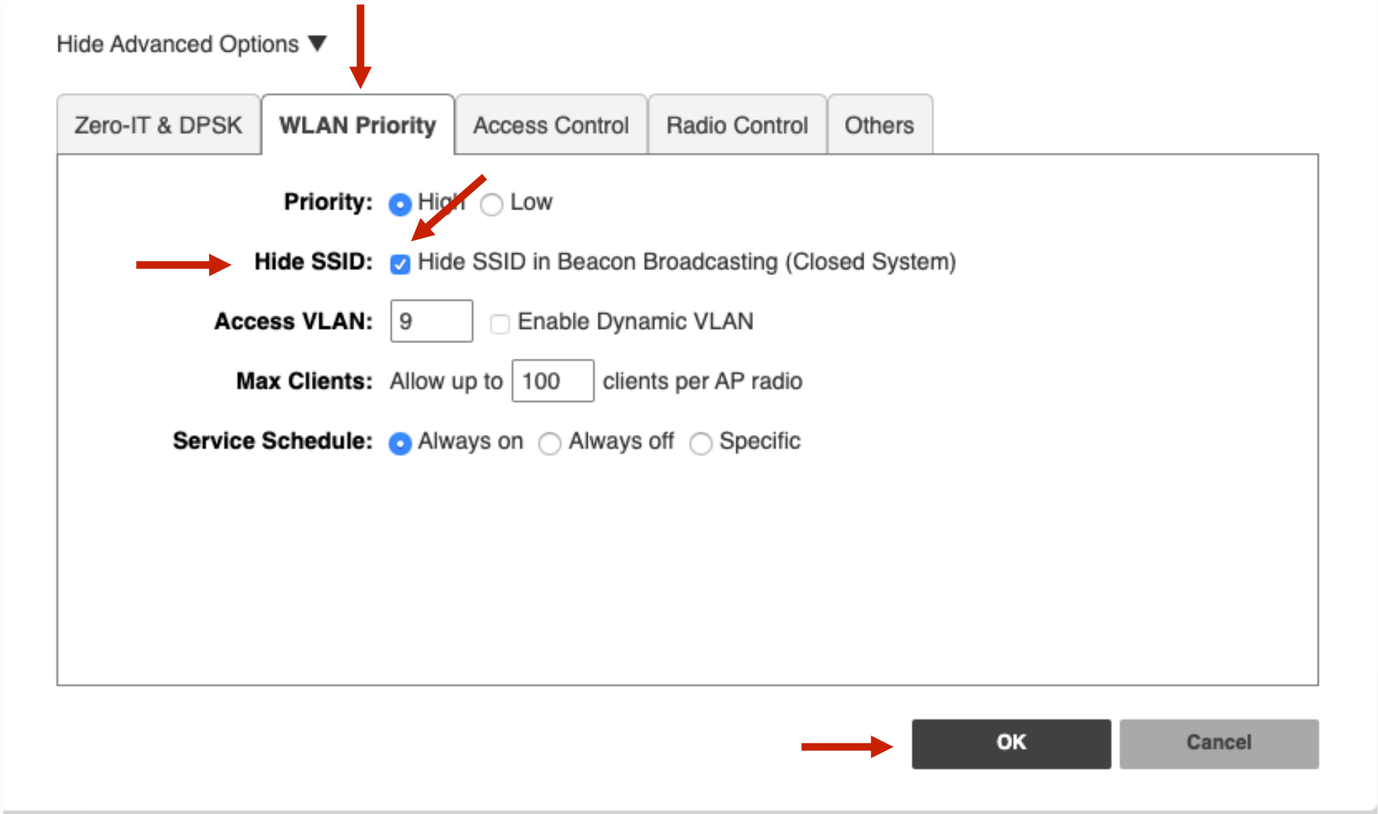
Setting a WLAN as “Hidden”

Click on the tab labeled “WLAN Priority”.

Find the “Hide SSID”.

Enable this feature by clicking on the box labeled “Hide SSID in Beacon Broadcasting (Closed System)”.

Then click “OK” to complete this step.



Chapter 5 - How to Enable Wi-Fi Calling

- What is Wi-Fi Calling
- Fully Qualified Domain Names
- Enabling Wi-Fi Calling
- Adding Wi-Fi Calling Profiles

Chapter 5 - How to Enable Wi-Fi Calling

What is Wi-Fi Calling

When enabled, the Wi-Fi calling feature within the Unleashed wireless controller, allows an access point to recognize when a cellular phone is using the Wi-Fi network to communicate with a cellular carrier's server and prioritize that traffic thereby optimizing the experience over the Wi-Fi network.

The access point compares Wi-Fi traffic destination addresses to a list of FQDNs (Fully Qualified Domain Names) and when matched, ensures that this Wi-Fi calling traffic has the highest priority or QOS (Quality of Service).

More information about Wi-Fi calling can be found here - https://my.accessnetworks.com/kb/unleashed-wi-fi-calling-configuration-guide/

Chapter 5 - How to Enable Wi-Fi Calling

Fully Qualified Domain Names

This following chart provides a list of the most commonly used FQDN addresses for the 4 major cellular carriers.

This information is used when creating Wi-Fi calling profiles.

*Note - If the carrier you need is not listed, contact the carrier directly to request the FQDN information.

Carrier	FQDN Profile
AT&T	cnc.epdg.att.erricson.net epdg.epc.att.net sentitlement2.mobile.att.net vvm.mobile.att.net
Sprint	primgw.vowifi2.spcsdns.net
T-Mobile	ss.epdg.epc.geo.mnc260.mcc310.pub.3gppnetwork.org
Verizon	233.sub-141-207-229.myvzw.com wo.vzwwo.com

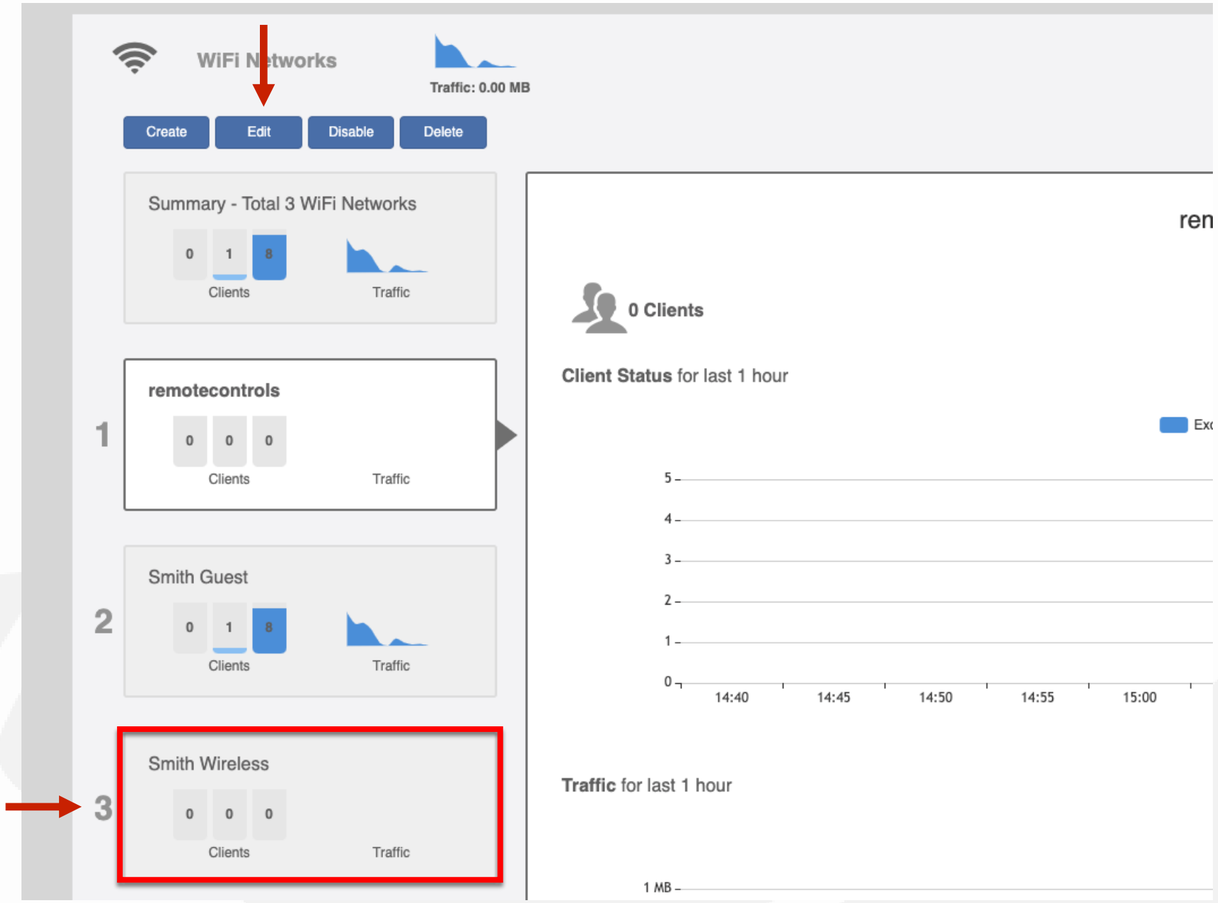
Verified Carrier FQDN Addresses

Chapter 5 - How to Enable Wi-Fi Calling

Enabling Wi-Fi Calling

To begin, select the WLAN to enable the Wi-Fi calling feature.

Then select the “Edit” to continue.

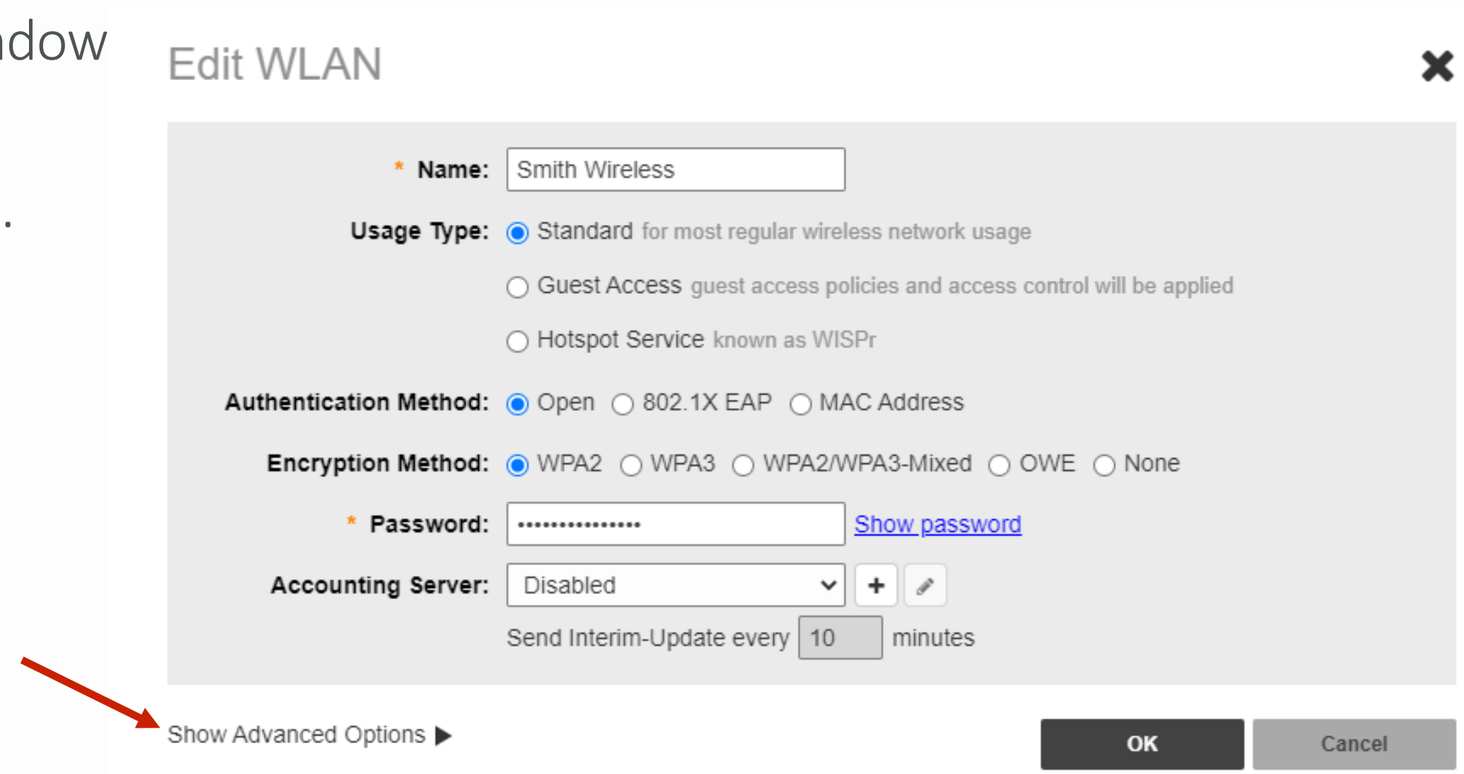


Chapter 5 - How to Enable Wi-Fi Calling

Enabling Wi-Fi Calling

This will open the “Edit WLAN” window for the WLAN.

Click on ”Show Advanced Options”.

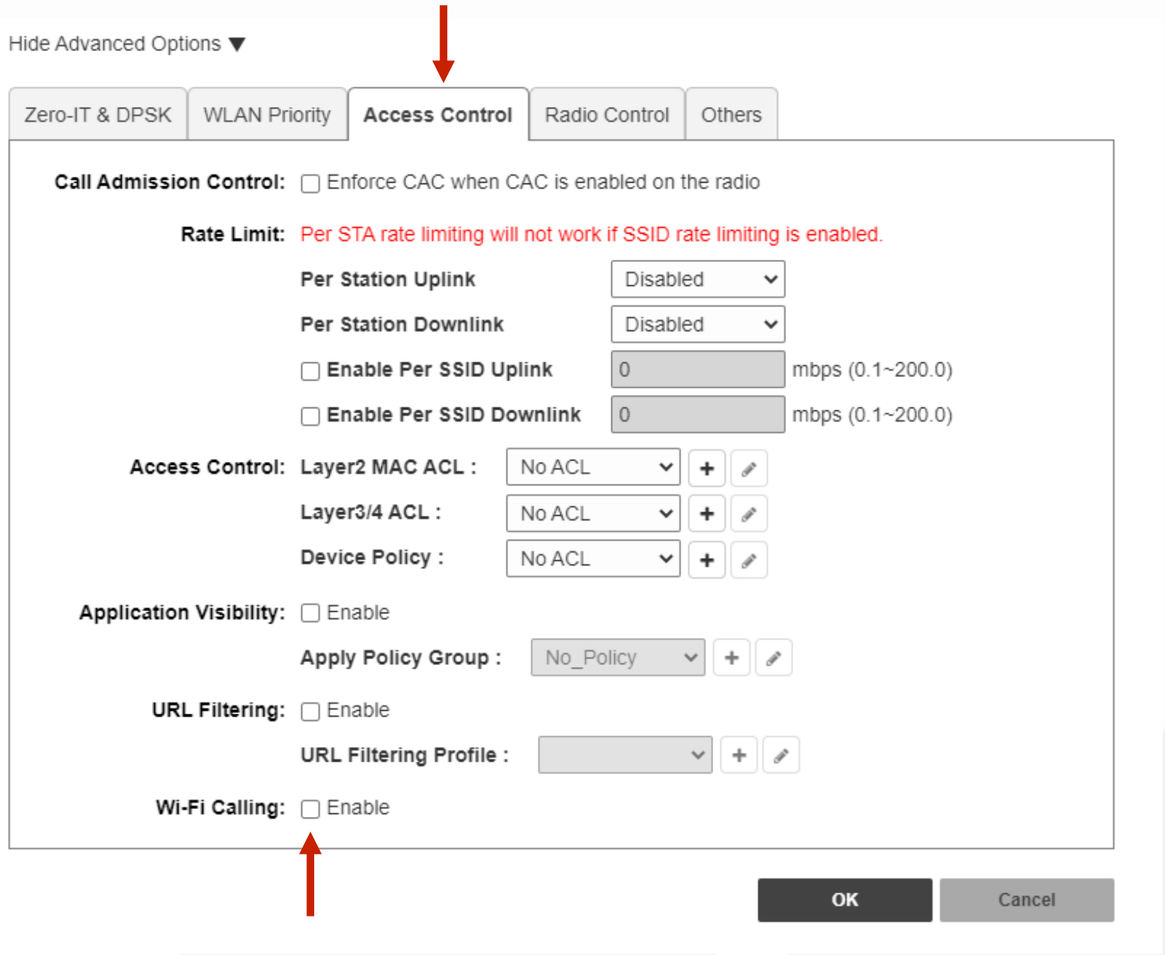


Chapter 5 - How to Enable Wi-Fi Calling

Enabling Wi-Fi Calling

Click on the tab labeled “Access Control”.

Click on the “Enable” box for “Wi-Fi Calling”.

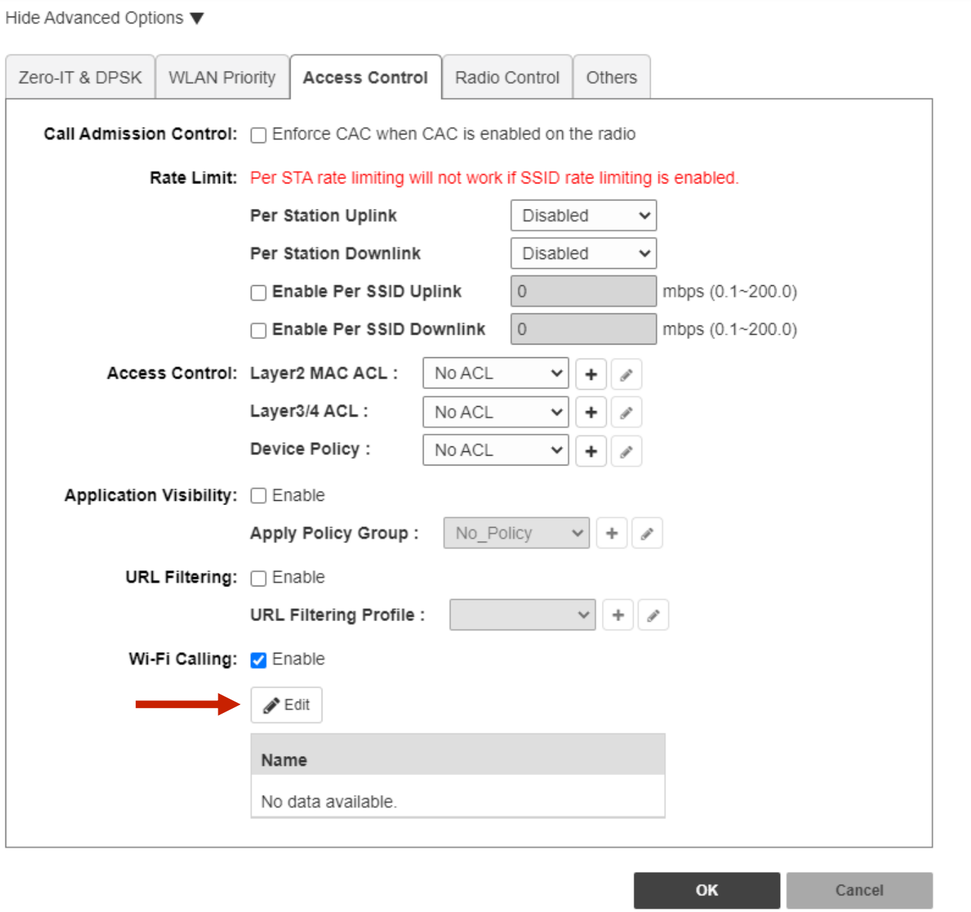


Chapter 5 - How to Enable Wi-Fi Calling

Adding Wi-Fi Calling Profiles

Now that “Wi-Fi Calling:” is enabled, it’s time to add the FQDN profiles. Use the chart to enter the information of the servers from the 4 major carriers.

Click on the “Edit” button to continue.

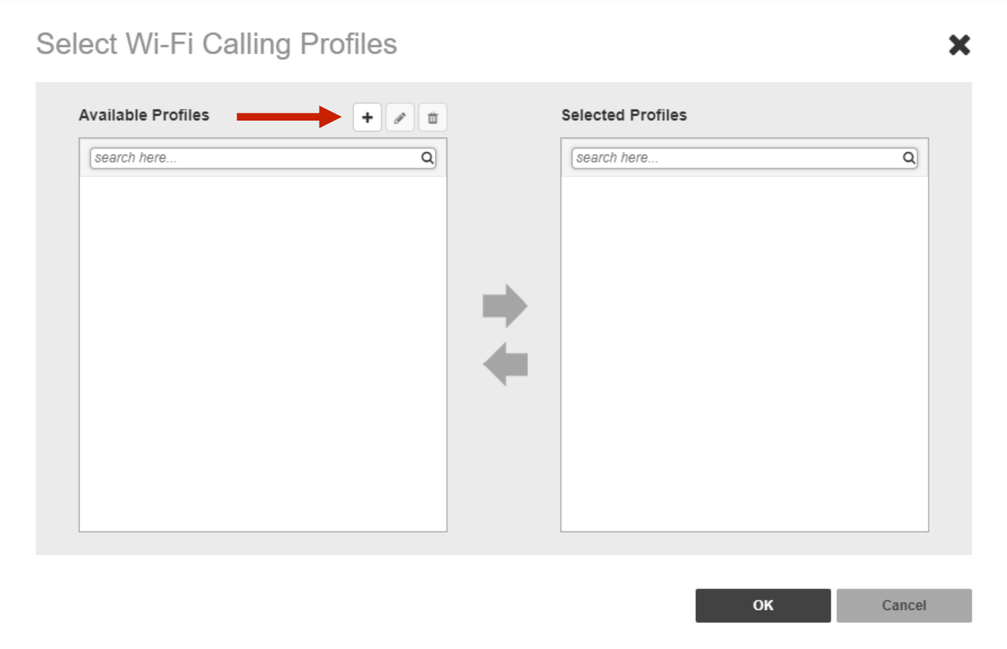


Chapter 5 - How to Enable Wi-Fi Calling

Adding Wi-Fi Calling Profiles

The “Select Wi-Fi Calling Profiles” window will open.

If the carrier you are enabling Wi-Fi calling for is not currently listed, click on the “+” button to create a new Wi-Fi calling profile.



Chapter 5 - How to Enable Wi-Fi Calling

Adding Wi-Fi Calling Profiles

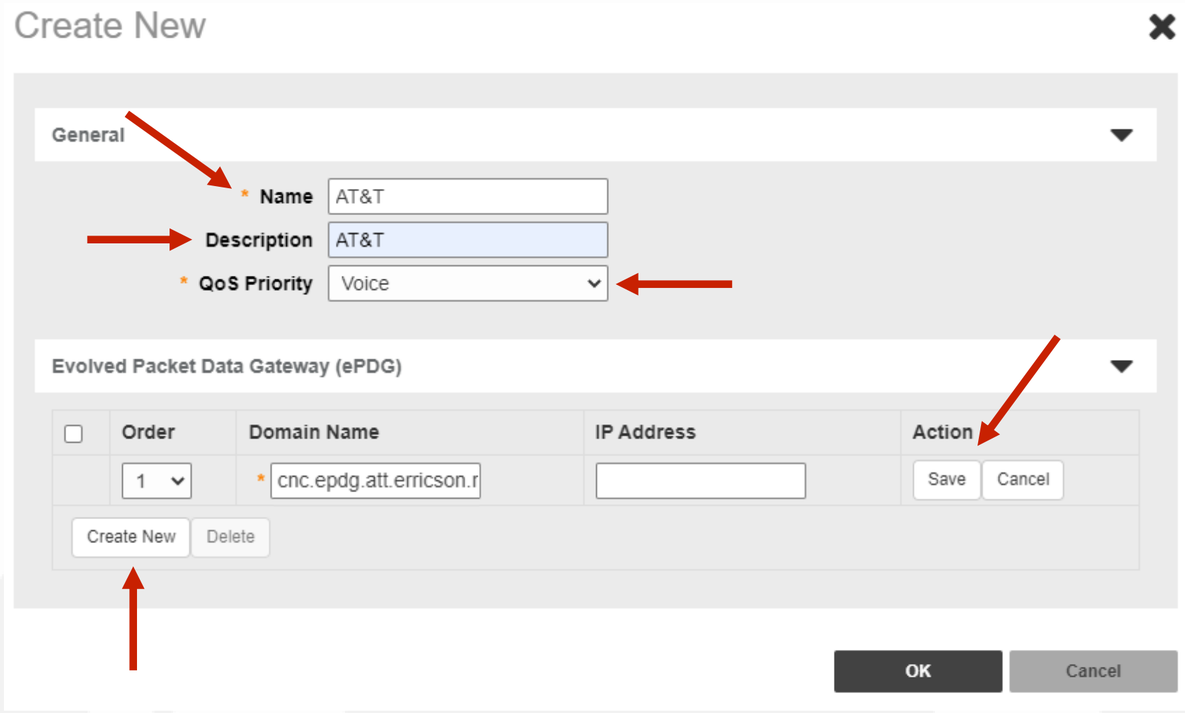
Fill in the “Name” of the profile.

Fill in the “Description” of the profile.

Now ensure that “Voice” is the option selected from the “QoS Priority” drop down selection box.

Enter in the first profile domain name by clicking on “Create New”.

Click on “Save” after each profile domain name you enter.



Chapter 5 - How to Enable Wi-Fi Calling

Adding Wi-Fi Calling Profiles

Fill in the “Name” of the profile.

Fill in the “Description” of the profile.

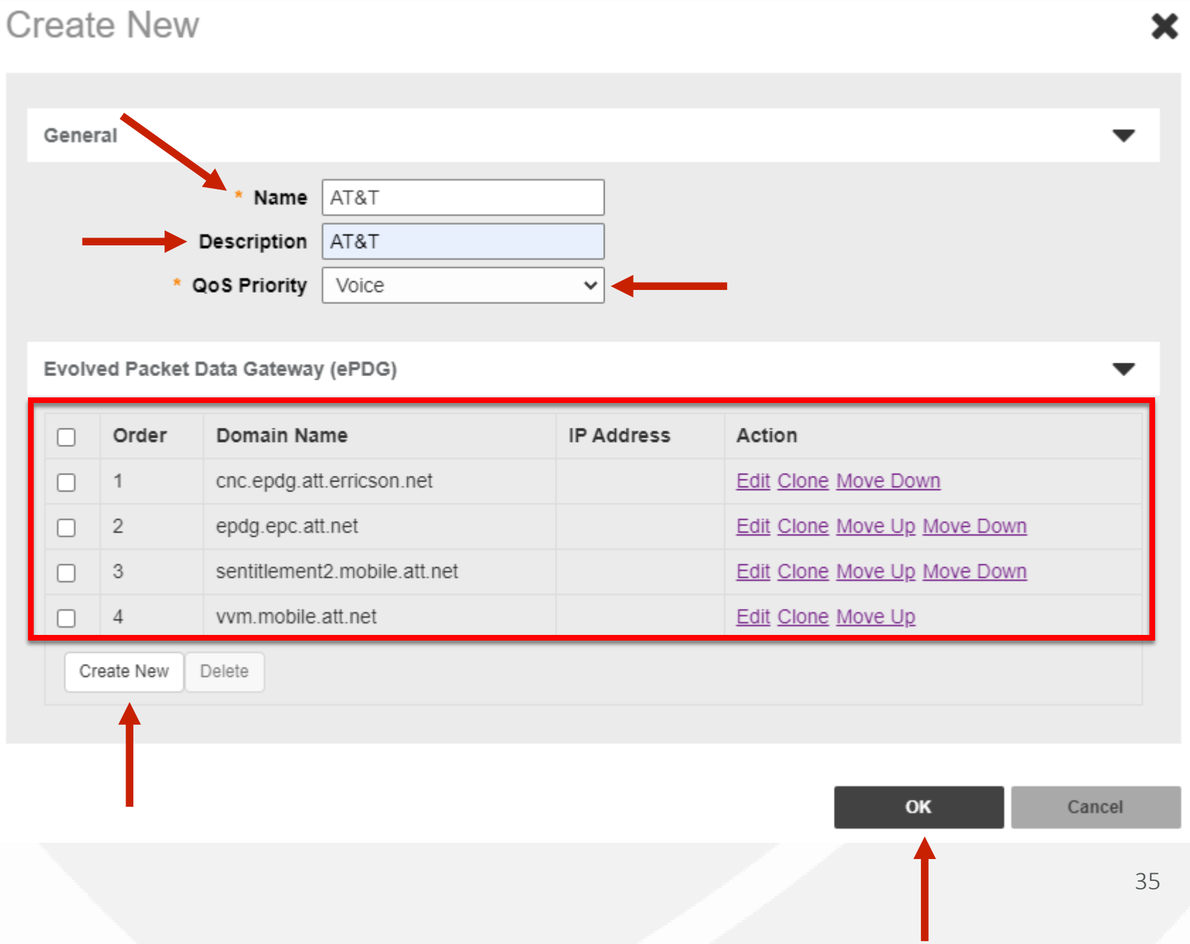
Now ensure that “Voice” is the option selected from the “QoS Priority” drop down selection box.

Enter in the first profile domain name by clicking on “Create New”.

Click on “Save” after each profile domain name you enter.

Now click on “OK” to continue.

*Note – You can add multiple profile domains for each profile.



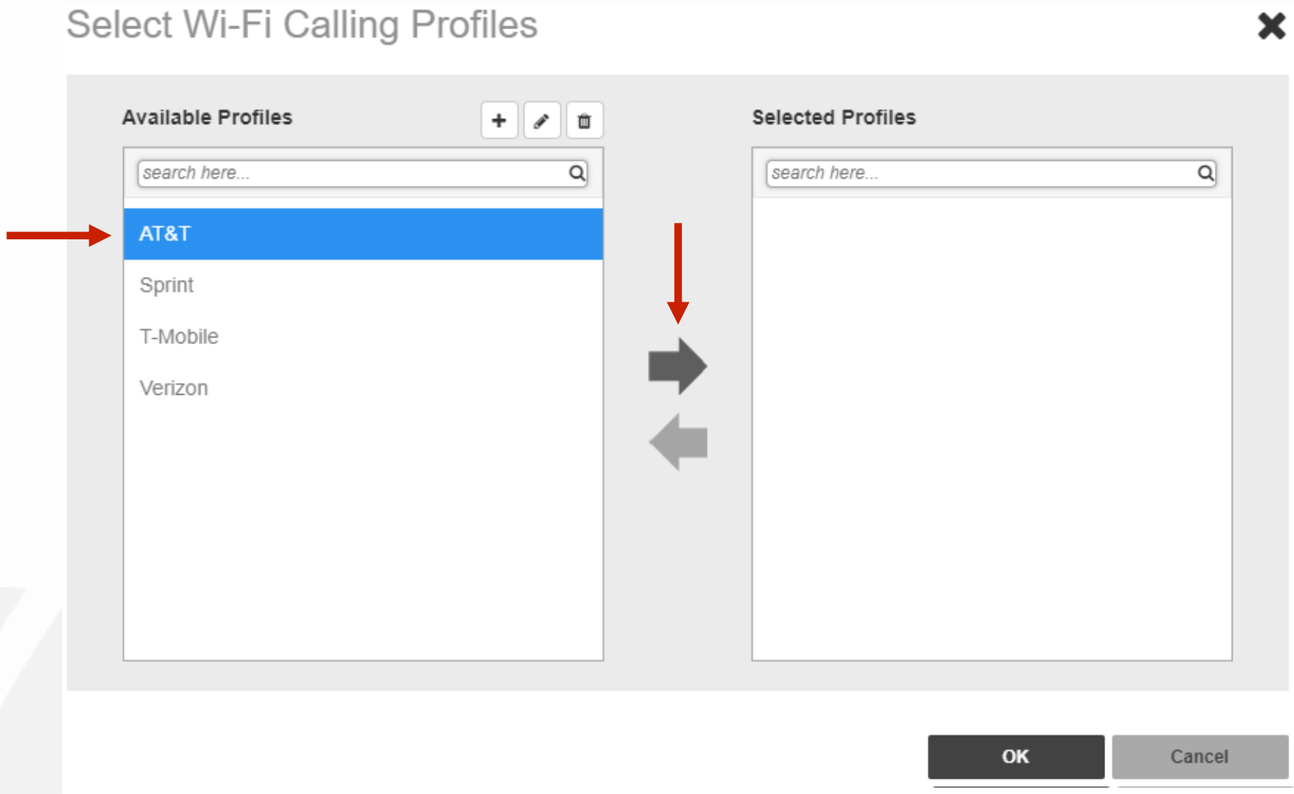
Chapter 5 - How to Enable Wi-Fi Calling

Adding Wi-Fi Calling Profiles

After entering in all the Wi-Fi calling profiles needed for the project, it's time to "Select Wi-Fi Calling Profiles".

Select the first profile from the "Available Profiles" list.

Click on the "right arrow" button to transfer the profile to the "Selected Profiles" list.



*Note – When moving multiple profiles, hold down the "Ctrl" button and select each of the profile you wish to move.

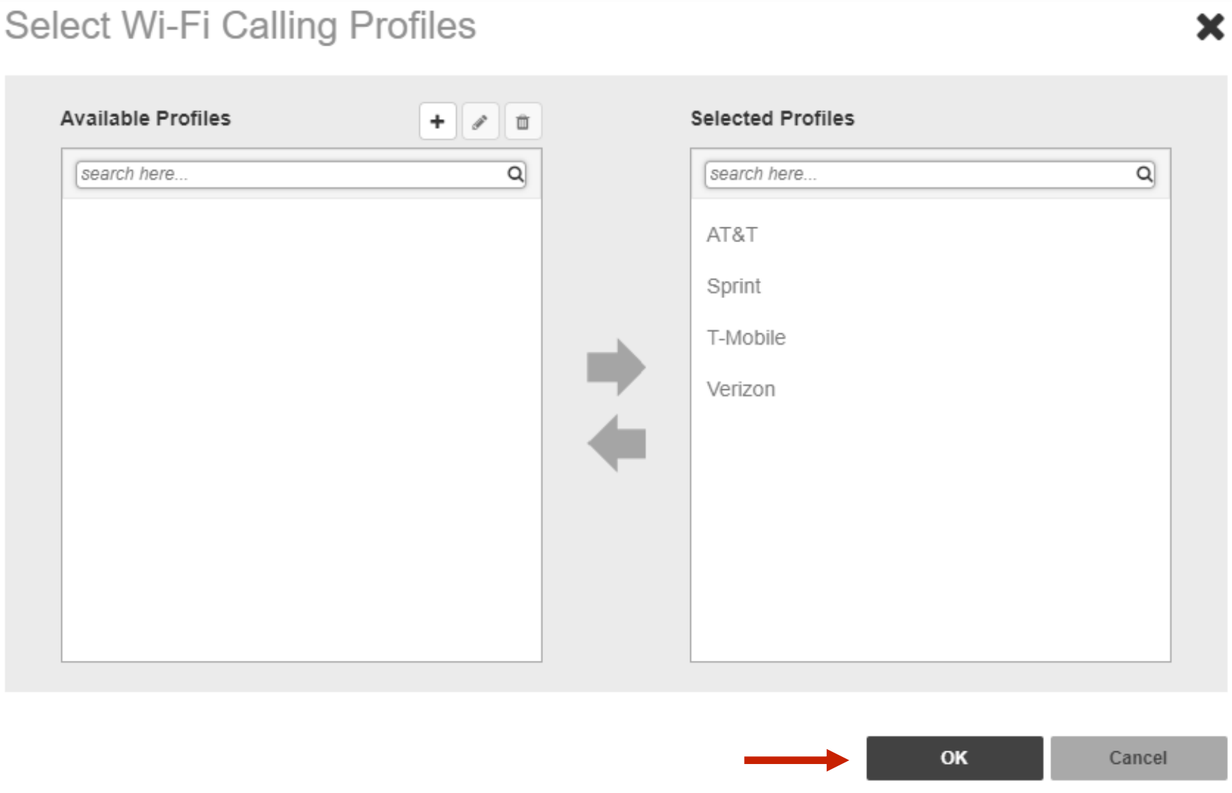
Chapter 5 - How to Enable Wi-Fi Calling

Adding Wi-Fi Calling Profiles

Ensure the correct profiles are in the “Selected Profiles” window.

Now click on the “OK” button to complete the process.

*Note – If a profile was selected in error, the profile can be moved back to “Available Profiles”. Highlight the profile in the “Selected Profiles” window, and then click on the “Left Arrow” button to move the profile back to “Available Profiles” window.



Chapter 6 - Dedicating an AP as a WLAN Controller Only

- Why Disable the WLAN Service on the Master AP
- Master AP Focused On Controller Functions

Chapter 6 - Dedicating an AP as a WLAN Controller Only

Why Disable the WLAN Service on the Master AP

In its base configuration, the Unleashed Master AP performs the duties of both a software based wireless controller and an access point.

This new feature allows you to disable the radios in the Unleashed Master AP allowing it to dedicate all resources to managing the wireless network.

*Note – Ensure that the AP defined as the Unleashed Master AP with No WLAN is not included in the calculation of APs required for proper RF coverage.

Chapter 6 - Dedicating an AP as a WLAN Controller Only

Master AP Focused On Controller Functions

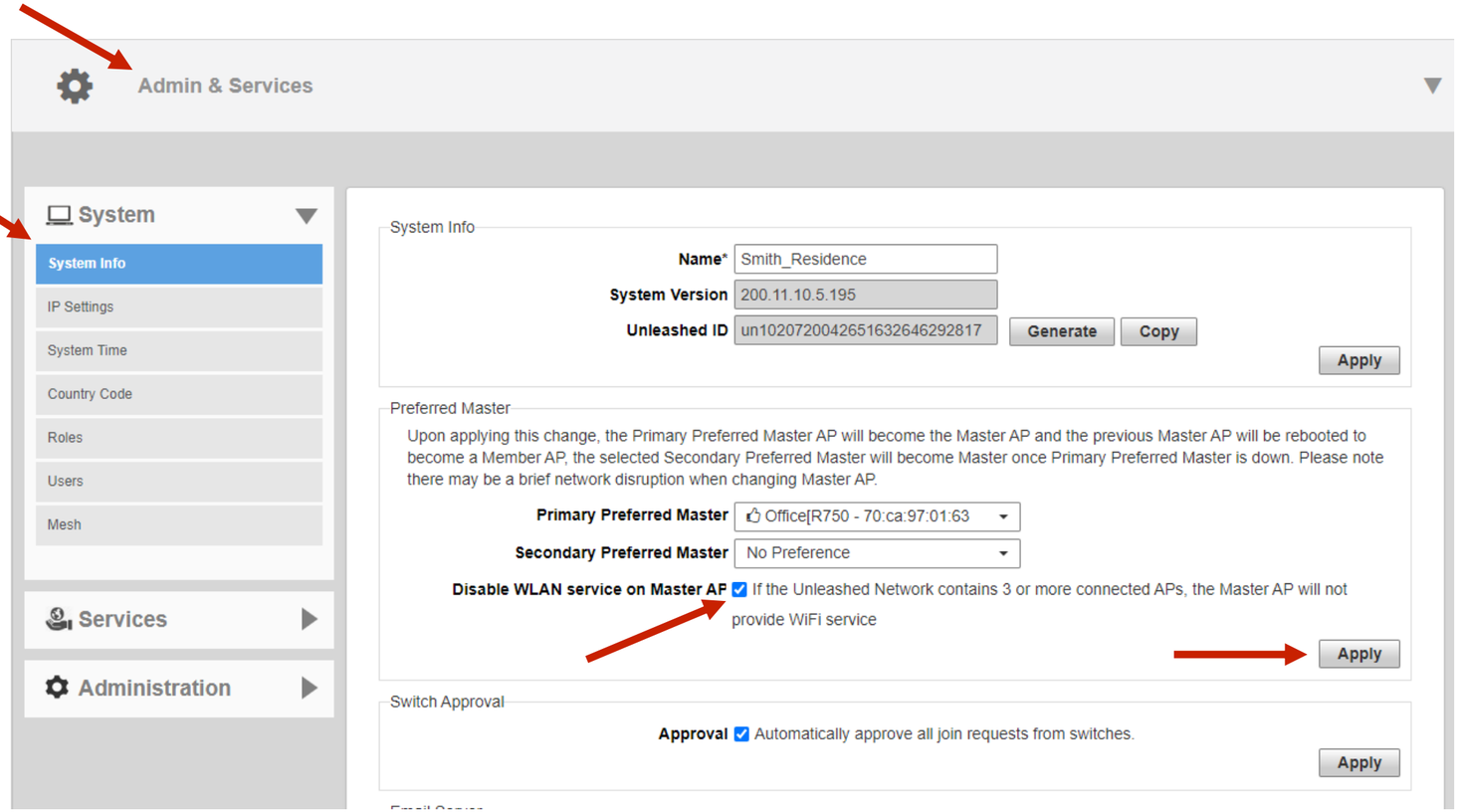
Click anywhere on ”Admin & Services” to reveal the sub menus.

Now select “System Info”.

Under “Preferred Master”, click the “Disable WLAN service on Master AP” option box to enable this feature.

Click on “Apply” to continue.

Note: This feature will only take effect when the Unleashed Network contains at least three or more connected APs to provide Wi-Fi service.



Chapter 7 - How to Add a Secondary Preferred Master

- Why Assign an Access Point as the Secondary Preferred Master
- Adding a Secondary Preferred Master AP

Chapter 7 - How to Add a Secondary Preferred Master

Why Assign an Access Point as the Secondary Preferred Master

Building upon the technique of establishing a Preferred Master AP, described in our Initial Setup Guide, a new feature allows a Secondary Preferred Master to be defined.

Since any **non-mesh** AP can become the Master AP if the Preferred Master goes offline, defining a Secondary Preferred Master will ensure optimal performance by defining which AP will assume the Master role if the primary Preferred Master AP is offline.

Once the Preferred Master AP returns to an online state, on the Unleashed network, it will once again resume the role as the primary Preferred Master AP.

Chapter 7 - How to Add a Secondary Preferred Master

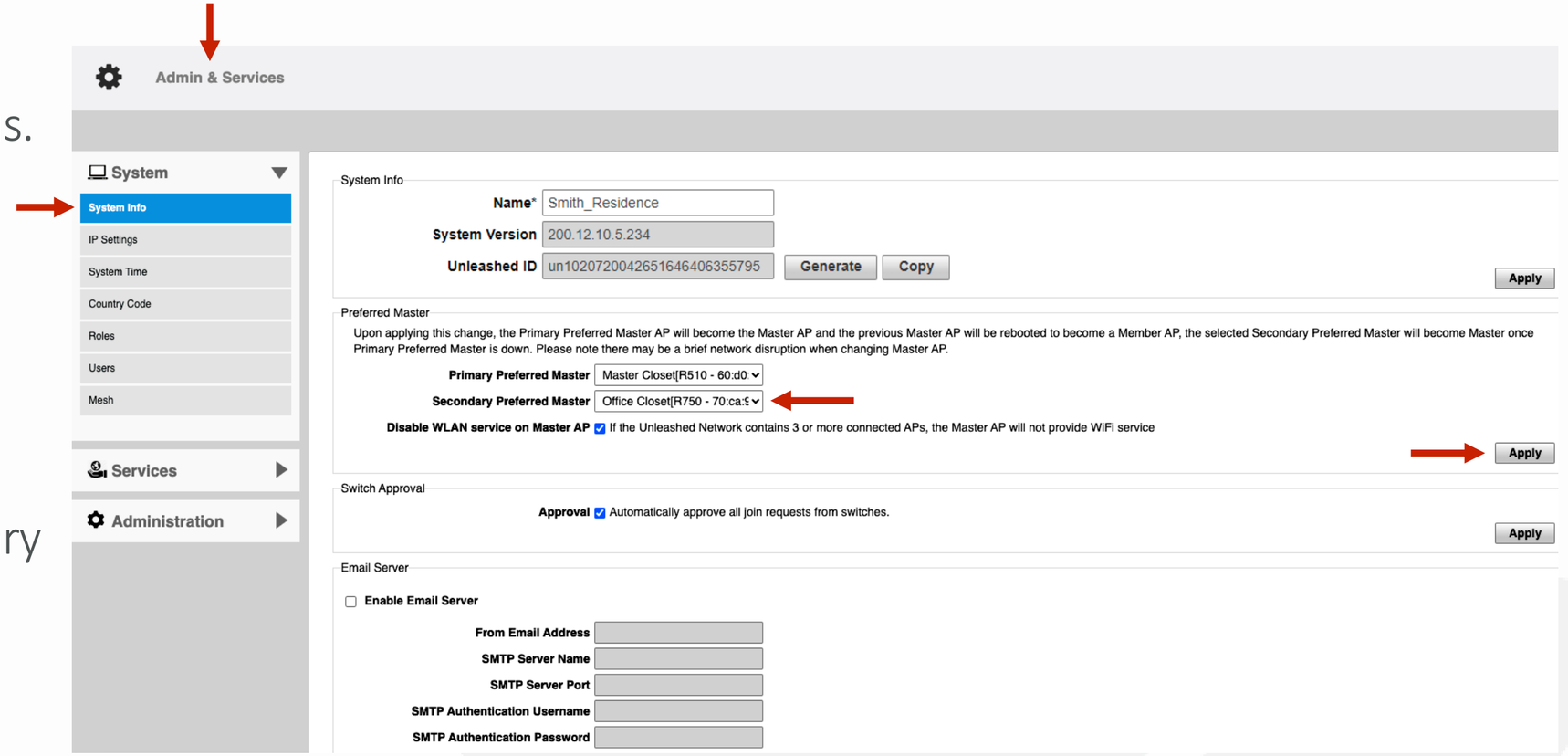
Adding a Secondary Preferred Master AP

Click anywhere on ”Admin & Services” to reveal the sub menus.

Now select “System Info”.

Under “Secondary Preferred Master”, click on the drop-down arrow to reveal which AP you would like to make the ”Secondary Preferred Master”.

Click on “Apply” to continue.



Advanced WLAN Settings Firmware Version: 200.12

- Access Networks Technical Services engineers are available to assist you in the troubleshooting process.
- If you have any questions about the steps to follow on setting up your Advanced WLAN Settings or need information on a topic not detailed in the Unleashed Configuration Guides, please contact the Access Networks Technical Services department for assistance.
- For telephone, visit snp1.com/techsupport
- Email: support-case@accessnetworks.com
- Existing Access Networks partner can visit https://my.accessnetworks.com/partners/ and either open a case or start a chat session by selecting the “Support” tab.

THANK YOU

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