



Unleashed

- Troubleshooting

Tips and Tricks

Firmware Ver 200.8

Nathan Holmes

Director, Training & Development

# Unleashed- Troubleshooting Tips and Tricks

When troubleshooting Wi-Fi networks, there are specific details that can be used to identify a problem and provide insight into how to remedy the situation. In this presentation we will discuss some of the most common of these details and where they can be found in the Access Networks Unleashed network management interface.

# Unleashed – Troubleshooting Tips and Tricks

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## Typical items to investigate

1. Ensure all APs are functioning correctly
2. Check for interference
3. Verify client device performance

# Unleashed – Troubleshooting Tips and Tricks

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## Find and connect to the Wireless Controller

Navigate to the IP address of your Unleashed management interface

Enter your login credentials to proceed.

A screenshot of the Unleashed login interface. It features a dark grey background with a white Wi-Fi signal icon at the top center, labeled "Unleashed". Below the icon are two white input fields: "User Name" and "Password". At the bottom center is a prominent orange button labeled "Unleash". Below the button, in smaller text, it says "Powered by Ruckus Wireless".

Unleashed

User Name

Password

Unleash

Powered by Ruckus Wireless

# Unleashed – Troubleshooting Tips and Tricks



## Find and connect to the Wireless Controller

This is the main Unleashed management console interface.

Each of the primary areas to be configured or monitored are represented on and can be navigated to from this page.

The screenshot displays the Ruckus Unleashed management console interface. At the top, the Ruckus logo is visible on the left, and the system name 'Smith\_WiFi' and 'Up Time: 21d 5h 42m' are shown on the right. The main content area is divided into several horizontal panels, each representing a different network component. Each panel includes a status indicator and a 'Total' count, with sub-counts for 'Working' and 'Disconnected' states. A red notification badge is present on the 'Switches' panel.

Component	Total	Working	Disconnected
Internet	-	Connected	-
WiFi Networks	1	1	0
Clients	0	0	0
Access Points	2	2	0
Switches	1	0	1
Admin & Services	-	-	-

# Unleashed – Troubleshooting Tips and Tricks

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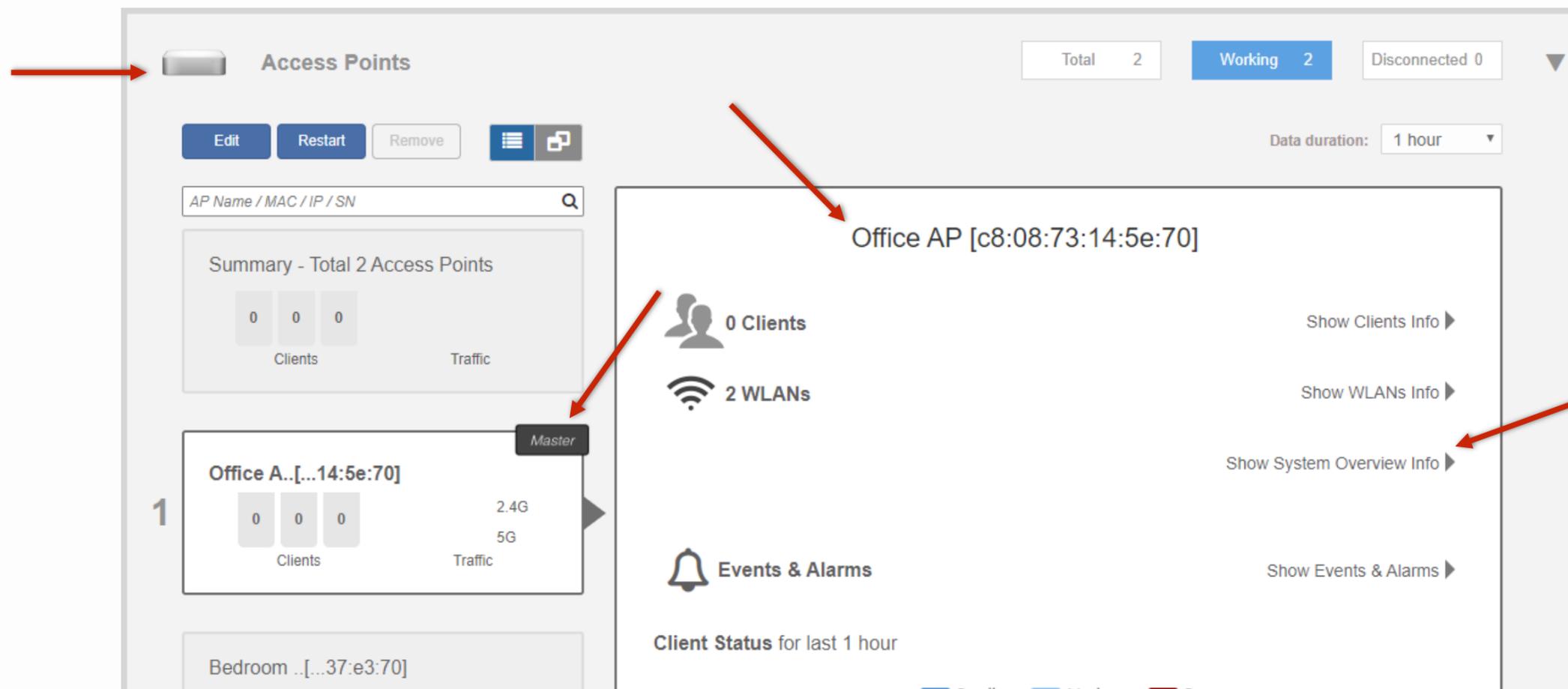
## Steps to ensure all APs/SSIDs are functioning correctly

1. Verify that all APs are online and properly connected
2. Verify available Wi-Fi channel options
3. Verify automatic channel selection properties
4. Ensure Directed Multicast is disabled

# Unleashed – Troubleshooting Tips and Tricks

## Verify that the Master AP is properly identified & connected

1. Verify that the Master AP is named correctly
2. Access Points -> (select “Master” AP)



The screenshot shows the 'Access Points' management page in the Unleashed interface. At the top, there are status indicators: 'Total 2', 'Working 2', and 'Disconnected 0'. Below this, there are buttons for 'Edit', 'Restart', and 'Remove', along with a search bar for 'AP Name / MAC / IP / SN'. A summary section shows 'Summary - Total 2 Access Points' with '0 Clients' and '0 Traffic'. The main list of APs includes 'Office A...[...14:5e:70]' which is marked as 'Master' and shows '0 Clients', '2 WLANs', and '2.4G' and '5G' traffic. Below it is 'Bedroom ..[...37:e3:70]'. The interface also features 'Show Clients Info', 'Show WLANs Info', 'Show System Overview Info', and 'Show Events & Alarms' links. A 'Client Status for last 1 hour' section is visible at the bottom.

# Unleashed – Troubleshooting Tips and Tricks

## Verify that the Master AP is properly identified & connected

1. Verify that the Master AP is connected at 1,000MBPs connection rate
2. Access Points -> (select “Master” AP) -> Show System Overview Info

- Verify that the AP is up/1000Mps
- Verify the “Power Consumption Mode” is correct for the AP model
- **After verifying that Master AP is properly identified & connected repeat these steps for all other member APs.**

Hide System Overview Info ▼

Mac Address	c8:08:73:14:5e:70
IP Address	172.22.28.101
External IP:Port	172.22.28.101:12225
Model	R610
S/N	471849013421
Group Name	System Default
GPS Coordinates	
Mesh Type	Disabled
Current Channel(802.11a/n/ac)	40
Current Channel(802.11b/g/n)	4
Power Consumption Mode	802.3at PoE
Max Clients	100
Version	200.8.10.3.243
Role Fixed	no
Download Logs	Logs 

**Ethernet Port Status** ⓘ

Interface	Logical Link	Physical Link	Label
eth0	Up	Up 1000Mbps full	10/100/1000 PoE Port1
eth1	Down	Down	10/100/1000 Port2

### AP Power modes

- Not Support
- DC
- 802.3af PoE
- 802.3at PoE
- 802.3at+ PoE

# Unleashed – Troubleshooting Tips and Tricks



## Verify that desired Master AP is set as preferred

1. Verify “Preferred Master” AP setting
2. Admin & Services -> System Info -> Preferred Master

A screenshot of the Unleashed web interface. At the top, there is a navigation bar with a gear icon and the text "Admin &amp; Services". Below this is a sidebar menu with a "System" header and a dropdown arrow. The "System Info" option is highlighted in blue. The main content area is divided into two sections. The top section is titled "System Info" and contains fields for "Name\*" (Smith\_WiFi), "System Version" (200.8.10.3.243), and "Unleashed ID" (un2118020010511511323458384). There are "Generate" and "Copy" buttons next to the ID field, and an "Apply" button at the bottom right. The bottom section is titled "Preferred Master" and features a dropdown menu with "Office AP[R610 - c8:08:73:1" selected. A red arrow points to this dropdown. Below the dropdown is a warning message: "Upon applying this change, the selected AP will become a Master AP if it is not a Master AP currently and the previous Master AP will be rebooted to become a Member AP. As a result, there may be a brief network disruption." An "Apply" button is located at the bottom right of this section.

# Unleashed – Troubleshooting Tips and Tricks



## Verify available Wi-Fi channel options

1. Verify that only Channels 1,6,11 are available in the 2.4GHz frequency band
2. Access Points -> Summary -> Edit

The image shows a screenshot of the Unleashed management interface. On the left, the 'Access Points' section is visible, with a red arrow pointing to the 'Edit' button. Below it, the 'Summary' section shows 'Total 2 Access Points' with three '0' indicators for Clients and Traffic. Two APs are listed: 'Office A. [...14:5e:70]' and 'Bedroom [...37:e3:70]'. A second red arrow points to the 'Summary' section. On the right, the 'Edit AP Group' dialog is open, showing the 'Radio (2.4G)' tab. A red arrow points to the 'Radio (2.4G)' tab, and another red arrow points to the '11' checkbox in the 'Radio 2.4 GHz' section, which is checked. The 'Radio 2.4 GHz' section also shows 'Channelization' set to 20, 'Channel' set to Auto, 'TX Power' set to Auto, '11n only Mode' set to Auto, 'Call Admission Control' set to Off, 'WLAN Service' set to Enable, and 'Protection Mode' set to RTS/CTS. At the bottom of the dialog are 'Finish' and 'Cancel' buttons.

# Unleashed – Troubleshooting Tips and Tricks



## Verify available channel options

1. Verify that Performance mode is enabled and all 5GHz channels are available
2. Access Points -> Summary -> Edit

The screenshot displays the 'Edit AP Group' configuration window in the Unleashed management interface. On the left, the 'Access Points' summary shows two access points, with red arrows pointing to the 'Edit' button and the 'Summary' section. The main dialog box is titled 'Edit AP Group' and features a search bar for 'AP Name / MAC / IP / SN'. Below this, there are tabs for 'Radio (2.4G)', 'Radio (5G)', and 'Other'. The 'Radio (5G)' tab is active, showing two sections: 'Radio 5.0 GHz Indoor' and 'Radio 5.0 GHz Outdoor'. Each section has a list of channels with checkboxes, and a red arrow points to the '161' channel in the indoor section. Below the channel lists are several configuration options: 'Channelization' (Auto), 'Channel' (Indoor: Auto, Outdoor: Auto), 'TX Power' (Auto), '11n/ac/ax only Mode' (Auto), 'Call Admission Control' (Off), and 'WLAN Service' (Enable). At the bottom right of the dialog are 'Finish' and 'Cancel' buttons.

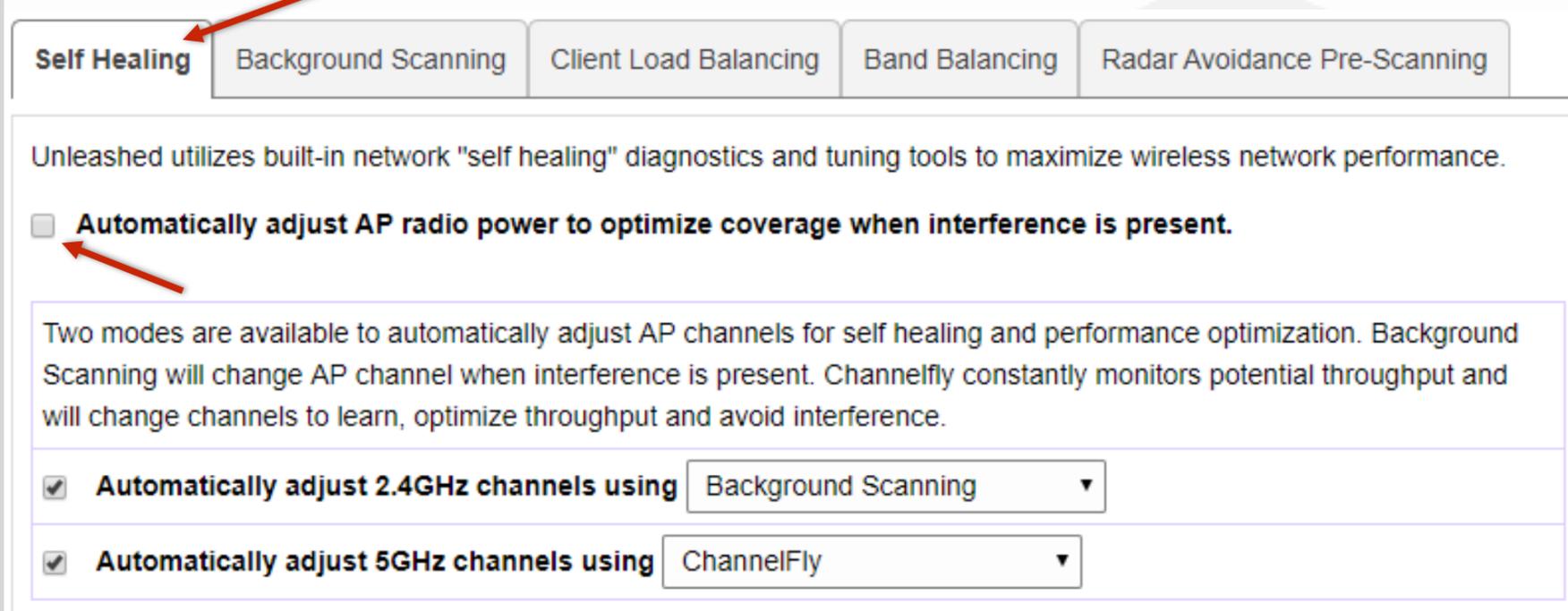
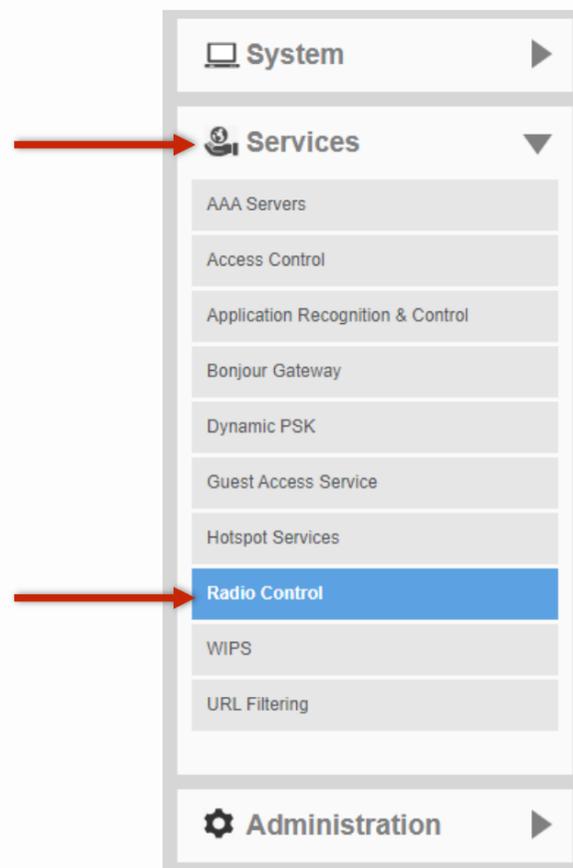
# Unleashed – Troubleshooting Tips and Tricks



## Verify automatic channel selection properties

1. Admin & Services -> Services -> Radio Control -> Self Healing ->
2. Make sure the box is **unchecked** for -

- "Automatically adjust AP radio power to optimize coverage when interference is present"



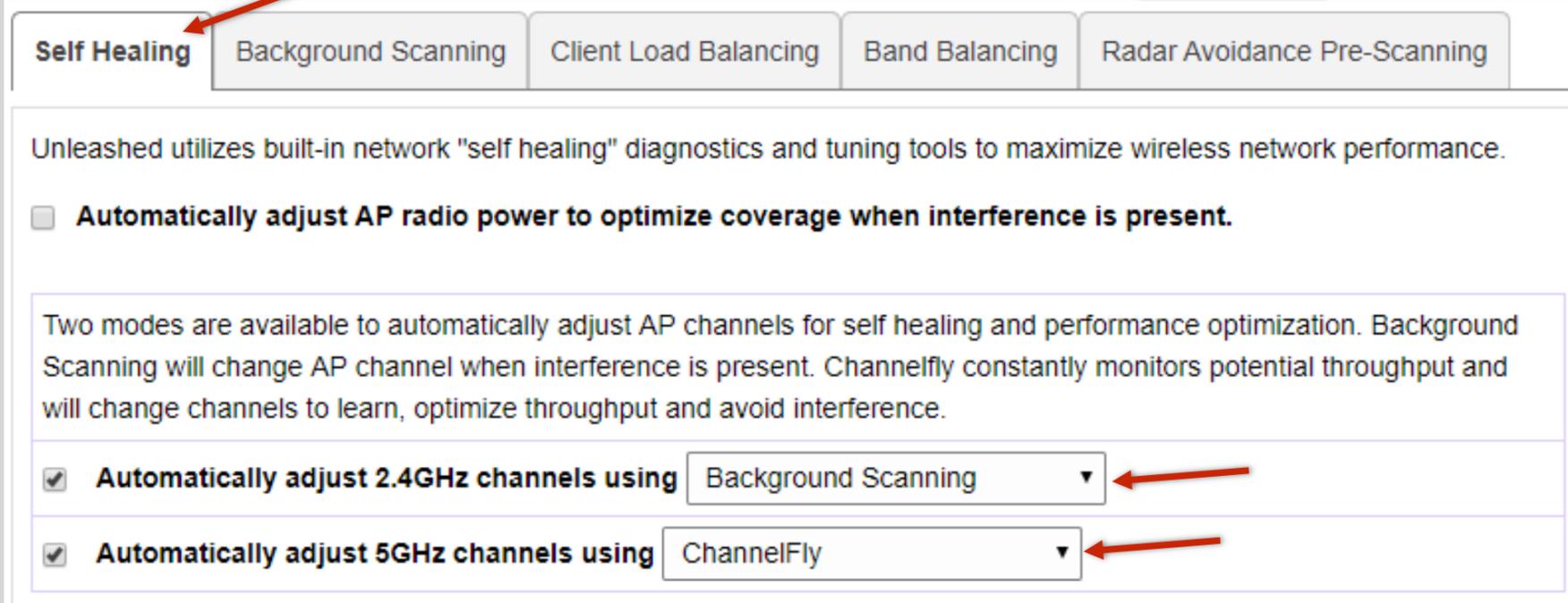
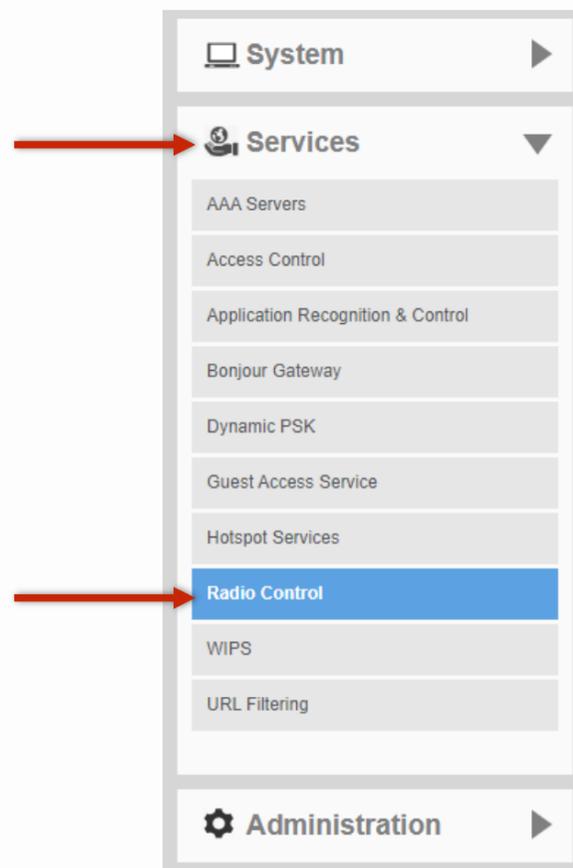
# Unleashed – Troubleshooting Tips and Tricks



## Verify automatic channel selection properties

1. Admin & Services -> Services -> Radio Control -> Self Healing ->
2. Make sure the box is **checked** for -

- "Automatically adjust 2.4GHz channels using Background Scanning"
- "Automatically adjust 5GHz channels using ChannelFly"



# Unleashed – Troubleshooting Tips and Tricks



## Verify automatic channel selection properties

1. Admin & Services -> Services -> Radio Control -> Background Scanning ->
2. Verify both scanning intervals are set to 300 seconds

The screenshot shows the network management interface. On the left, a sidebar menu has 'Services' and 'Radio Control' highlighted with red arrows. The main content area shows the 'Background Scanning' tab selected, with a red arrow pointing to it. Below the tab, there is a descriptive paragraph and a table of settings. The table has two rows, both with checkboxes checked and the value '300' in the input field, with red arrows pointing to the 'seconds' label. An 'Apply' button is at the bottom right.

<input checked="" type="checkbox"/>	Run a background scan on 2.4GHz radio every	<input type="text" value="300"/>	seconds
<input checked="" type="checkbox"/>	Run a background scan on 5GHz radio every	<input type="text" value="300"/>	seconds

[To view all WLANs with background scanning off, click here](#)

# Unleashed – Troubleshooting Tips and Tricks



## Ensure Directed Multicast is disabled

1. Wi-Fi Networks -> (ESSID for Savant) -> Edit -> Advanced Options

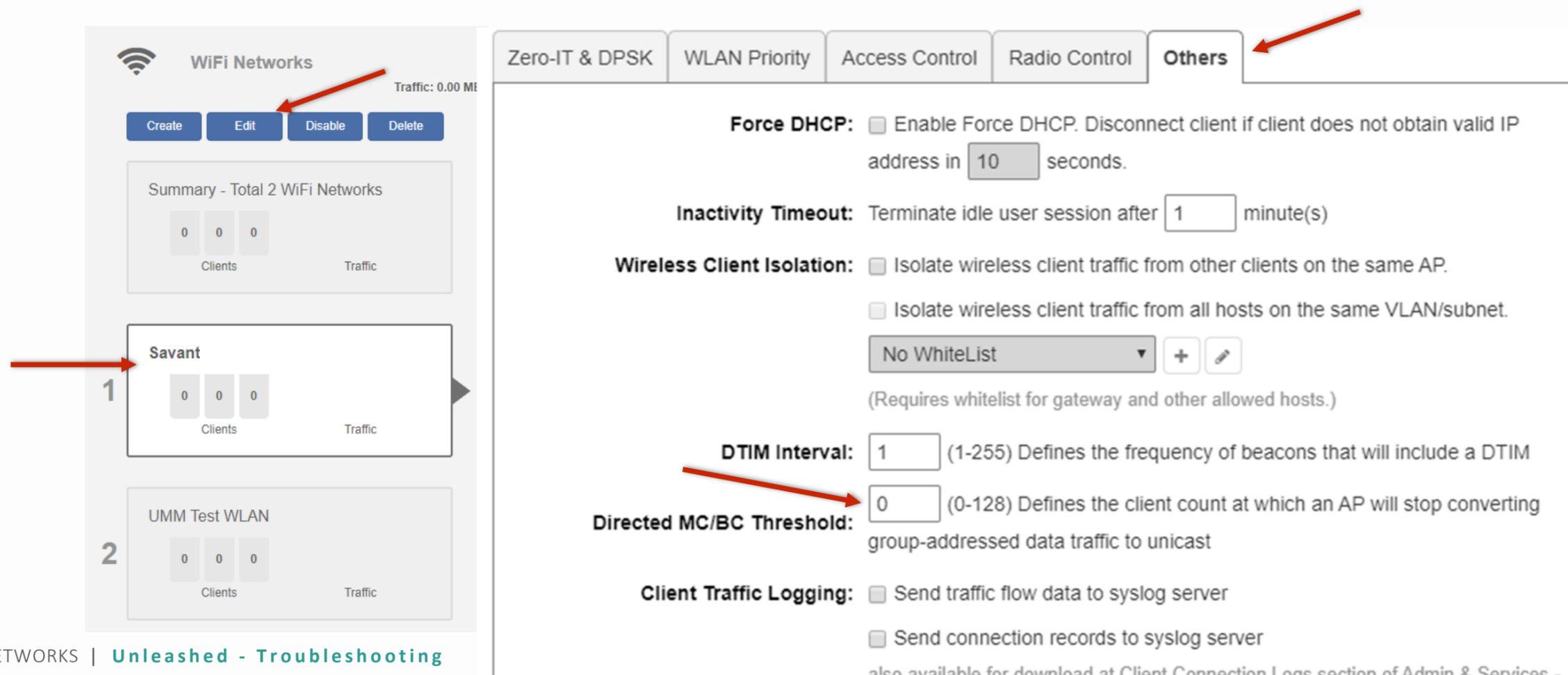
The image shows two screenshots from the Unleashed network management interface. The left screenshot displays the 'WiFi Networks' overview page. At the top, there are buttons for 'Create', 'Edit', 'Disable', and 'Delete'. Below this is a summary for 'Total 2 WiFi Networks' with three zeroed-out metrics for Clients, Traffic, and another metric. A list of networks follows, with 'Savant' highlighted by a red arrow and a '1' next to it. Below 'Savant' is another network 'UMM Test WLAN' with a '2' next to it. The right screenshot is the 'Edit WLAN' dialog box for the 'Savant' network. It contains several configuration fields: 'Name' (Savant), 'Usage Type' (Standard selected), 'Authentication Method' (Open selected), 'Encryption Method' (WPA2 selected), 'Password' (masked), and 'Accounting Server' (Disabled). At the bottom of the dialog, there is a 'Show Advanced Options' link with a right-pointing arrow, which is highlighted by a red arrow. There are also 'OK' and 'Cancel' buttons at the bottom right.

# Unleashed – Troubleshooting Tips and Tricks



## Ensure Directed Multicast is disabled

1. Wi-Fi Networks -> (ESSID for Savant) -> Edit -> Advanced Options -> Others
2. Make sure under "Directed MC/BC Threshold" is set to 0



The screenshot shows the Unleashed WiFi Networks configuration interface. On the left, the 'WiFi Networks' section lists two networks: 'Savant' (1) and 'UMM Test WLAN' (2). Red arrows point to the 'Edit' button for 'Savant' and the 'Savant' network entry. The main configuration area is divided into tabs: 'Zero-IT & DPSK', 'WLAN Priority', 'Access Control', 'Radio Control', and 'Others'. A red arrow points to the 'Others' tab. Under the 'Others' tab, the 'Directed MC/BC Threshold' is set to 0, with a red arrow pointing to the input field. Other settings include 'Force DHCP' (disabled), 'Inactivity Timeout' (1 minute), 'Wireless Client Isolation' (disabled), 'DTIM Interval' (1), and 'Client Traffic Logging' (disabled).

# Unleashed – Troubleshooting Tips and Tricks



## Look for interference issues

1. Check for rogue devices that may be causing Wi-Fi interference
2. Admin & Services -> Services -> WIPS -> Rogue Devices -> Currently Active Rogue Devices ->

The screenshot displays the Cisco Unleashed interface. On the left, the 'Services' menu is expanded, with 'WIPS' selected. The 'Rogue Devices' tab is active in the top navigation bar. The main content area shows a table titled 'Currently Active Rogue Devices' with the following columns: Tree, MAC Address, Device Name, Location, Channel, Radio, Type, Encryption, SSID, Last Detected, RSSI, and Action. The table contains 10 rows of data. Red arrows highlight the navigation path and specific data points in the table.

Tree	MAC Address	Device Name	Location	Channel	Radio	Type	Encryption	SSID	Last Detected	RSSI	Action
+	2c:c5:d3:57:41:c8			1	802.11g/n	AP	Encrypted	WLAN-DATA	2020/04/13 13:53:14		<a href="#">Mark As Known</a> <a href="#">Mark As Malicious</a>
+	1c:3a:60:03:be:98			1	802.11g/n	AP	Encrypted	Daulnet	2020/04/13 13:53:14		<a href="#">Mark As Known</a> <a href="#">Mark As Malicious</a>
-	c8:08:73:14:5e:70	Office AP	In Coat Closet						2020/04/13 13:53:14	47	
-	60:d0:2c:37:e3:70	Bedroom AP	In Her Closet on Ceiling						2020/04/13 13:53:12	45	
+	38:ff:36:12:d3:99			11	802.11g/n	AP	Encrypted	AN-DATA	2020/04/13 13:48:12		<a href="#">Mark As Known</a> <a href="#">Mark As Malicious</a>
-	60:d0:2c:37:e3:70	Bedroom AP	In Her Closet on Ceiling						2020/04/13 13:48:12	23	
-	c8:08:73:14:5e:70	Office AP	In Coat Closet						2020/04/13 13:33:41	22	
+	18:7c:0b:50:c5:cc			36	802.11a/n	AP	Encrypted		2020/04/13 13:33:41		<a href="#">Mark As Known</a> <a href="#">Mark As Malicious</a>
+	88:de:a9:20:4e:a7			48	802.11a/n	AP	Encrypted		2020/04/13 13:34:50		<a href="#">Mark As Known</a> <a href="#">Mark As Malicious</a>
+	2c:c5:d3:97:41:cd			108	802.11a/n	AP	Open	AN-Provisioning	2020/04/13 13:37:10		<a href="#">Mark As Known</a> <a href="#">Mark As Malicious</a>

Detected Rogue Wi-Fi networks that are showing less than 20db RSSI should not adversely affect your installation.

# Unleashed – Troubleshooting Tips and Tricks



## How to verify client device performance

1. Check the performance characteristics of any devices that attached to the WLAN that appear to displaying lower/higher performance than expected.
2. Clients -> Wireless Clients ->

The screenshot shows the 'Clients' page in the Unleashed network management interface. A red arrow points to the 'Clients' header, and another red arrow points to the 'Wireless Clients' section. The interface displays a summary of client status: Total 3, Connected 3, and Disconnected 0. Below this, it shows 'Wired Clients' (0) and 'Wireless Clients' (3). A table lists the details of the three wireless clients.

★	Mac Address	IP Address	Status	OS	Name	User	AP Name	WLAN	Radio	Signal	Auth Method	Encryption
	38:f9:d3:28:71:97	192.168.1.127	Authorized	Apple	My-MacBook		RuckusAP	Smith Wi-Fi	802.11n	Excellent	Open	WPA2
	c0:d2:f3:49:8b:b1	192.168.1.92	Authorized	N/A	55" TCL Roku TV		RuckusAP	Smith Wi-Fi	802.11ac	Excellent	Open	WPA2
	38:00:25:df:c4:8d	192.168.1.105	Authorized	Windows	Shelly-MacBook		RuckusAP	Smith Wi-Fi	802.11n	Excellent	Open	WPA2

# Unleashed – Troubleshooting Tips and Tricks



## How to verify client device performance

1. Check the performance characteristics of any devices that attached to the WLAN that appear to displaying lower/higher performance than expected.
2. Clients -> Wireless Clients -> (Choose a client device) -> Show Details

The screenshot displays the 'Clients' section of the Unleashed network management interface. It shows a summary of 3 total clients, with 3 connected and 0 disconnected. Below this, there are sections for 'Wired Clients' (0 connected) and 'Wireless Clients' (3 connected). A table lists the wireless clients with columns for Mac Address, IP Address, Status, OS, Name, User, AP Name, WLAN, Radio, Signal, Auth Method, and Encryption. The '55" TCL Roku TV' is highlighted in blue, and a red arrow points to its name. The 'Show Details' button is also highlighted with a red arrow.

★	Mac Address	IP Address	Status	OS	Name	User	AP Name	WLAN	Radio	Signal	Auth Method	Encryption
	38:f9:d3:28:71:97	192.168.1.127	Authorized	Apple	My-MacBook		RuckusAP	Smith Wi-Fi	802.11n	Excellent	Open	WPA2
	c0:d2:f3:49:8b:b1	192.168.1.92	Authorized	N/A	55" TCL Roku TV		RuckusAP	Smith Wi-Fi	802.11ac	Excellent	Open	WPA2
	38:00:25:df:c4:8d	192.168.1.105	Authorized	Windows	Shelly-MacBook		RuckusAP	Smith Wi-Fi	802.11n	Excellent	Open	WPA2

# Unleashed – Troubleshooting Tips and Tricks



## How to verify client device performance

c0:d2:f3:49:8b:b1	192.168.1.92	Authorized	N/A	55" TCL Roku TV	RuckusAP	Smith Wi-Fi	802.11ac	Excellent	Open	WPA2
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### Client Details

Name	Value
MAC	c0:d2:f3:49:8b:b1
AP MAC	60:d0:2c:38:22:90
Received from client	1.8K pkts / 349K bytes
Transmitted to client	30K pkts / 2.4M bytes
Radio	802.11ac
Auth Method	Open
Encryption	WPA2
Channel	157
Channelization	20
TX drops due to retry failure	0
Connected Since	2020/04/13 12:58:44
Duration	0 day(s) 1 hour(s) 11 minute(s)

- IP Address
- WLAN
- AP Connected to
- Radio types
- Current Wi-Fi Channel
- Current Channelization

# Unleashed – Troubleshooting Tips and Tricks

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- Access Networks support engineers are always available to assist you in the troubleshooting process. If you have tried to isolate and remediate a Wi-Fi performance issue and believe it to be something other than what has been detailed in this presentation, please contact the Access Networks support department for assistance.

[support@accessnetworks.com](mailto:support@accessnetworks.com)

# THANK YOU

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## CONTACT INFO

Nathan Holmes

Director, Training & Development  
ACCESS NETWORKS

### PHONE

661.383.9100

### ADMINISTRATION

24842 Constellation Rd.  
Valencia, CA 91355  
accessnetworks.com

### EMAIL

[clientservices@accessnetworks.com](mailto:clientservices@accessnetworks.com)

Q & A

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