



# airControl **Network Management Application**

Release Version: 2

User Guide

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# **Chapter 1: Overview**

### Introduction

Welcome to the airControl<sup>®</sup> network management application by Ubiquiti Networks. This User Guide describes the airControl application version 2.

Using airControl, a network administrator at a single location can manage groups of Ubiquiti devices: monitor the network, track usage, and make changes to more than one device at a time. airControl offers these features:

- airOS<sup>®</sup> Device Monitoring and Management
- Mass Configuration for airOS 5 and airOS 6
- Mass Firmware Upgrade
- Network Topology Visualization
- · Setup of Alerts and Notifications
- Smart Grouping and Filtering of Devices (using Device Groups)
- Device Discovery and Automatic Network Topology Resolution
- Configurable Charts
- Tasks and Task Scheduling
- Configurable Device List (Control View)
- Map Support
- Ping, Speed Test
- Malware Cleanup Utility

### **Supported Products**

airControl supports Ubiquiti<sup>®</sup> airMAX<sup>®</sup> M series, airMAX ac series, airFiber<sup>®</sup> series, and airFiber X series products, including the following:

- airFiber, airFiber X
- Rocket®M, Rocket M GPS, Rocket M Titanium
- Rocket<sup>®</sup> ac, Rocket ac Prism
- Bullet<sup>™</sup>M, Bullet M Titanium
- LiteBeam® M, LiteBeam ac
- NanoBeam<sup>®</sup>M, NanoBeam ac, NanoBridge M
- NanoStation®locoM/NanoStationM
- PicoStation<sup>®</sup>M
- PowerBeam<sup>®</sup>M, PowerBeam ac
- PowerBridge<sup>®</sup>M
- airGrid<sup>®</sup>M
- airGateway®
- WispStation<sup>™</sup>M

For more information, visit: www.ubnt.com

#### System Requirements

- Microsoft Windows 7/8/10, Linux, or Mac OS X
- Java Runtime Environment 1.8 (or above)
- Web Browser: Google Chrome

Ubiquiti Networks, Inc.

# **Getting Started**

The airControl software consists of a server application and a client application, which are supported on the following platforms:

• Linux

[二]

- Windows
- Mac OS X (client only; see note below)

Note: Mac OS X supports the client software only; the server software must be installed on a Linux or Windows platform.

#### Installation

When you install airControl on Linux or Windows, both the server and client applications are installed. Install the airControl software as follows:



Note: The following steps show the Windows-based installation only. The installation is similar for Linux.

1. Double-click the installation file to run the install wizard. When the *Welcome* screen appears, click **Next** to continue.



2. Read the license agreement. Then click **I accept the agreement** and click **Next** to continue.



3. The wizard asks where to install airControl. Accept the default location or specify a location. Then click **Next**.



4. Specify which components to install, or keep the default (both server and client). Click **Next**.

select components	airContr
Which components should be installed?	
Select the components you want to install; clear the componen Next when you are ready to continue.	ts you do not want to install. Click
😰 📥 Server	
🕼 💠 Client	

5. Specify the desired startup options and click Next.



6. Specify whether or not you want a desktop icon and click **Next**.

Setup - airControi2 v2.0-RC2.2028.180/19.1437	
Select Additional Tasks Which additional tasks should be performed?	air Contro
Select the additional tasks you would like Setup to perform while in Next.	stalling airControl2, then dick
Create a deskup con	
	Sack Next > Cancel

 Specify the login credentials (user name and password) for the airControl server's admin account. Then, click Next.

Connection settings What user credentials	and port should be used ?		air Contro
Enter admin user name	, password and port that will be	used to access a	irControl2 server.
Admin user name:			
Admin password:		0	
Retype admin passwor	d:		
Port:	9081		

 The next few dialogs involve setting up the PostgreSQL server and database. Specify all requested information and click **Next** to continue.



9. The installation wizard will begin installing the selected airControl components.



 When the software is finished installing, enter the connection settings (Database name, User name, Password) to be used by airControl to access the PostgreSQL database.



11.airControl installation is complete. Click **Finish** to exit.



- 12. If you selected *Show Release Notes* in step 11, the release notes will be displayed.
- 13.If you selected *Run Ubiquiti airControl2 Client* in step 11, continue to step 2 of the next section.

#### **Initial Login**

This section describes the steps to take the first time you run airControl:

- To open the client, double-click the airControl icon (icon location depends on platform as well as the particular options that were selected during installation).
- The Welcome to airControl screen is displayed. Enter the Server IP address, Username, and Password. (To remember the password for future logins, select Save Password.) Click Login to continue.

Welcome to airControl
Server 10.0288961 2
Username admin
Password
Save Pateword
son Discover devices Prish

3. Next, airControl performs device discovery. Discovered devices are displayed on the right side of the window:

Device discovery		10.0.2.211 (ubritbridge1) 10.0.2.210 (ubritbridge1) 10.0.2.220 (ubritbridge) 10.0.2.221 (ubritbridge)
Devices Found Statum Access Points Authenticated 4 2 2 0 Descent Statum Access Points Authenticated Devices Area Statum Access Points Authenticated Devices Area Statum Access Points Authenticated Scient		
Network topology in resolved to enable advanced management operations Resolved Network: Topology		
Logn Discover devices Praih	Finish	

- 4. To manually perform device discovery:
  - a. Click the drop-down box and select the type of discovery to perform:
    - Discovery Broadcast Discover devices by scanning the network.
    - Scan IP Range Discover devices by scanning a range of IP addresses. (Enter the IP address range when prompted.)
  - b. If you want discovered devices to be monitored, select **Monitor Devices**.
  - c. Click Scan to start scanning for devices.

- 5. (Optional) To perform network topology resolution:
  - a. Click Resolve Network Topology.
  - b. The *Topology Resolution* dialog is displayed.
  - c. Enter the Username, Password, and SSH Port.
  - d. Click **Proceed** to begin.
- 6. Click **Finish** to continue.
- 7. The airControl application opens.



You can now use the airControl client to manage and configure your networks. For detailed information on the airControl client, refer to the appropriate chapter of this User Guide.

- <u>"User Options" on page 7</u>
- <u>"Device Tree" on page 11</u>
- <u>"Control Tab" on page 13</u>
- <u>"Live Tab" on page 17</u>
- <u>"Device Details" on page 21</u>
- <u>"Application Drawer" on page 25</u>
- <u>"Context Menu" on page 35</u>

#### **Subsequent Login**

- 1. Double-click the airControl icon 🔊
- 2. The login screen displays the airControl *Server* address, *Username*, and *Password* entered during installation.

Welcome to airControl*	
Server and double and a	
Username	
Password	
✓ Save Password Login	

- 3. If you want to use a different airControl server, enter that server's login credentials.
- 4. Click **Login** to log into airControl.

# **User Interface Overview**

The airControl User Interface (UI) has two views, depending whether the *Control* tab or the *Live* tab is selected, as follows:

• *Control* tab display:



• Live tab display:



On both the *Control* tab and *Live* tabs, the following controls are displayed at the top of the window:



- User Options This drop-down box provides access to user account settings, including display configuration, and the logout option. For detailed information on the user options, see <u>"User Options" on page 7</u>.
- Menu Bar The menu bar contains the device discovery tool and filtering options. On the *Live* tab there are also options (at the far right) for configuring the live display.

• Search Tool When you enter a search string in the search box, matching devices will be highlighted in the *Device List (Control* tab) or *Live View (Live* tab).



Search results are displayed as follows:

- On the *Control* tab, matches are filtered in the *Device List*.
- On the *Live* tab, matches are displayed one at a time. Click the up and down arrows to the right of the search box to navigate through the list of matches. Each match will be highlighted and centered in the pane.

The information display area is located below the controls and is divided into several panes:

- Device Tree This section displays the network nodes in a tree format. For detailed information, see <u>"Device</u> <u>Tree" on page 11</u>.
- Device List (Available when Control tab is selected.) This part of the UI window lists detailed information for network devices that match the active filter setting. For detailed information, see <u>"Control Tab" on page 13</u>.
- Live View (Available when *Live* tab is selected.) This part of the UI window displays a visual representation of your network devices plotted on a grid or map. For detailed information, see <u>"Live Tab" on page 17</u>.
- **Device Summary** This section displays statistics, charts, and events for the selected device. For detailed information, see <u>"Device Details" on page 21</u>.
- Application Drawer This drawer provides access to the Control Panel, and displays alerts and tasks. For detailed information, see <u>"Application Drawer" on page 25</u>.

You can resize any of the panes in the UI window as desired (click and drag the borders between the panes).

Chapter 1: Overview

airControl welcome, aaron					Q							
🕞 Discover 🛛 All 649 Online 558 Offine 89 No												
<ul> <li>Network Topology</li> </ul>	Status	Device Name	.▲ IP	Firmware Version W	Vireless Mode	SSID Signal Stre	ngth @ath0~curi_airN	IAX Ouality @ath0~cun	airMAX Capacity	ссо	Frequency	U
airControl Server	online	Device22	192.168.X.X	6.0-devel-cs.29431 S	Station	JBNT01 -56	dBm	83 %	62 %	99 %	5720 MHz	3
ABCD Network	online	Device59	192.168.X.X	5.6.3.28591 (XM) S	Station	JBNT17 -67	dBm	64 %	68 %	92 %	5660 MHz	
EFGH Network	online	Device16	192.168.X.X	8.0-beta11.30850 (X A	Access Point	JBNT10 -71	dBm			0 %	5735 MHz	
►++> 192168 X X	online	Device92	192.168.X.X	4.0.4.5074 (XS5) A	Access Point	JBNT16 -96	dBm			0 %	5785 MHz	
TP Disconnects	offline	Device110	192.168.X.X	5.6.3.28591 (XW) S	Station	JBNT07		70.01	75.00	~~~~	5000 L #10	
	onine	Device1/	192.166.3.3	5.6.3.26591 (XIVI) 5	station	JBNTH -57	dom	13 %	75 %	91%	5000 MHZ	
				Edit aaron				8	22.70	03 78	320010112	
		Account	Device Tag Device List	t AP Details S	STA Details	Multiple Selection Details	4		14 %	81%	2474 MHz	
				Role Ada	ninistrator 🚊				24 %	45 %	5835 MHz	
				Hole						97 %	2452 MHz	
				Username					47 %	98 %	5745 MHz	
				First Name Rolling					38 %	98 %	5745 MHz	
				Last Name	in .							
									29 %	97 %	5505 MHz	
				Cha	inge Password					0 %	5600 MHz	
				E-Mail	eubnt.com					0.%	5745 MHz	
			III Indatos Int	anyal (Seconda)					90 %	98 %	2464 MHz	
			or opdates into	ervar(seconds)						0%	5580 MHz	
			Display Firmwa	re Build Number	÷					0 %	5835 MHz	
									20.9/	00.9/	5965 MIH-	-
									tics for the Last 30n	in.		
									-55 dBm			
									-56 dBm			
							Cance	Apply	1 -62 dBm			
	_								r -101 dBm			
			Mode Station	Last Contac	t 00:00:20 ago	cco :	99 %		CO 99 %			
			Type Basic oduct NanoStation Loca ME		at 1136 GB		27921Kbp8 737.Mbpe		put 199.15 Kbps			
			MAC 44D9E7:42:94:XX		d 100Mbps-Eul		72 Mibos		ate 68.55 Mbps			
			ersion 6.0-devel-cs.29431 (XW			BX Bate	130 Mbps		ate 133.4 Mbps			
						airMAX Quality	83 %	airMAX Qui	lity 84 %			
						airMAX Capacity	62 %	airMAX Capai	tity 62 %			
						Memory Usage	33 %	Memory Us	age 33 %			
Device Groups							0.02		age 0.02			
						of o Loud Areinge	0.02		age too			

# **Chapter 2: User Options**

Located at the top left of the window, the user options provide access to user account settings, including display configuration, and the logout option.

To access the user options, click the arrow next to *Welcome*, *<username>*. Then do one of the following:

- To log out of airControl 2, select Logout.
- To edit user account settings, select Edit User Settings.



The *Edit* <*Username*> window is displayed, containing the following tabs:

- Account
- Device Tag
- Device List
- AP Details
- STA Details
- Multiple Selection Details

These buttons are at the bottom right corner of each tab: Apply Applies all changes you have made on the tab. Cancel Cancels all changes you have made on the tab.

## **Account Tab**

The Account tab contains the settings for the user account:

Edit user1										
	Account	Device tag	Device List	AP details	STA details	Multi-dev. summary	Live widgets			
					Role Administr	ntor ‡				
				Usern	ame user1					
				First N	ame					
				Last N	ame					
					Change P	assword				
				5						
			UILIndat	es Interval (Seco	nds) 1					
			Active Visue	ization Refresh	Rate Fost	÷				
								Cancel Apply		

**Role** Displays the role assigned to the user account. There is one predefined role, *Administrator*; additional roles must be manually defined using *Control Panel* > *User Roles*.

Username Displays the user name of the account.

First Name Displays the user's first name.

Last Name Displays the user's last name.

E-Mail Displays the user's e-mail address.

**UI Update Interval (Seconds)** This is the UI's update interval in seconds. The default is *1*.

**Display Firmware Build Number** Used to display the firmware build number next to the firmware version number. Values are *No* (default) or *Yes*.

# **Device Tag Tab**

The *Device Tag* tab allows you to configure the tags used to label all devices for quick identification:

Edit user1											
		Account Devi	ice tag Device	List AP	details STA deta	ails Multi-dev. summar	y Live widgets				
	Device tag preview for Access Print 2 										
			D	evice tag co	intent composition for A	coess Point					
Prefix	Field	Interface	Averaging period	Suffix	Text style						
	ip	\$			Normal \$						
C	essid	•		)	Normal ©						
				_							
				Add Fiel	ld Delete Up	Down					
								Cancel Apply			
	_		_	_							

**Device tag preview for** The device type whose tag is being configured. Select **Access Point** or **Station**.

Immediately below is a sample of the tag as currently configured. Any changes you make to the remaining settings are immediately reflected in this sample.

**Prefix** (Optional) Specifies a prefix to be added to the front of the tag.

**Field** Specifies the field to be displayed, with information related to the device:

- Access Point MAC
- ACK Timeout
- Added By
- AF Capacity RX
- AF Capacity TX
- AF Channel Width RX
- AF Channel Width TX
- AF Duplex
- AF Frequency RX
- AF Frequency TX
- AF Link State
- AF Operating Mode
- AF Remote IP
- AF Remote MAC
- AF TX Modulation Rate
- AF TX Power
- airMAX Capacity
- airMAX Quality
- airTime
- Alert Count
- Bytes RX
- Bytes TX
- Capacity Downlink
- Capacity Uplink
- CCQ

- CINR
- Connection Time
- CPU Load
- CPU Usage
- Current Operation
- Description
- Device Added Time
- Device Name
- Device Status
- Device Tag
- Distance
- Firmware Version
- Frequency
- Interface Status
- IP
- LAN Speed
- Last Contact
- Latency
- MAC
- Memory Free
- Memory Total
- Memory Usage
- Modulation Rate RX
- Modulation Rate TX
- NAT
- Network Mode
- Noise Floor
- Number of Clients
- Ping Latency
- Product
- Rate RX
- Rate TX
- Signal Chain 0
- Signal Chain 1
- Signal Strength
- SSID
- Throughput RX
- Throughput TX
- Topology Node Type
- Uplink Type
- Upstream Interface
- Uptime
- Wireless Mode

**Interface** (Not available for all fields.) The interface for the selected *Field*. Select **WLAN** or **LAN**.

Averaging period (Not available for all fields.) The averaging period for the selected *Field*. Select **current**, **5min**, or **30min**.

**Suffix** (Optional) Specifies a suffix to be added to the end of the tag.

**Text style** The text style to apply to the displayed tag. Select **Normal** or **Bold**.

Add Field Click this button to add a new field.

**Delete** Click this button to delete the selected field.

**Up** Click this button to move the selected field up one row in the list.

**Down** Click this button to move the selected field down one row in the list.

### **Device List Tab**

The *Device List* tab allows you to configure the format of the device list displayed in Control mode. You can select which fields will be displayed:



Displayed at the top of the window is a sample of the device list. This sample immediately displays any changes you make to the *Device list columns configuration* section, or to the sample itself. For information on customizing the device, see <u>"Customizing the Device List" on page 9</u>.

**Device List Columns Configuration** 

This section contains the following options:

**Field** Specifies a field to display. For a list of fields and their descriptions, refer to <u>"Device Fields" on page 45</u>.

**Interface** (Not available for all fields). The interface for the selected *Field*. Select **WLAN** or **LAN**.

Averaging period (Not available for all fields.) The averaging period for the selected *Field*. Select **current**, **5min**, or **30min**.

**Text style** The text style to apply to the displayed field. Select **Normal** or **Bold**.

**Custom Name** (Optional) This is used to specify a userdefined column name.

**Sorted** Read-only field showing the sort order, if applicable, in effect for the field: *ascending* or *descending*.

**Column Width** Read-only field indicating the width of the column in pixels.

Add Field Click this button to add a new field.

**Delete** Click this button to delete the selected field.

**Up** Click this button to move the selected field up one row in the list.

**Down** Click this button to move the selected field down one row in the list.

#### **Customizing the Device List**

You can customize the device list display, including:

- Which fields are displayed (add/delete fields)
- The column heading
- The width of each field's column
- The format (normal or bold) of displayed field values

Instructions for customizing the device list are as follows:

Adding a Field

- 1. Click **Add Field**. A new row appears in the *Device list columns configuration* section of the dialog.
- 2. In the new row, click the *Field* drop-down and select the desired field.



Note: For information on the fields, refer to <u>"Device Tag Tab" on page 8</u>.

- 3. If applicable, select the *Interface* and/or *Averaging Period*.
- 4. Click Apply.

**Deleting a Column** 

- 1. Highlight the appropriate row in the *Device list columns configuration* section of the dialog.
- 2. Click **Delete**.
- 3. Click Apply.

Changing the Position of a Field

There are two methods you can use. Either:

- 1. Click and hold the field's column heading in the sample (at the top of the dialog).
- 2. Drag and drop the column at its new position.
- 3. Click Apply.

Or:

- 1. Highlight the appropriate row in the *Device list columns configuration* section of the dialog
- 2. Click **Up** to move the field to the left in the device list, or click **Down** to move it to the right in the device list.
- 3. Click Apply.

Modifying a Field

- 1. Configure the attributes (*Text style*, *Custom name*, etc.) of the field as desired.
- 2. To change the sort order, click the column heading in the sample (at the top of the dialog). Each click toggles between ascending and descending order.
- 3. To change the column width, drag the divider on the right of the column.
- 4. Click **Apply** to save the changes.

# AP Details, STA Details, and Multiple Selection Details Tabs

The AP (access point) Details, STA (station) Details, and Multiple Selection Details tabs are used to configure the information that is displayed on the Statistics tab (lower part of window) in Control mode. They are differentiated as follows:

• Use the AP Details List tab to configure AP information.



• Use the STA Details List tab to configure station information.

	Edit user1 🖉										
		Account	Device tag	Device List	AP details	STA details	Multi-d	lev. summary	Live widgets		
	Details panel configuration for Station Device Summary										
ltern type	Custom name	Field		Interface	Averaging period	Text style			Device Na	me previewhost_2	
Section	Device Summary	r []1	ane] ‡			Normal	•		S	SID SAMPLE_SSID	
Field		ho	stname ‡			Bold	•	A	Network M	P 192.168.12	
Field		cs	sid ‡			Bold	•		Wireless M	ide Station	
Field		ip.	\$			Normal	•		Membership T	pe Regular member	
Field		ne	5Vode ≎			Normal	•		N	AC E02A82AD:C7:37	
Field		w	anOpWode ≑			Normal	\$		Firmware Ver Descrip	ion 5.5-devel.10490 (XM) ion preview-description	
Field		m	embershipTy <i>p</i> t			Normal	•				
Field		pri	oduct ¢			Normal	•		Status: online	6	
Field		m	ic ¢			Normal	•		Unchecked Ali Laist Cont	rta 0 act	
		Add Field	Add Section	Delete U	p Down				Current Opera	ion preview-operation	
									Car	cel Apply	

• Use the *Multiple Selection Details* tab to configure the information for multiple device selections.

		Account	Device tag	Device Li	st AP	details	STA details	Multi-dev. summa	ry Live widgets	
		D	etails panel cor	nfiguration for n	nuitiple sele	cted devic	es		Traffic-3	
tern type	Custom name	Field		Interface	Averag	ing period	Text style	Multiple values		OKhar
lection	Traffic:	[De	vice Count] 🗧				Bold 3	summed \$	RX Throughput	0 Kbps
ield	TX Throughput	bx1	iroughput ¢	ath0 \$	curr	ent ¢	Normal 3	averaged \$	TX Total	OKD
field	RX Throughput	nx1	roughput :	ath0 =	curr	ent o	Normal	averaged 0	HA TOTAL	UKD
field	TX Total	bB	iytesTotal 🗢	ath0 =			Normal 4	\$ bornnue	State Avera	ges:
Field	RX Total	rx6	lytesTotal ©	ath0 =			Normal	summed \$	Signal Strength	0 dBm
Section	State Averages:	[Mc	nej ÷				Normal \$	summed \$	CCO	0 %
Field	Signal Strength	sig	nal ÷	ath0 =	curr	ent e	Normal	averaged \$		
Field	Uptime	lupt	ime 🏻 🌣				Normal 3	averaged \$		
field	cco	003	a ÷	ath0 =	curr	ent ¢	Normal 4	averaged \$		
		-	dd Field A	dd Section	Delete	lo Do	WD			

Displayed on the right side of the window is a sample of the AP, station, or multiple-device information. Changes you make to the remaining settings are immediately reflected in this sample. The fields are the same for all three tabs and are as follows:

**Item Type** Read-only field that specifies the type of item to be configured: *Section* or *Field*. The value is determined by the button (*Add Field* or *Add Section*) used to create the item's entry.

**Custom Name** Specifies a custom name to display next to the value of the field or section.

**Field** Specifies a field to display. For a list of fields and their descriptions, refer to <u>"Device Fields" on page 45</u>.

**Interface** (Not available for all fields). The interface for the selected *Field*. Select **WLAN** or **LAN**.

**Averaging period** (Not available for all fields.) The averaging period for the selected *Field*. Select **current**, **5min**, or **30min**.

**Text style** The text style to apply to the displayed field or section. Select **Normal** or **Bold**.

Add Field Click this button to add a new field.

Add Section Click this button to add a new section. The configured item will be displayed as the title of the new section.

**Delete** Click this button to delete the selected field or section.

**Up** Click this button to move the selected field or section up one row in the list.

**Down** Click this button to move the selected field or section down one row in the list.



# **Chapter 3: Device Tree**

Located on the left side of the window, the device tree displays the system's network topology in a tree format.

The nodes in the device tree can be organized by topology or by device group:

- To view the device tree by network topology, select **Topology**.
- To view the device tree by device group, select **Device Groups**.

In both the topology and device group views, the  $\blacktriangleright$  icon next to a node indicates that the node has subnodes. To display the subnodes, click the  $\blacktriangleright$  icon (the icon will change to  $\checkmark$ ).

To collapse a node's subnodes, click the  $\blacksquare$  icon next to the node.

To quickly collapse multiple levels of subnodes, click the ▼ icon next to the next higher level node.

# Topology

The device tree can display the nodes based on the system topology. This is the default view.

* Topology	
ABCD Network	
+++→ (ABCD-1)	
- 9 192.168.X.X (ABCD-1)	
- P 192.168.X.X (ABCD-1)	
►+++ 📄 (RRR1)	
►+++ 🐉 (RRR2)	
►++> 🐉 (SS1)	
►++ 📋 🕒 (TTT1)	
►++ 📋 (SS2)	
• +++ 🐉 (SS3)	
► · · · · · · · · · · · · · · · · · · ·	
►++ 📄 (V2)	
(V3)	
· · · · · · · · · · · · · · · · · · ·	
•••• 🛄 (11144)	
••• [= (11122)	
· · · · · · · · · · · · · · · · · · ·	
(11166)	
(KK22)	
• • • • • • • • • • • • • • • • • • •	
FERI Network	
+ ++ [] (0002)	
-* 🖬 (DDD 2)	
-* (DD02)	
-* 🖾 (DDD 2)	
- (DDD2)	
Device Groups	

For access points and station devices the icon is a thumbnail of the device.

Other icons are as follows:



airControl server (root node)

🕙 Manually added router

#### **Context Menu**

The context menu, accessed by right-clicking, provides options that allow you to perform various useful functions:



For detailed information on the context menu options, refer to the appropriate section in <u>"Context Menu" on</u> page 35.

# **Device Groups**

The device tree can display the nodes by device groups (categories).

Device Groups	
- 📂 By CCQ (619)	
By Firmware (621)	
By Products (621)	
By SSID (621)	
Ignored Devices	

To display nodes by device groups, click **Device Groups**. The default device groups are:

- **By Firmware** Expand this node to group devices by firmware version. Clicking any node will list all devices whose firmware version number matches the node.
- **By Products** Expand this node to group devices by product model name. Clicking any node will list all devices that are the same product as the node name.

- **By SSID** Expand this node to group devices by SSID. Clicking any node will list all devices whose SSID matches the node's SSID.
- **Ignored Devices** Expand this node to display devices for which you do not have access credentials.

You can perform the following operations on the *Device Group* list by right-clicking and using the context menu.

- Add a new folder Refer to <u>"New Folder" on</u> page 42.
- Add a new device group Refer to <u>"New Devices</u> <u>Group" on page 42</u>.
- Edit an existing device group Refer to <u>"Edit Devices</u> Group" on page 43.
- Remove device group Refer to <u>"Remove <group>" on</u> page 43.

air Control welcome	, aaron +				0			_			iontrol	Live
Discover All 649 Online 558 Offline	89 Not Monitored 2	Device Name		Firmuran Mandan M	inden bitada d	200 Gen	Character Catho a		Configure 🖸 Updat	e Firmwar	e 🕑 Heboo	t -
Network Topology		Device 22	192 168 Y Y	60-devel-cs 29431 St	tation	IBNT01	-56 dBm	83 %	62 %	99.%	5720 MHz	
M airControl Server	online	Device59	192.168.X X	5.6 3 28591 (XM) St	tation I	IBNT17	-67 dBm	64 %	68 %	92 %	5660 MHz	
ABCD Network	online	Device16	192.168.X X	8.0-beta 11.30850 (X A	ccess Point	JBNT10	-71 dBm			0 %	5735 MHz	
EFGH Network	online	Device92	192.168.X.X	4.0.4.5074 (XS5) A	ccess Point U	JBNT16	-96 dBm			0 %	5785 MHz	
►↔ 🕔 192.168.X.X	offline	Device110	192.168.X.X	5.6.3.28591 (XW) St	tation (	JBNT07						
PTP Disconnects	online	Device17	192.168.X.X	5.6.3.28591 (XM) St	tation l	JBNT11	-57 dBm	73 %	75 %	91%	5660 MHz	
	online	Device13	192.168.X.X	5.5.6.17762 (XM) St	tation (	JBNT13	-77 dBm	19 %	22 %	89 %	5200 MHz	
	offine	Device29	192.168.X.X	6.0-devel-cs.29431 St	tation (	JBNT07						
	online	Device34	192.168.X.X	6.0-beta11-cs.29258 St	tation U	JBNT04	-84 dBm	26 %	14 %	81 %	2474 MHz	
	offline	Device27	192.168.X.X	5.6.2.27929 (XW) St	tation l	JBNT27						
	online	Device14	192.168.X.X	5.6.8.29413 (XW) St	tation l	JBNT07	-60 dBm	76 %	24 %	45 %	5835 MHz	
	online	Device72	192.168.X.X	5.6.4.28924 (XM) A	ccess Point U	JBNT22	-69 dBm			97 %	2452 MHz	
	online	Device 50	192.168.X.X	5.5.6.17762 (XM) St	tation (	JBNT14	-67 dBm	61 %	47 %	98 %	5745 MHz	
	online	Device89	192.168.X.X	5.5.6.17762 (XM) St	tation (	JBNT14	-74 dBm	51 %	38 %	98 %	5745 MHz	
	<ul> <li>offline</li> </ul>	Device07	192.168.X.X	4.0.4.5074 (XS5) St	tation l	JBNT20						
	online	Device41	192.168.X.X	5.6.4.28924 (XW) A	ccess Point U	JBNT07	-80 dBm	56 %	29 %	97 %	5505 MHz	
	online	Device25	192.168.X.X	8.0-beta13.31066 (X A	ccess Point I	JBNT28	-52 dBm			0 %	5600 MHz	
	offline	Device30	192.168.X.X	8.0-beta12.30917 (V. A	ccess Point I	JBNT07						
	online	Device11	192.168.X.X	8.0-beta12.30917 (V. A	ccess Point 0	JBNT12	-61 dBm			0 %	5745 MHz	
	online	Device12	192.168.X.X	5.6.8.29413 (XW) A	ccess Point l	JBNT36	-58 dBm	97 %	90 %	98 %	2464 MHz	
	online	Device10	192.168.X.X	8.0-beta13.31066 (X A	ccess Point U	JBNT29	-51 dBm			0 %	5580 MHz	
	online	Device36	192.168.X.X	8.0-beta13.31066 (X St	tation l	JBNT31	-71 dBm			0 %	5835 MHz	
	Statistics	Charts Events Device Summary 192:	Alerts 168.X.X (Device 22)	Status	: online	Cur	rrent Statistics	Average S	atistics for the Last 30	min.		
		Device N	lame Device22	Unchecked Alerts	0	Signal Stren	ngth56 dBr	m Signal St	ength -55 dBm			
			SSID UBNTO1	Uptime	2 days 05:23	1 <b>39</b> Cha	in 0 -57 dBr	m c	hain 0 -56 dBm			
		-15	IP 192.168.X.X	Connection Time	2 days 05:21:	34 Chr	ain 1 -64 dBr	m	hain 1 😽 -62 dBm			
		Network I	Vlode Router	Frequency	5720 MHz	Noise F	loor -101 dBm	Nois	Floor -101 dBm			
		Wireless	vlode Station	Last Contact	t 00:00:20 ago	(	CCQ 99 %		CCQ 99%			
		Topology Node	Type Basic	TX Total	1.44 GB	TX Through	nput 279.21 Kbps	TX Thro	ighput 199.15 Kbps			
		Pro	oduct NanoStation Loco M5	RX Total	11.36 GB	RX Through	nput 7.37 Mbps	RX Thro	ighput 4.53 Mbps			
			MAC 44:D9:E7:42:94:XX	LAN Speed	100Mbps-Full	TX R	late 72 Mbps	R)	Rate 68.55 Mbps			
		Firmware Ve	rsion 6.0-devel-cs.29431 (XW)			RX R	late 130 Mbps	T)	Rate 133.4 Mbps			
						airMAX Que	airty 83 %	airMAX C	auguny 84 %			
						Menory Le	age 33.9%	arMAX Ca	Isage 33 %			
						opul us	age 55 %	COLU and A				
Device Groups						CPU Load AVPr	ade 0.02	CEO FORD WA	erade 0.02			

# **Chapter 4: Control Tab**

The *Control* tab displays the *Device List*, a list of detected devices that match the active filter setting (*All*, *Online*, *Offline*, *Not Monitored*). For each device, various types of statistics and information are displayed. The display is updated with the latest information as conditions change.

### Menu Bar

The Control tab's the menu bar has the following options:

— Menu Bar								
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Discover Al 647	Online 578 0	Iffline 😚 Not Monit	ored 2					
<ul> <li>Network Topology</li> </ul>			Status	Device Name	P	Firmware Version	Wireless Mode SSE	D

**Discover** Select this option to use the device discovery feature. For details on how device discovery works, refer to <u>"Device Discovery" on page 13</u>. For information on configuring device discovery options, refer to <u>"Device Discovery" on page 30</u>.

**All** Select this option to cause the *Device List* to display all devices.

**Online** Select this option to cause the *Device List* to display online devices only.

**Offline** Select this option to cause the *Device List* to display offline devices only.

**Not Monitored** Select this option to cause the *Device List* to display offline devices only.

### **Device Discovery**

Use the device discovery feature to automatically detect and connect to devices in your network. When you select **Device Discovery** from the menu bar, the following dialog is displayed:



**Discover Devices Via** Specify how devices should discovered: *Discovery Broadcast* or *IP-Range Scan*.

**Resolve Topology** Select this option to have airControl resolve the network topology of discovered devices.

**Monitor Devices** Select this option if you want airControl to automatically monitor discovered devices, so that you don't have to start monitoring later.

**Descend Gateways** Select this option to extend device discovery to gateways – airControl will log into each gateway and discover devices in its subnet (to configure a device as a gateway, use the *Device Properties* dialog).

**Start From** Specifies the starting point for the search. To set the starting point, select a device from the *Topology* diagram.

**Topology** Displays a diagram of the network topology.

For additional device discovery settings, refer to <u>"Device</u> <u>Discovery" on page 30</u>.

When you are finished configuring the device discovery settings, you can either run device discovery now, or you can schedule device discovery to run at a later time.

#### **Run Device Discovery Now**

Click **Run Discovery** to start the device discovery process. To check on the progress (or see the results when the process is finished), click the **Progress** tab.

#### **Schedule Device Discovery For Later**

Click **Schedule** to schedule device discovery to run at a later time. Refer to <u>"Scheduling Tasks" on page 43</u> for further details on task scheduling.

# **Device List**



The *Device List* displays statistical and status information for network devices in a textual format. The following fields are displayed:



Note: Refer to the *Field* setting in <u>"Device Tag Tab"</u> <u>on page 8</u> for descriptions of all other fields (those not displayed by default).

**Status** The status of the device: *online*, *offline*, or *not monitored*.

**Device Name** Displays the name or identifier of the device.

IP Displays the IP address of the device.

**Firmware Version** Displays the version number of the firmware installed in the device.

**Wireless Mode** Displays the operating mode of the device's radio interface: *Station* or *Access Point*.

**SSID** Displays the name of the wireless network to which the device belongs. The wireless network name depends upon the device's wireless mode:

- *Station* mode: This displays the SSID of the AP the device is associated with.
- *Access Point* mode: This displays the SSID configured on the device.

**Signal Strength** Displays the received wireless signal level (client-side) for the specified interface using the specified averaging period. The antenna of the wireless client has to be adjusted to get the maximum signal strength. *Signal Strength* is measured in dBm (decibels referenced to 1 milliwatt). The conversion is defined as:

#### $P(dBm) = 10 \cdot \log_{10} (P(mW) / 1 mW)$

where P(dBm) is the power in decibel-milliwatts

So, 0 dBm would be 1 mW and -72 dBm would be 0.0000006 mW. A signal strength of -70 dBm or better (-50 to -70 dBm) is recommended for stable links.

**airMAX Quality** If airMAX is enabled on the device, this displays the airMAX quality level for the specified interface using the specified averaging period.

*airMAX Quality* (AMQ) is based on the number of retries and the quality of the physical link. If this value is low, you may have interference and need to change frequencies. If AMQ is above 80% and you do not notice any other issues, then you do not need to make any changes.

**airMAX Capacity** If airMAX is enabled on the device, this displays the *airMAX capacity* for the specified interface using the specified averaging period.

*airMAX Capacity* (AMC) is based on airtime efficiency. For example, if you have one client with a low data rate or you are using a 1x1 device (such as Bullet or airGrid) alongside other clients that are 2x2, then it will use up more airtime (slots) for the same amount of data, reducing time (or capacity) for other clients. The lower the AMC, the less efficient the AP is. If you only have one client, this may not matter, but when you have many clients (for example, more than 30), then AMC becomes very important, and you want it to be as high as possible.

If you are looking at the client, AMC shows the theoretical capacity of that client, based on current TX/RX rates and quality. AMC is a percentage based on what the maximum performance would be if the link were perfect. Clients with poor airtime efficiency can negatively affect other clients by taking up more airtime while transmitting at lower speeds. For example, client A is at MCS 12 (78 Mbps) because of low signal. The client could theoretically do MCS 15 (130 Mbps), so AMC is based on the ratio of current rate/maximum rate (78 Mbps divided by 130 Mbps), which is 60%. In a similar fashion, a 1x1 device will always have a maximum AMC of 50%, because it provides half the performance of a 2x2 device.

If you are looking at the AP, then AMQ and AMC are averages of all clients' values. If you want to discover what is lowering your values on heavily populated APs, single out the weak clients. For each weak client, try to upgrade to a higher-gain antenna (to allow a better data rate), or if the device is a 1x1 device, upgrade to a 2x2 device.

**CCQ** Displays the wireless Client Connection Quality (CCQ) value. The CCQ is expressed a percentage where 100% corresponds to a perfect link state.

**Frequency** Displays the device's operating frequency.

**Uptime** Displays the total time that the device has been running since the last reboot (when the device was powered up) or software upgrade. The time displayed is in days, hours, minutes, and seconds.

**Connection Time** Displays the total time that the device has been online. The time displayed is in days, hours, minutes, and seconds.

MAC Displays the device's MAC address.

**Product** Displays the product name of the device.

**Last Contact** Displays the time elapsed since the last contact with the device, in hours, minutes, and seconds.

**Topology Node Type** Displays the device's topology node type. Values are *Basic* and *Gateway*.

**Device Added Time** Indicates when the device was added to the network, as the date and time. The display format is *yyyy.mm.dd hh:mm:ss*.

**Description** Displays a description of the device.

**Current Operation** Indicates the currently running operation on the device; for example, "Reconnecting" or "Uploading firmware...".

#### **Editing the Device List**

You can customize the device list display, including:

- Which fields are displayed (add/delete fields)
- The column heading
- The width of each field's column
- The format (normal or bold) of displayed field values

To customize the device list:

1. Click the arrow next to Welcome < username >.



- 2. Click **Edit User Settings** to open the *Edit <username>* dialog box.
- 3. Click the *Device List* tab.

Account         Device last         AP details         S1A details         Markets         Status           Status         Device frame         P         Printwate Varsion         Wireless Model         SSD         Signal Staruph           evice frame         P         Printwate Varsion         Wireless Model         SSD         Signal Staruph           evide methods         1         Wireless Model         SSD         Signal Staruph           Het you cannesize, rearrange and set Columns in this preview interactively         Device last columns only action for Control Vac           Device last columns         5         Botted         Cutom name         Solid         Cutom solid           status         2         Hormal 2         00         00         1000000000000000000000000000000000000						iser1	Edit u						
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Cancel	Apply	Cancel											

Make changes as described in <u>"Customizing the Device</u> <u>List" on page 9</u>.

# **Context Menu Functions**

The context menu lets you perform various useful functions on devices. To access the context menu, select the device(s) in the *Device List* and then right-click:

Stop Monitoring
Configure
Update Firmware
Reboot
Open Web-UI
More
First Branch Level Only
Select/Unselect All

For detailed information on the context menu options, refer to the appropriate section in <u>"Context Menu" on</u> **page 35**:

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# **Chapter 5: Live Tab**

The *Live* tab provides the *Live View* panel – a real-time view of your network's topology, with important information such as device signal strength and connection type represented visually as well as numerically. The visual representation allows quick assessment of network status at a glance. The background can be a map or satellite image of the area, or a network diagram.

# Menu Bar

The menu bar, located at the top of the window, provides various options and controls for the *Live View* panel.

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The left side of the menu bar contains the following options:

**Discover** Click this option to discover devices. For full information, see <u>"Device Discovery" on page 30</u>.

**All** Click this option to display all network devices in the *Live View* panel.

**Online** Click this option to display only online devices in the *Live View* panel.

**Offline** Click this option to display only offline devices in the *Live View* panel.

**Not Monitored** Click this option to display only unmonitored devices in the *Live View* panel.

The right side of the menu bar contains the following options:

**Move** This option toggles between panning the diagram and relocating devices (moving a device selection to a new location on the map or grid). To move a device:

- 1. Select the device(s) to be moved in the *Live View* panel.
- 2. Click the  $\clubsuit$  icon.
- 3. Move the device to the new location.
- 4. Click the 🗘 icon again.

Note: To move multiple devices with a single operation, select all of the devices. They will move to the new location as a group.

**Lock Branch** Click this option to lock all subnodes of the selected device. Then, when you move the selected device, all of its subnodes will be moved as well. (If you do not select this option, only the selected node will be moved, while its subnodes remain in place.)

**Multiple Selection** Use this option to select multiple devices in close proximity to each other:

- 1. Click the 🛄 icon.
- 2. Drag a rectangle around the devices to be selected.

**Diagram** Click this option to change the view to a network diagram, which is a logical representation of the network (as compared to the *Map* and *Satellite* options which are physical representations of the network).

**Map** Click this option to change the background to a map of the area shown in the *Live View*, with each device's location determined by its coordinates.

**Satellite** Click this option to change the background to a satellite image of the area shown in the *Live View*, with each device's location determined by its coordinates.

**Options menu** ▼ Click the ▼ icon to display the *Live View* options menu. For detailed information on this menu, refer to <u>"Live View Options Menu" on page 18</u>.

#### **Live View Options Menu**

The *Live View* options menu provides the following options:

**Show Device Labels** This option, enabled by default, is used to display a label next to each device.



Note: The device label is configured on the *Device Tag* tab of the *Edit User* dialog. For more information, refer to <u>"Device Tag Tab" on</u> page 8.

**Show Link Labels** This option, enabled by default, is used to display a label next to each link, with the following information:

- Signal level
- Noise level
- Data Rate (both TX and RX)
- Throughput (both TX and RX)

**Import Device Coordinates** Select this option to import a device's coordinates from a KML (Keyhole Markup Language) file. This feature can be used to do the following:

- Import device coordinates exported from airControl v1.
- Restore device coordinates using previously exported coordinates.

In addition to the device's coordinates, the KML file must specify the device's MAC address.

To import device coordinates, follow these steps:

- 1. Open the *Options* menu and click **Import Device Coordinates**.
- 2. Navigate to the KML file, select the file, and click **Select KML File**.
- 3. airControl will notify you when it is finished parsing the file (or if an error occured). Click **Close**.

**Export Device Coordinates** Select this option to export a device's coordinates to a KML file.

**Sync Location to Device(s)** Select this option to save the location (latitude and longitude coordinates) of a device that does not have GPS capability after you have repositioned the device on the map in *Live* view.

# Live View Display

The *Live View* panel displays information both visually and textually. Visual elements include the following:

#### **Network Nodes**

#### **Access Points and Stations**

APs and stations are indicated by symbols, with each symbol comprised of various elements that visually convey different types of information, as follows:



Element	Description
Outer Circle	Delineates the symbol for a network device. Highlighted in blue if the device is selected.
Fill Color	The outer circle's fill color indicates the device status: - White ⊙: Device is online - Dark red ●: Device is offline - Gray ●: Device is not monitored
Inner Circle	Color: Indicates the device selection status: - Black ●: Device is not selected - Blue ●: Device is selected (selected device also has a blue highlight around the outer circle) Number (Available on APs only): The number of stations connected to the AP
Throughput Indicators	The red and blue arcs indicate the TX and RX throughput as percentages (where 100% is 60 Mbps; the wider the arc, the higher the percentage). - Red: Transmit throughput - Blue: Receive throughput Indicators are shown only for monitored devices.
Alert Indicator	The number inidicates the total number of alerts for the device. (Displayed only if device has at least one alert)

#### **Other Nodes**

Additional network icons include the following:

Element	Description
	This icon represents the airControl server.
	This icon indicates a manually added network router.
	This icon indicates the unplaced devices folder.

#### Links

Links are indicated by lines between the network nodes. The following example shows the airControl server connected to an AP, which is connected to a station:



#### The color and shape of each line indicate the following:

Type of Line	Description
Thick, tapered line	This type of line indicates a wireless connection. The color indicates the following: - Red to blue <sup>1</sup> : Lowest to highest level signal - Dark red: Offline link - Gray: Link to unmonitored device
Thin, black line	This type of line indicates a wired (Ethernet) connection.

<sup>1</sup> A continuous range of colors, analagous to the spectrum; i.e. red, orange, yellow, green, blue.

# **Display Controls**

Display controls include the following:

Element	Description
•	Drag the slider or click + or – to change the zoom level.
Zoom control	
	Click to toggle the <i>Live View</i> panel to full-screen display or back to its default size.
Full Screen toggle	

### **Selecting Devices**

To select a single device, click the device in the *Live View* panel. The icon changes as follows to indicate that it is selected:

• AP or station icon: The icon's inner circle changes to blue and the outer circle is highlighted in bright blue



• All other icons: The background fill changes to blue:



Multiple devices are selected as follows:

- To quickly select devices located close to each other, use the *Multiple Selection* tool as described in <u>"Menu Bar"</u> on page 17.
- To select devices not in close proximity to each other, hold the **Shift** key and click each device one at a time.

When multiple devices are selected, you can edit the selection (add devices to or remove devices from the selection) as follows:

- To add another device to the selection, hold the **Shift** key and click the device.
- To remove (unselect) a device from the selection, hold the **Shift** key and click the device.



Note: When selecting a large number of devices, it may be easier to use the *Device List* on the *Control* tab. For example, to select all devices with the same SSID, you can sort the list by SSID.

# **Context Menu Functions**

The context menu lets you use *Live View* to perform various useful functions on a device. To access the context menu, select the device(s) and then right-click:

Reset Position Modification	s
More	۲
Open Web-UI	
Reboot	
Update Firmware	
Configure	
Stop Monitoring	

For detailed information on the context menu options, refer to the appropriate section in <u>"Context Menu" on</u> **page 35**:

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ABCD Network	online	Device59	192.168.X.X	5.6.3.28591 (XM) St	tation	UBNT17	-67 dBm	64 %	68 %	92 %	5660 MHz	
FEGH Network	online	Device16	192.168.X.X	8.0-beta11.30850 (X Ad	ccess Point	UBNT10	-71 dBm			0 %	5735 MHz	
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	online	Device13	192.168.X.X	5.5.6.17762 (XM) St	tation	UBNT13	-77 dBm	19 %	22 %	89 %	5200 MHz	
	<ul> <li>offine</li> </ul>	Device29	192.168.X.X	6.0-devel-cs.29431 St	tation	UBNT07						
	<ul> <li>online</li> </ul>	Device34	192.168.X.X	6.0-beta11-cs.2925E St	tation	UBNT04	-84 dBm	26 %	14 %	81%	2474 MHz	
	• offline	Device27	192.168.X.X	5.6.2.27929 (XW) St	tation	UBNT27	00.479	70.01	24.00			
	tation	UBN107	-60 dBm	/6 %	24 %	45 %	5835 MHz					
	47.0/	97 %	2452 MHz									
	61%	4/ %	98 %	5/45 MHZ								
	51%	38 %	98 %	5745 MHZ								
	5505 MHZ											
		0 %	5000 MH2									
	• online	Device30	192.108.X.X	8.0-beta 12.30917 (W Ad	ccess Point	UDNT07	C1 dDes			Control         Live           dtb Firmware         Q. Reboot         =           99%         5720 MHz         2           99%         5720 MHz         2           99%         5720 MHz         2           91%         5720 MHz         2           91%         5720 MHz         1           91%         5720 MHz         1           91%         5785 MHz         1           91%         5800 MHz         1           91%         5805 MHz         1           91%         5805 MHz         1           97%         2452 MHz         1           98%         5745 MHz         2           97%         5506 MHz         1           98%         5745 MHz         2           9%         5800 MHz         2           0%         5835 MHz         2           30mn.         1		
	NM 0         Control           Charles         Control           Control         Control           Status         Device 19         Status         Bit Max         Device 19         Control         Control           Status         Device 19         Status         Device 12         Device 12         Status         Device 12         Device 12 <td></td>											
<complex-block></complex-block>	51 76	30 76	0.9%	5500 MIL-								
	-51 dBm			0.%	5000 WHZ							
				oo belanoo (). oo			72 dBox	62.00	20.07	00.8	EQCENTE:	
A RCOntrol Server     ACOntrol Server     ACONtextext     ACONTROL Server     ACO	Statistic	Gharts Events A	Alerts									
		Device Summary 192.1683	X.X (Device 22)	Status	: online		Current Statistics	Average Stat	stics for the Last 30r	nin.		
		Device Nam	e Device22	Unchecked Alerts	0	S	Signal Strength	Signal Stren	gth			
		SSI	D UBNTO1	Uptime	2 days 05:23	8.39	Chain 0 -57 dBm	Cha	n 0 -56 dBm			
Oracle         Oracle<		-15	P 192.168.X.X	Connection Time	2 days 05:21	:34	Chain 1 -64 dBm	Cha	n 1 -62 dBm			
	Noise Floor -101 dBm	Noise FI	oor -101 dBm									
		Topology Node Typ	e Basic	TX Total	Control       Lve         Vireless Mode       SSD       Sgnal Strength Batho-ori at MAX Couldly Batho-ori at MAX Capacity       COD       Frequency       Life         10       Markets Mode       SSD       Sgnal Strength Batho-ori at MAX Couldly Batho-ori at MAX Capacity       COD       Frequency       Life         10       Access Point       UBNT01							
		Produc	NanoStation Loco M5	RX Total	11.36 GB	F	RX Throughput 7.37 Mbps	RX Through	out 4.53 Mibps	Control         Live           odats Firmware         C. Rescol            99.%         5720 MHz            99.%         5720 MHz            97.%         5600 MHz            98.%         5250 MHz            97.%         5650 MHz            98.%         5745 MHz            97.%         5505 MHz            97.%         5505 MHz            98.%         5745 MHz		
Internal         Or Hubble         Or Hubble <th< td=""><td></td><td></td><td></td></th<>												
		Firmware Versio	m 6.0-dever-CS.29431 (XW)				HA Hate (30 Mbps	H XI	11e 133.4 IVIDPS	-		
						airt	MAX Canacity 63 %	airMAX Conor	ity 62 %			
						aut N	Vemory Usage 33 %	Memory Usa	ae 33 %			
						1.4	00 10		-			
Device Groups	and the second sec					CPU	Load Average 0.02	CPU Load Avera	ge 0.02			

# **Chapter 6: Device Details**

The *Device Details* pane, located in the lower right portion of the window, contains the following tabs:

- **Statistics** This tab displays statistical information for the currently selected device(s).
- Charts This tab displays charts of real-time information
- Events This tab displays a list of events, as well as the chart displayed by the *Charts* tab
- Alerts This tab displays alerts for the selected device(s)

### **Statistics**

The *Statistics* tab displays statistical information for the selected device(s). (To select multiple devices, hold the **Ctrl** key and select devices from the *Device List* or *List View*.)



If a single device is selected, the following are displayed:

- Device Summary
- Status
- Current Statistics (only for online devices)
- Average Statistics for the Last 30 min. (online devices only)

If multiple devices are selected, the following are displayed:

- Traffic
- State Averages

If a single device with status *not monitored* is selected, then only the *Device Summary* section is displayed.

#### **Device Summary**

The *Device Summary* section contains the following information:

**Device Summary** The section heading displays the device's IP address and SSID.

**Device Name** Displays the device's name (also referred to as the hostname).

**SSID** Displays the Service Set Identified (SSID) for the wireless network to which the device belongs.

IP Displays the ID address of the device.

Network Mode Displays the network mode of the device.

**Wireless Mode** Displays the wireless operating mode of the device.

**Topology Node Type** Displays the device's topology node type: *Basic* or *Gateway*.

**Product** Displays the device's product name.

**MAC** Displays the device's MAC address

**Firmware Version** Displays the version number of the firmware that is installed in the device.

#### Status

The *Status* section displays the following information:

**Status** The section heading displays the device's status (*online*, *offline*, *not monitored*).

Uptime Displays the device's total uptime.

**Connection Time** Displays the total uptime of the device's WLAN.

**Frequency** Displays the device's current operating frequency.

**Last Contact** Displays the time elapsed since the last contact with the device.

**TX Total** Displays the total number of bytes transmitted by the device.

**RX Total** Displays the total number of bytes received by the device.

LAN Speed Displays the LAN data rate and duplex mode.

#### **Current Statistics**

The *Current Statistics* section displays the following current statistics:

Signal Strength Displays the current signal strength.

Chain 0 Displays the current chain 0 signal level.

Chain 1 Displays the current chain 1 signal level.

Noise Floor Displays the current noise floor value.

**CCQ** Displays the current wireless Client Connection Quality (CCQ) value.

**TX Throughput** Displays the current TX throughput.

**RX Throughput** Displays the current RX throughput.

**TX Rate** Displays the current TX data rate.

**RX Rate** Displays the current RX data rate.

**TX Modulation Rate** Displays the device's TX modulation rate.

**RX Modulation Rate** Displays the device's RX modulation rate.

**airMAX Quality** If airMAX is enabled on the device, this displays the current airMAX quality level.

**airMAX Capacity** If airMAX is enabled on the device, this displays the current airMAX capacity level.

**Memory Usage** Displays the current percentage of memory usage.

**CPU Load Average** Displays the current CPU load value.

Average Statistics for the Last 30 Min.

The Average Statistics for the Last 30 Min. section displays the following information, where each statistic is the average value for the previous 30 minutes:

Signal Strength Displays the average signal strength.

Chain 0 Displays the average chain 0 signal level.

Chain 1 Displays the average chain 1 signal level.

**Noise Floor** Displays the average noise floor value.

**CCQ** Displays the average wireless Client Connection Quality (CCQ) value.

**TX Throughput** Displays the average TX throughput.

**RX Throughput** Displays the average TX throughput.

**TX Rate** Displays the average TX data rate.

**RX Rate** Displays the average RX data rate.

**airMAX Quality** If airMAX is enabled on the device, this displays the average airMAX quality level.

**airMAX Capacity** If airMAX is enabled on the device, this displays the average airMAX capacity level.

**Memory Usage** Displays the average percentage of memory usage.

**CPU Load Average** Displays the average CPU load value.

Traffic

The *Traffic* section displays the following statistics:



Note: Each statistic is either summed or averaged, as configured on the *Multiple Selection Details* tab of the *User Settings* (see <u>"AP Details, STA Details, and</u> <u>Multiple Selection Details Tabs" on page 10</u>).

**TX Throughput** Displays the TX throughput for the selected devices.

**RX Throughput** Displays the RX throughput for the selected devices.

**TX Total** Displays the number of bytes transmitted by the selected devices.

**RX Total** Displays the number of bytes received by the selected devices.

#### **State Averages**

The *State Averages* section displays the following statistics:



Note: Each statistic is either summed or averaged, as configured on the *Multiple Selection Details* tab of the *User Settings* (see <u>"AP Details, STA Details, and</u> <u>Multiple Selection Details Tabs" on page 10</u>).

**Signal Strength** Displays the signal strength for the selected devices.

**Uptime** Displays the uptime for the selected devices.

**CQQ** Displays the wireless Client Connection Quality (CCQ) value for the selected devices.

#### Charts

The *Charts* tab displays collected statistics (historical data) using charts. The *Charts* tab also lets you create your own custom charts, as described in <u>"Modifying the Chart</u> <u>Display" on page 23</u>. To display a chart:

- 1. Click the Chart tab,
- 2. Click the **▼**≡ icon at the far right to display the drop-down options menu.
- 3. Select the desired chart from the menu.

The options menu of the *Charts* tab provides the following charts by default:

**WLAN TX/RX Throughput** This chart displays a plot of the WLAN TX and RX Throughput.

Tablet Out First Date	
In the by Web link	14-0. 12
Alfenn	41950 Arte
-	_
VV W	

**Free Memory, CPU Load** This chart displays a plot of the amount of available memory plus the CPU load.



WLAN TX/RX Throughput, Signal, airMAX This chart displays a plot of the WLAN TX/RX throughput, the signal level, and the airMAX quality and capacity levels.



WLAN TX/RX Rate, Signal, CCQ This chart displays a plot of the WLAN TX/RXrate, the signal level, and the Client Connection Quality (CCQ) value.

Radiolice Charts Frends Minels	
© as 3 mutation	E canthe E canthe Ster ≣to

**Number of Clients** This chart displays a plot of the number of clients connected to the selected device.



You can also add, remove, and edit charts using the *Control Panel* (refer to <u>"Control Panel" on page 25</u>).

### **Modifying the Chart Display**

You can adjust the time scale by dragging the slider control along the upper edge of the chart. You can also click the following shortcuts to quickly set the time scale to a set interval:

- 5m Click this to display the data for the last 5 minutes.
- **10m** Click this to display the data for the last 10 minutes.
- Day Click this to display the data for the last day.
- Week Click this to display the data for the last week.
- Month Click this to display the data for the last month.

The options menu (accessed by clicking the  $\overline{\bullet}$  icon at the far-right edge of the chart area) lets you control a chart's appearance in the following ways:

- **Show Legends** Click this option to toggle the legend display. This is selected by default.
- Show Device Events Click this option to toggle the display of device events. This is selected by default.



Note: Events on charts are indicated by icons. For a detailed list of these icons, refer to <u>"Event</u> Icons" on page 24.

• Maximize Plot Area Click this to maximize the chart to fill the entire window, as shown below. To return to the original display, click **Close**.



### **Events**

The *Events* tab displays a list of events for the selected device(s). You can apply various filters to narrow the list of events. In addition to the list of events on the left, additional information related the event is displayed on the right. The following is an example of a chart that shows when the event occurred:



The following options are provided along the top of the *Events* tab:

**Group** Enable this option to organize the events by date, with folders named *yyyy.mm.dd* (*n*) (where *yyyy.mm.dd* is the date and *n* is the number of events for that date). Click a folder to display its associated events. Disable this option to change the list back to a straight list sorted by date.

**All Events** Click this drop-down list to filter the *Event List* by type of event. The choices are: *All Events* (default), *Configurations, Status Changes, Firmware Updates, Reboots,* and *Alerts.* 

**Week** Click this drop-down list to select the time period to display events for. The choices are: *Today*, *Week* (default), *Month*, and *3 Months*.

#### The Event List is formatted as follows:

		Group Allevente C Week C +
Event	Date Device	Details
Monitoring started	2016.07.11 13:19:34 🗢 🌝 192.168.1.6 (ubritbridg	e) not monitored => online
Monitoring stopped	2016.07.11 13:19:07 🗢 💿 192.168.1.6 (ubritbridg	<li>e) online =&gt; not monitored</li>
Came back online	2016.07.11 13:11:39 🗢 💿 192.168.1.6 (ubritbridg	e) offline => online
Gone offline	2016.07.11 13:11:21 🗢 💿 192.168.1.6 (ubritbridg	e) online => offline
Monitoring started	2016.07.08 13:13:05 👳 💿 192.168.1.6 (ubritbridg	e) not monitored> online
Monitoring stopped	2016.07.07 14.03.02 👳 🌚 192.168.1.6 (ubntbridg	e) online -> not monitored
Monitoring started	2016.07.07 14.00:48 👳 🍥 192.168.1.6 (ubntbridg	e) not monitored> online
Monitoring stopped	2016.07.07 14.00.02 👳 🌚 192.168.1.6 (ubntbridg	e) online -> not monitored
Monitoring started	2016.07.07 13.39:04 👳 🍥 192.168.1.6 (ubritbridg	e) not monitored -> online
Monitoring stopped	2016.07.07 13:37:01 👳 💿 192.168.1.6 (ubntbridg	e) online => not monitored
Came back online	2016.07.07 13:17:33 🗢 💿 192.168.1.6 (ubntbridg	e) offline => online
Gone offline	2016.07.07 13:15:35 🗢 💿 192.168.1.6 (ubntbridg	e) online => offline
Came back online	2016.07.05 12:22:10 👳 💿 192.168.1.6 (ubntbridg	e) offline => online
Gone offline	2016.07.05 12:20:12 🗢 💿 192.168.1.6 (ubritbridg	e) online => offline

**Event** Displays a brief description of the event.

**Date** Displays the date and time when the event occurred.

**Device** Displays the device associated with the event.

**Details** Displays additional details on the event.

#### **Event Icons**

The following icons are used to identify events in the *Event List* and in charts (*Device* refers to either an AP or station):

lcon	Event	Status Change or Description
0	Device connected	Offline > Heartbeating
θ	Device offline	Heartbeating > Offline
G	Device discovered	lgnored > Discovered New > Discovered Removed > Discovered
Θ	Device rebooted	
0	Monitoring started	Discovered > Heartbeating
0	Monitoring stopped	Heartbeating > Discovered Offline > Discovered
G	Firmware updated	
+	Backup	Initial download of configuration
<b>\$</b>	Configuration	Configuration changed
0	Default	All other events

# Alerts

The *Alerts* tab displays a list of alerts for the selected device(s). (To select multiple devices, hold the **Ctrl** key while selecting devices from the *Device List* or *List View*.)

Alerts are generated by Automation Rules (efer to <u>"Automation Rules" on page 31</u>). The only action for an alert is Acknowledge. Alerts require you to take corrective action. They have the following severity levels (from lowest to highest):

- Information
- Warning
- Critical

**Severity** Displays the severity level of the alert.

Alert Displays a description of the alert.

Time Displays the date and time the alert was generated.

#### Alert Icons

The following icons are used to identify events in the list of alerts:

lcon	Description
0	Informational alert
!	Warning alert
0	Critical alert

air Control Welcome	, aaron 👻		٩					Co	ntrol	Live
Discover Al 649 Online 558 Offine	89 Not Monitored 2					<b>\$</b>	Configure 🗳 Update Fi	rmware	G Reboot	
Network Topology	Status Dev	ice Name 🔺 IP	Firmware Version Wireless Mod	e SSID	Signal Strength @ath0~curi i	airMAX Quality @ath0~curi	airMAX Capacity	cco	Frequency	
🕥 airControl Server	online Dev	ice22 192.168.X.X	6.0-devel-cs.29431 Station	UBNT01	-56 dBm	83 %	62 %	99 %	5720 MHz	
ABCD Network	🔵 online 🛛 Dev	ice59 192.168.X.X	5.6.3.28591 (XM) Station	UBNT17	-67 dBm	64 %	68 %	92 %	5660 MHz	
EFGH Network	online Dev	ice16 192.168.X.X	8.0-beta11.30850 (X Access Point	UBNT10	-71 dBm			0 %	5735 MHz	
→→ 192 168 X.X	online Dev	ice 92 192.168.X.X	4.0.4.5074 (XS5) Access Point	UBNT16	-96 dBm			0%	5785 MHz	
	• offline Dev	ice110 192.168.X.X	5.6.3.28591 (XW) Station	UBNT07						
PTP Disconnects	S online Dev	ice17 192.168.X.X	5.6.3.28591 (XM) Station	UBNT11	-57 dBm	73 %	75 %	91%	5660 MHz	
	online Dev	ice13 192.168.X.X	5.5.6.17/62 (XM) Station	Control       Live                 Control               Control						
	2474 MHZ									
	• offine Dev	102/168.X.X	5.6.2.2/929 (XW) Station	UBN127	00.475	Control         Live           Configure         Update Firmware         Reboot         ==           atMAX Country certain atMAX Capacity         COO         Frequency         Up           33 %         62 %         99 %         5720 MHz         10           0 %         5785 MHz         10         0 %         5785 MHz         25           19 %         22 %         99 %         5200 MHz         10           19 %         22 %         99 %         5200 MHz         10           19 %         22 %         99 %         5200 MHz         10           19 %         24 %         45 %         505 MHz         00           19 %         24 %         97 %         505 MHz         10           19 %         97 %         505 MHz         10         0 %         575 MHz         67           97 %         90 %         97 %         500 MHz         40         0 %         500 MHz         40           0 %         500 MHz         40         0 %         500 MHz         40           0 %         500 MHz         40         0 %         500 MHz         40           0 %         500 MHz         40         0 %         <				
	entine Dev	IUC IH 192.168.XX	5.0.0.29413 (AW) Station	UBNT22	-60 dBm	/0 70	24 70	45 70	DAED MILE	
	entine Dev	102/2 N2.108.1.X	5.5.4.20324 (XIVI) ACCESS POINT	UDNT12	-69 dBm	C1 9/	47.9/	37 %	2402 MHZ	
	online Dev	102 100 132 100 X X	5.5.6.17762 (XM) Station	UBINT 14	-67 dBm	51.9/	47 70	30 %	5745 MHz	
	effice Dev	102 100 A A	40.45074 (VSE) Station	UBNTA	-/4 dbm	51 76	30 78	30 76	5745 10112	
		ined1 102.100.7.7	4.0.4.5074 (X35) Station	UBNT07	-90 dBm	56.9%	20.9%	07.9%	SEOS MUN	
	Conline Dev	ice25 192 168 X X	80.hete1331066 (X. Access Point	UBNT28	-52 dBm	00 10	20 76	0.%	5600 MHz	
	e offine Dev	ice30 192 168 Y.Y	8 0-beta 12 30917 (Vi Access Point	UBNT07	OL GUIT			0.70	0000 11112	
	e online Dev	ice11 192 168 X X	8.0-beta 12 30917 (M. Access Point	UBNT12	-61 dBm			0.%	5745 MHz	
	online Dev	ice12 192 168 X X	56829413 (XW) Access Point	UBNT36	-58 dBm	97 %	90 %	98 %	2464 MHz	
	online Dev	ice10 192.168.X.X	8.0-beta 13.31066 (X Access Point	UBNT29	-51 dBm			0 %	5580 MHz	
	online Dev	ice36 192.168.X.X	8.0-beta13.31066 (X Station	UBNT31	-71 dBm			0 %	5835 MHz	
	ordine     Device14     192.988.XX     56.8294'0 (XM)     Access Point     UBNT77     -00.08m.     76.%       ordine     Device50     192.988.XX     55.64.28924 (XM)     Access Point     UBNT2     -69.08m.     61.%       ordine     Device50     192.988.XX     55.617782 (XM)     Station     UBNT4     -72.408m.     63.1%       ordine     Device50     192.988.XX     55.617782 (XM)     Station     UBNT4     -72.408m.     63.1%       ordine     Device57     192.988.XX     40.45074 (XS5)     Station     UBNT20     -600.08m.     56.9%       ordine     Device51     192.988.XX     80.4beta133906 (X Access Point     UBNT28     -52.208m.       ordine     Device25     192.988.XX     80.4beta133906 (X Access Point     UBNT78     -59.208m.       ordine     Device11     192.988.XX     80.4beta133906 (X Access Point     UBNT78     -59.208m.       ordine     Device12     192.988.XX     80.4beta133906 (X Access Point     UBNT78     -59.208m.       ordine     Device12     192.988.XX     80.4beta133906 (X Access Point     UBNT78     -59.208m.       ordine     Device12     192.988.XX     80.4beta133906 (X Access Point     UBNT38     -59.208m.       ordine     Device12     192.988.XX <td>20.9/</td> <td>00.9/</td> <td>EQCE MUM</td> <td>I</td>	20.9/	00.9/	EQCE MUM	I					
	Server In View serve	formation information	erver Settings nnectivity and performance settings	Devi Config	ce Discovery jure discovery settings	<b>Stati</b> Streng	stics for the Last 30min	1.		
	Mail Serv Configure a	er Mind test SMTP settings	onitoring Settings wice monitoring and reporting settings	User Mana	<b>s</b> ge user accounts	Chair Chai bise Fio	n 0 -56 dBm in 1 -62 dBm por -101 dBm			
	User Role Manage us	er roles and permissions	rmwares id or remove firmwares	Auto Config	mation Rules gure automation rules	rought	out 199.15 Kbps out 4.53 Mbps			
	Database Manage da	Backup tabase backups CC	hart Sets id or remove chart sets	Conf View	iguration Tags or remove configuration tags	TX Re K Qual Capac	ate 133.4 Mbps ity 84 %			
Device Groups	-					'y Usa Avera	ige 0.02	_		_

# **Chapter 7: Application Drawer**

The *Application Drawer*, located at the bottom of the airControl window, contains three tabs:

- **Control Panel** This tab is used to configure various settings and features of airControl
- Alerts This tab displays a list of all alerts throughout your network
- **Tasks** This tab displays scheduled tasks that are pending, running, or finished.

# **Control Panel**



The *Control Panel* tab contains the following options: **Server Information** See <u>"Server Information" on</u> **page 26** for details.

Mail Server See <u>"Mail Server" on page 26</u> for details. User Roles See <u>"User Roles" on page 26</u> for details. Database Backup See <u>"Database Backup" on</u> page 28 for details.

**Server Settings** See <u>"Server Settings" on page 28</u> for details.

Monitoring Settings See <u>"Stored Device Access</u> <u>Credentials" on page 28</u> for details.

Firmwares See "Firmwares" on page 29 for details.

Chart Sets See "Chart Sets" on page 29 for details.

**Device Discovery** See <u>"Device Discovery" on page 30</u> for details.

Users See "Users" on page 30 for details.

Automation Rules See <u>"Automation Rules" on</u> page 31 for details.

**Configuration Tags** See <u>"Configuration Tags" on</u> page 33 for details.

After selecting any of the above options, click **Back** to close the dialog and return to the *Control Panel*.

#### **Server Information**

This option displays version information for the server software.



**Server Version** Displays the version number of the airControl server software.

**Server Uptime** 

**Database Version** 

**Database Schema Version** 

**OS Name** 

**OS Version** 

JRE Version

#### JRE Architecture

**Server Diagnostics Page** Click **Open in Browser** to see server diagnostics. The diagnostics will be displayed in your web browser, as shown below:

<pre>relation 1 surver ignored ignored</pre>	
<pre> Regint of the second s</pre>	alcostol 2 erver diaposte seghot generate a 2014.07.10 3411189 bere results. Rever settion. Rever se
<pre></pre>	<ul> <li>Netty in the provide a set of the prov</li></ul>
	<pre></pre>

#### **Mail Server**

This option displays information on the airControl mail server.

Back Control Panel	Alerts Tasks el > Mail Server			
SMT	P Server Settings	T	est SMTP Settings	
Server Address	my server.my domain	Sender Address	noreply-aircontrol2@	
Server Port	25	Recipient Address		
Authentication Type	None \$	Test Email	Send	
Username				
Password				
				Back Apply

#### **SMTP Server Settings**

This section contains the basic SMTP settings:

Server Address Specifies the address of the SMTP server.

Server Port Specifies the SMTP server's port number.

**Authentication Type** Specifies the type of authentication to use for mail: *None*, *Plain*, *SSL*, or *TSL*.

Username Enter the SMTP account username.

**Password** Enter the SMTP account password.

**Test SMTP Settings** 

This section contains settings used for SMTP testing:

**Sender Address** Specifies the email address of the test sender.

**Recipient Address** Specifies the address to use for the test recipient.

**Test Email** Click **Send** to send a test email to the *To Email* recipient address.

#### **User Roles**

The *User Roles* option, used to configure the roles that you assign to users (see <u>"Users" on page 30</u> for details on managing user accounts), displays the following dialog:

Control Panel 22 Ale			
Back Control Panel >	User Groups		
Role	Admin	Super Admin	Topology Branch Access Permissions
Administrator	Yes	Yes	Control VarCentrol Server

The dialog contains a list of roles with the following fields:

**Role** This is the name of the role.

Admin Indicates whether the role allows the user to manage users: Yes or No.

**Super Admin** Indicates whether the role allows the user to manage the airControl server: *Yes* or *No*.

**Topology Branch Access Permissions** Displays the permissions that have been defined for this role. Examples: *Control airControl Server, Monitor <device>*.

The buttons at the bottom of the dialog include:

**View** Click this button to view the selected role's details.

Edit Click this button to edit the selected user role.

Add Click this button to add a new user role.

**Remove** Click this button to delete an existing user role. When you click any of these buttons, a dialog similar to the following appears:

Role Name Administrator				
Can Manage Server and Change Server Settings (Admin)     Can Manage Users and User Sets (Super Admin)				
Topology Access Preview	Permission	Topology Branch		
▼ 1 airControl Server	Control	airControl Server		
- Konstant Devices				
+ ↔ 🧫 10.X.X.220				
🗢 🔤 10.XX221				
Permission to Control 'airControl Server' Change to Monitor				
			Cancal	
			App	7

Note: When the *View* option is selected, the above dialog is read-only.

Role Name The name of the user role.

#### Can Manage Server and Change Server Settings

(Admin) Select this option to allow users with this role to manage the airControl server and change its settings.

**Can Manage Users and User Roles (Super Admin)** Select this option to allow users with this role to manage users and user roles.

**Tolopogy Access Permissions** This part of the dialog displays the permissions and is used to edit them:

- **Topology Access Preview** This visual depiction of your network topology is where you make device selections. The background color indicates the permission type: green for *Control* and blue for *Monitor*.
- **Permission** Specifies a specific permission assigned to the user role for the specified *Topology Branch*. Valid permission values are *Control* or *Monitor*.
- **Topology Branch** Specifies the device(s) to which the permission applies, defined as a branch of the topology tree (specific device and any subnode devices).
- Permission to Control/Monitor <Topology Branch> This allows you to modify an existing permission or add a new one for the selected Topology Access Preview device.
  - To add a new a permission, select **Control** or **Monitor** from the drop-down box and click **Add**.
  - To modify an existing permission, click **Change to Monitor** or **Change to Control** (whichever applies). The color of the *Topology Access Preview* will change accordingly.

#### View

To view the read-only details of an existing user role:

- 1. Click View.
- 2. The <*Role Name*> dialog appears.
- 3. Click **Close** when finished viewing the role.

#### Edit

To modify the details of an existing user role:

- 1. Click **Edit** to display the *Edit <Role Name>* dialog.
- 2. Make changes as follows:

- Set the following options for the user role, as needed:
  - Can Configure Users If enabled, the user is allowed to manage other users.
  - **Can Configure Server** If enabled, the user is allowed to configure the airControl server.
- To edit a permission, select it from the right side of the dialog. You can make the following changes:
  - airControl server-related permission: Click **Change** to **Control** or **Change to Monitor** as applicable. The background color of the *Topology Access Preview* will change accordingly.
  - Device-related permission: Click **Remove** to delete the permission from the list.
- To add a new permission:
  - a. Select the affected device(s) from the *Topology Access Preview*.
  - b. The new permission is displayed below the *Topology Access Preview*. Select **Monitor** or **Control** and click **Add**.
  - c. The new permission will be displayed on the right side of the dialog.
- 3. Click **Close** when finished making changes to the role.

#### Add

To add (create) a new user role:

- 1. Click Add.
- 2. The Add New User Role dialog appears with blank fields.
- 3. Enter the Role Name.
- 4. Select the options that apply to this new user role:
  - Can Manage Server and Change Server Settings (Admin) If enabled, the user is allowed to manage the airControl server and change its settings.
  - Can Manage Users and User Roles If enabled, the user is allowed to manage users and their roles.
- 5. To add a new permission:
  - a. Select the affected device(s) from the *Topology Access Preview*.
  - b. The new permission is displayed below the *Topology* Access Preview. Select **Monitor** or **Control** and then click **Add**.
  - c. The new permission is displayed on the right side of the dialog.
- 6. Click **Close** when finished defining the new role.

#### Remove

To remove an existing user role:

- 1. Select the user role from the list.
- 2. Click Remove.
- 3. Click **Yes** when prompted to confirm the deletion.

#### **Database Backup**

The *Database Backup* option, used to back up the SQL database, displays the following dialog:

Control Panel 76 Alerts Tasks			
Back Control Panel > Database Backup			
Name	Created On	Size	
v2.0.DEVEL2031_5_ac2_20160720_154047_2906	2016.07.20 05:40:55	75410 KB	
v2.0.DEVEL2031_5_ac2_20160720_154039_5560	2016.07.20 05:40:47	75410 KB	
v2.0.DEVEL 2031_5_ac2_20160720_154021_7163	2016.07.20 05:40:29	75410 KB	
v2.0.DEVEL 2031_5_ac2_20160720_153955_6687	2016.07.20 05:40:04	75410 KB	
v2.0.DEVEL 2031_5_ac2_20160720_153928_2209	2016.07.20 05:39:36	75410 KB	
v2.0.DEVEL 2030_5_ac2_20160720_145104_3065	2016.07.20 04.51 12	75408 KB	
v2.0.DEVEL 2030_5_ac2_20160720_125656_8614	2016.07.20 02:57:04	75398 KB	
v2.0.DEVEL 2030_5_ac2_20160720_115559_8470	2016.07.20 01:56:08	75398 KB	
		Backup Now Restore Rer	
			-

IMPORTANT: The *Database Backup* option does not back up statistical information. To back up all of your data, you must manually back up the PostgreSQL database using the pg\_dump tool.

The dialog contains a list of database backups:

Name Displays the name of the backup.

Created On Displays the date of the backup.

**Size** Displays the size of the backup.

The bottom of the dialog contains the following buttons:

**Backup Now** Click this button to begin a new backup.

**Restore** Click this button to restore the selected backup. **Remove** Click this button to delete the selected backup.

**Server Settings** 

The *Server Settings* option is used to display and modify server-related settings:

	Server Bindings	Performance Settings		
Listen On	All Server Pa +	Device Groups Evaluation Interval (s)	3	
Reporting Port	9081	Rules Evaluation Interval (s)	3	
anagement Port	9081	Device Status Evaluation Interval (s)	2	
		Statistics Redistribution Period (ms)	1000	
Sto	red Device Access Credentials	Maximum Number of Tunnels On NAT-Gateway Device	50	
	Remove Stored Credentials	Maximum Number of Concurrent SSH Connections	300	

To modify a setting, select or enter the new value. Click **Apply** to apply the change.

Click **Back** when finished viewing or making changes to the settings.

#### **Server Bindings**

**Listen On** This option allows you to run the server on one or more specific IP addresses, to restrict access as a security measure. To do so, select **Specified IPs** and enter the IP address(es); otherwise, keep the default, *All Server IPs*.

**Reporting Port** The port to which devices will report (heartbeat).

**Management Port** The port to which clients will be able to connect.

#### **Performance Settings**

**Device Group Evaluation Interval** Displays how often device groups are refreshed in seconds.

**Rule Evaluation interval** Sets how often automation rules are evaluated in seconds.

**Device Status Evaluation Interval** Sets the device status evaluation interval in seconds.

**Statistic Redistribution Period** Sets the statistic redistribution period in ms.

Maximum Number of Tunnels On NAT-Gateway Device Sets the maximum number of tunnels on NAT gateway devices.

Maximum Number of Concurrent SSH Connections Sets the maximum number of concurrent SSH connections. This number limits the number of network tasks that can be performed in parallel. Lower it to 50 if your server is low on resources and seems to be struggling.

**Stored Device Access Credentials** 

**Stored Credentials** Click **Remove** to delete stored credentials. This might be useful if you want to regenerate the keys that are used to manage the device. airControl connects to the device using keys that are generated when monitoring is started.

#### **Monitoring Settings**

The *Monitoring Settings* option is used to display and modify the settings for device monitoring (these settings take effect when device monitoring is started):

Control Panel	Alerts Tasks						0
Back Control P	anel > Monitoring Settings						
Globa	l Reporting Address	Heartbeating Settings		Default Repo	erting Interva	1	
Server IP Address		Max missed heartbeats to mark offline	5	Access Point	15	5	
Server Port	9081			Station	30	8	
De	fault Login Details						
Username							
Password							
SSH Port							
						Back	Apply

To modify a setting, select or enter the new value. Click **Apply** to apply the change.

Click **Back** when finished viewing or editing the settings.

**Global Reporting Address** 

**Server's IP Address** Displays the monitoring server's IP address.

**Server's Port** Displays the server's port number to be used for reporting.

**Heartbeating Settings** 

Max Missed Heartbeats to Mark "Offline" Displays the maximum number of missed heartbeats to mark offline.

#### **Default Reporting Interval**

Access Point(s) Displays the default reporting interval for access points in seconds.

**Station(s)** Displays the default reporting interval for stations in seconds.

#### **Default Login Details**

The *Default Login Details* option is used to provide airControl with default login credentials for newly discovered devices. (If login fails using the default credentials, airControl will prompt for valid credentials.)

**Username** The username for the default login.

**Password** The password for the default login.

**SSH Port** The SSH port used for the default login.

#### **Firmwares**

Use the *Firmwares* option to display and modify your list of available firmware versions for device upgrades:

Control Panel 10 Al	ierts Tasks				0
Back Control Panel >	Firmwares				
Version	• Fie	Size	Added by User	Added On	
8.0-beta17-cs.31533 (XC)	XC.v8.0-beta 17-cs.31533.160923.1416.bin	8276 KB	User1	2016.09.23 05:56	1
8.0-beta17-cs.31533 (WA)	WA.v8.0-beta 17-cs.31533.160923.1415.bin	8269 K.B	User1	2016.09.23 05:56	
8.0-beta15-cs.31340 (XC)	XC.v8.0-beta15-cs.31340.160729.1158.bin	8532 KB	User1	2016.07.29 06:26	
8.0-beta15-cs.31340 (WA)	WA.v8.0-beta 15-cs.31340.160729.1200.bin	8525 KB	User1	2016.07.29 06:26	
6.0-devel-cs.29712 (XW)	XW.v6.0-devel-cs.29712.160927.0325.bin	7200 KB	User1	2016.09.27 08:38	
6.0-devel-cs.29712 (XM)	XM v 6.0-devel-cs.29712.160927.0336.bin	7361 K.B	User1	2016.09.27 08:38	
6.0-beta13-cs.29643 (TI)	TLv6.0-beta13-cs.29643.160909.1140.bin	7056 K.B	User1	2016.09.16 02:10	
6.0-beta13-cs.29643 (XW)	XW.v6.0-beta13-cs.29643.160909.1151.bin	7200 KB	User1	2016.09.15 01:26	
6.0-beta13-cs.29643 (XM)	XMv6.0-beta13-cs.29643.160909.1202.bin	7361 K.B	User1	2016.09.15 01:26	
6.0-beta12-cs.29472 (TI)	TLv6.0-beta12-cs.29472.160729.1138.bin	7056 K.B	User1	2016.07.29 06:25	
£0 hate12 as 20472 (VLA	VLLui 0, holo 12, ao 20,472 \$20720 1207 his	7921 V D	11	3016.07.30.06.35	
					Add Remove

To add a new firmware version to the list, click **Add**, navigate to the file, and click **Select firmware image files**. To delete a firmware, select the firmware from the list, click **Remove**, and then click **Yes** to confirm the deletion.

Click **Back** when finished viewing or editing the list.

Version The version number of the firmware.

File The name of the firmware file.

Size The size of the firmware file.

Added by User The username of the user who added the firmware version to the list.

Added On The date and time when the firmware version was added.

#### **Chart Sets**

Use the *Chart Sets* option to configure the charts displayed by the *Charts* tab of the *Device Details* panel.

Chart Set Name 🔺	Details
VLAN TX/RX Throughput	txTroughput@ath0 as Red, rxTroughput@ath0 as Blue
free Memory, CPU Load	memFree as Green, loadAvg as Magenta
WLAN TX/RX Throughput, Signal, airMAX	txTroughput@ath0 as Red, rxTroughput@ath0 as Blue, signal@ath0 as Yellow, ama@ath0 as Crange, amc@ath0 as Cyan
WLAN TX/RX Rate, Signal, CCO	txRate@ath0 as Red, rxRate@ath0 as Blue, signal@ath0 as Yellow, ccq@ath0 as Brown
Number of Clients	numClents@ath0 as Orange
CPU Usage	cpullsage as Magenta

Chart Set Name Displays the name of the chart.Details Describes the data that is plotted on the chart.The buttons at the bottom of the dialog include:Edit Click this button to edit the selected chart.

Add Click this button to add a new chart.

**Remove** Click this button to delete an existing chart.

When you click any of these buttons, a dialog similar to the following appears:

		WLAN	TX/BX	Throughpu	nt –		
Nam	ie: WL	AN TX/RX	Throug	hput			
Field		Interfe	ice	Colo	r	Custom Name	
	\$		\$		\$	WLAN-TX	
	÷		\$		\$	WLAN-RX	
							- ha
							-nC

Name Name of the chart.

Field The field to be plotted (refer to <u>"Device Fields" on</u> page 45 for a list of the fields you can select).

**Interface** The applicable interface for the selected field. (Not available for all fields.)

**Color** The color to use for the data plot on the chart.

**Custom Name** A custom name (to display a different name than the default field name on the chart).

#### Edit

To modify the details of an existing chart:

1. Click **Edit** to display the *Edit <chart name>* dialog.

	Name: V	/LAN TX Latency			
Fic	id	Interface	Color	Custom Name	
Latency	\$	WLAN ¢	Green :	/LAN TX Latency	Remov
		Add field			

- 2. Make changes as needed:
  - Field Select the field to be plotted.
  - **Interface** If the selected *Field* requires an applicable interface, select the interface.
  - Color Select the color to associate with the plot.
  - Custom Name Enter a custom name, if desired.
  - To add a new field (data plot) to the chart:
    - a. Click Add Field.
    - b. Configure the *Field*, *Interface* (if applicable), *Color*, and *Custom Name* as needed.
    - c. Click **Apply** to save and apply the changes.
  - To delete a field (data plot) from the chart, click **Remove** at the far right side of the field.
- 3. Click **Close** when finished editing the chart.

#### Add

To add (create) a new chart:

- 1. Click Add.
- 2. The Add New Charted Fields Set dialog appears.



- 3. Enter a Name for the new chart.
- 4. For each type of data to be plotted on the chart:
  - a. Configure the *Field*, *Interface* (if applicable), *Color*, and *Custom Name* as needed.
  - b. Click **Add field** to add another row to the table and define a new field (data plot).
- 5. Click **Create** when finished defining the new chart.

#### Remove

To remove an existing chart:

- 1. Select the chart from the Chart Sets list.
- 2. Click Remove.
- 3. Click **Yes** when prompted to confirm the deletion.

#### **Device Discovery**

The *Device Discovery* option is used to configure device discovery (which is accessed from the menu bar; see for details on device discovery).

Control Panel Alerts				C
Back Control Panel > Devi	ce Discovery			
Device Discovery Setti	ngs			
Broadcast Discovery Duration (s) IP Range Scan Batch Size	7			
IP Range Scan Batch Time (s) IP Range Scan Retry Count	2.0 3			
Resolve Third-Party Routers	No 0			
			Back	Apply

**Broadcast Discovery Duration** Displays the broadcast discovery duration in seconds.

**IP Range Scan Batch Size** Displays the IP range scan batch size.

**IP Range Scan Batch Time(s)** Displays the IP range scan batch time in seconds.

**IP Range Scan Retry Count** Displays the number of times to retry scanning.

#### Users

The Users option is used to manage user accounts.

Control P	anel								0
Back	Control Pa	anel > Users							
User	*	First Name	Last Name	Role	E-Mai	Logged-In	Open Sessions	Last Login Time	
admin				Administrator		Yes	1	2016.07.11 18.51 10	
						View	Edt	Add Bernov	*

**User** Displays the user name for the user account.

First Name Displays the user's first name.

Last Name Displays the user's last name.

Role Displays the user's role.

E-Mail Displays the user's e-mail address.

**Logged-In** Displays *Yes* if the user is logged in, or *No* if the user is not logged in.

**Open Sessions** Displays the number of sessions the user currently has open.

**Last Login Time** Displays the date and time of the user's most recent login.

The buttons at the bottom of the dialog include:

**View** Click this button to view the user account's details.

Edit Click this button to edit the selected chart.

Add Click this button to add a new chart.

**Remove** Click this button to delete an existing chart.

#### View

To view a read-only window of the user account's details:

- 1. Select the user account and click **View**.
- 2. The <account name>dialog appears.

Account Device	Tag Device List AP I	Details	STA Details	Multiple Selection Details	
		Role	Administrator 8		
	User	name A	idmin		
	First	Name			
	Last	Name			
		E-Mail			
	UI Updates Interval (Sec	conds) 1			
	Display Firmware Build N	umber	off a		

3. When finished viewing the details, click **Close**.

#### Edit

To modify the details of an existing user account:

1. Select the user account and click **Edit** to display the *Edit <account name>* dialog.

Edit Adr	nin D 😒
Account Device Tag Device List AP Detail	Is STA Details Multiple Selection Details
Role	Administrator 0
Username	Admin
First Name	
Last Name	
	Change Password
E-Mai	
Ul Updates Interval (Seconds)	1
Display Firmware Build Number	om \$
	Cancel Apply

- 2. Update the fields as needed.
- 3. Click **Apply** when finished editing the user account.

#### Add

To add (create) a new user account:

- 1. Click Add.
- 2. The Add New User dialog appears.

Add Her	User 🛞
Account Device Tag Device List AP Det	ils STA Details Multiple Selection Details
Bi	e Administrator =
Usernar	e
First Nar	e
Last Nar	e
	Set Password
E-M	
UI Updates Interval (Second	0 1
Display Firmware Build Numb	r Off C
	Cancel Create
	la.

- 3. Enter the following information:
  - Role Select Administrator (default) or a userdefined role that you have created, if any.
  - Username, First Name, Last Name Enter the name.
  - Color Select the color to associate with the plot.
  - Custom Name Enter a custom name, if desired.
  - **Change Password** To change the account password, click this button, enter the new password, confirm the password, and click **Change**.
  - E-Mail Enter the e-mail address for the account.
  - UI Updates Interval (Seconds) Enter the interval in seconds for UI updates.
  - **Display Firmware Build Number** Enable this option to append the build number to the firmware version property.
- 4. Click **Create** when finished defining the new account.

#### Remove

To remove an existing user account:

- 1. Select the user account.
- 2. Click Remove.
- 3. Click **Yes** when prompted to confirm the deletion.

#### **Automation Rules**

The *Automation Rules* option is used to configure the rules that trigger alerts.

Control Panel 🚺 Alert	Tasks
Back Control Panel > A	mation Rules
Rule	▲ Is Active
eth0	Yes
AP reboot	Yes
DNET AP online -> offine	Yes.
	Vierv Edit Add Bernove

Rule Displays the name of the rule.

**Is Active** Displays *Yes* if the rule is active or *No* if the rule is not active.

View

To view the read-only details of an existing rule:

- 4. Click View.
- 5. The <*rule name*> dialog appears.
- 6. Click **Close** when finished viewing the rule details.

#### Edit

		Edit eth0
Rule Name	eth0	Active System
Rule Trigge	r Conditions	
AND	OB ( ) Topology Belation	Device Status Change Time of Day Device Group Membership 4 > Delete
Repeat Con	dition All Alerts are Acknowledge	
General	te Alert Warning	•
		Aidd Taris to Execute

To modify the details of an existing rule:

- 1. Click **Edit** to display the *Edit <rule name>* dialog.
- Make changes to the rule as needed. For detailed information on configuring the various options associated with the rule, refer to <u>"Add" on page 32</u>.
- 3. Click Apply to save and apply the changes.

#### Add



The *Add New Rule* dialog is used to create a new rule, with one or more trigger conditions and additional related options. Types of trigger conditions include:

- Device Field Used to trigger alerts based on the value of a device field. This is the default type of condition.
   For a list of available fields, refer to <u>"Device Fields" on</u> page 45.
- **Topology Relation** Used to trigger an alert based on a device's location within the system topology.
- **Device Status Change** Used to trigger an alert based on a specific change in a device's status.
- **Time of Day** Used to trigger an alert based on the time of day (specified in 10-minute intervals).
- **Device Group Membership** Used to trigger an alert for devices belonging to a group whose *Included Devices* option is set to *Add manually*.

To add (create) a new rule:

- 1. Click Add. The Add New Rule dialog appears.
- 2. Enter the *Rule Name*. Select **Active** to make the rule active.
- 3. Define the trigger condition(s) for the rule as described in <u>"Defining Trigger Conditions" on page 32</u>.
- 4. Select the *Repeat Condition*: All Alerts are Acknowledged, Device Status Changes, or Time Elapses.
- 5. Select the type of alert to generate: **Critical**, **Warning**, or **Information**. To disable alerts for this rule, uncheck the *Generate Alert* checkbox.
- 6. To add an optional task to be executed, click **Add Task** to Execute, and select **Reboot Task**, **Start Monitoring Device Task**, or **Email Notification Task**. (For email notification, also enter the *From* and *To* addresses, and a *Subject Prefix*.) You can add up to three tasks.
- 7. Click Create to save the new rule.

#### **Defining Trigger Conditions**

Trigger conditions are defined in the top part of the *Add New Rule* dialog, which displays a prototype *Device Field* condition upon opening. To configure a different condition type, click **Topology Relation**, **Device Status Change**, **Time of Day**, or **Device Group Membership**.

Each type of condition is configured as follows: **Device Field** Configure the condition as follows:



- To select a different *Device Field*, click the field and select the desired field from the list. The remaining elements of the condition are displayed automatically depending on the field selected. For a list of available fields, refer to <u>"Device Fields" on page 45</u>.
- 2. Select the applicable *Interface* (not available for all fields): **LAN** or **WLAN**. (The *Interface* is automatically populated for certain device fields, as shown above.)
- 3. Select the *Averaging Period* (not available for all fields): current, 5min, or 30min.
- 4. Select the Operator that will be used to evaluate the condition (not all operators are available for all fields):
  =, !=, >, >=, <, <=, contains, startsWith, or endsWith.</li>
- Enter or select the Value to which the Device Field will be compared. (Depending on the device field, this can be a user-specified value or a list of hard-coded values; refer to <u>"Device Fields" on page 45</u> for details.)

**Topology Relation** Configure the condition as follows:

UNDER\_TOPOLOGY\_OF(NOT SELECTED)

- 1. Click **NOT\_SELECTED**. The *Topology Branch* dialog appears.
- 2. Select the topology branch that will trigger an alert if the device is located on that branch.
- 3. Click Select.

**Device Status Change** The condition contains two configurable fields: *Old Status* and *New Status*. An alert will be generated if the device status changes from *Old Status* to *New Status*. Configure the condition as follows:

STATUS_CHANGE(	online	¢	=>	offline	÷	)
	Old S	tatus		New S	Status	

- 1. Click the *Old Status* and select: **new**, **not monitored**, **online**, **offline**, or **[ANY STATUS]**.
- 2. Click the *New Status* and select: **new**, **not monitored**, **online**, **offline**, or **[ANY STATUS]**.

**Time of Day** The condition contains four configurable fields: *Start Hour, Start Minute, End Hour,* and *End Minute.* Configure the condition as follows:

TIME_OF_DAY(	00 hrs. 🗘	: 00 min. 💠 -	12 hrs. 🗘	: 00 min. 🗘 )
	Start Hour	Start Minute	End Hour	End Minute

1. Click the Start Hour and select from **00 hrs** to **23 hrs**.

- 2. Click the *Start Minute* and select from **00 min** to **50 min**.
- 3. Click the End Hour and select from 00 hrs to 23 hrs.

4. Click the End Minute and select from **00 min** to **50 min**.

**Device Group Membership** Configure the condition as follows:

• Select the group that will trigger an alert for devices belonging to that group.

(The group's *Included Devices* option must be set to *Add manually*. For details on this option, refer to <u>"New</u> **Devices Group" on page 42**. An error message is displayed if no groups have the required setting.)

In addition to configuring individual trigger conditions, you can do the following:

- To add another condition, click AND or OR. The selected operator will be appended to the existing condition(s), followed by a prototype *Device Field* condition. To change the condition type, click the appropriate button: Topology Relation, Device Status Change, Time of Day, or Device Group Membership.
- To constrain the order in which conditions are evaluated, add parentheses around pairs of conditions:
  - a. While editing the first condition, click () to place parentheses around it.
  - b. Click **AND** or **OR** to create the second condition within the parentheses.
  - c. Configure the second condition.
- Click ◀ or ▶ to move to the cursor left or right, respectively, between fields. (The cursor's current location is highlighted.)
- To delete the last (right-most) condition, click **Delete**.

#### Remove

To remove an existing rule:

- 1. Select the user role from the list.
- 2. Click Remove.
- 3. Click Yes when prompted to confirm the deletion.

#### **Configuration Tags**

The *Configuration Tags* option is used to create named "snapshots" of airOS configuration that can be restored at a later time.



Tag Displays the tag's ID.

**Created On** Displays the date and time when the tag was created.

Created By Displays the user who created the tag.

**Number of Devices** Displays the number of devices that are associated with the tag (you can tag the configuration for multiple devices).

### Alerts

The *Alert* tab of the *Application Drawer* displays a list of all system alerts.

Control Panel	76 Alerts Tasks					¢
E Select All						
Severity	Alert	Time	Device 4	Device Name	IP Address	ESSID
! Warning		2016.07.11 05:27:06	(MAN3)	DEVICE03	192.168.7.7	MAIN3
. Warning		2016.07.09 16:28:20	(AAA)	DEVICE39	192.168.6.92	AAA
. Warning	DNET AP online -> offline	2016.07.23 0105.56	(BBB1)	DEVICE12	192.168.1.239	BBB1
. Warning		2016.07.11 05:28:36	(BBB1)	DEVICE12	192.168.1.239	BBB1
. Warning	DNET AP online -> offline	2016.07.22 01:02:38	(8882)	DEVICE25	192.168.6.161	BBB2
. Warning		2016.07.11 05:29:00	(8882)	DEVICE25	192.168.6.161	BBB2
. Warning		2016.07.11 05:27:12	(OFFICE)	DEVICE49	192.168.7.11	OFFICE
. Warning		2016.07.09 16:28:23	(PRN1)	DEVICE33	192.168.1.51	PRN1
. Warning		2016.07.10 01:04:38	(CCC1)	DEVICE138	192.168.222.231	CCC1
. Warning		2016.07.12 03:33:23	(DDD1)	DEVICE154	192.168.222.6	DDD1
. Warning	DNET AP online -> offline	2016.07.23 010150	(EEE1)	DEVICE86	192.168.1.225	EEE1
. Warning		2016.07.11 05:28:48	(EEE1)	DEVICE86	192.168.1.225	EEE1
-			028.0020		100.000	CLAID

The following fields are displayed.

**Severity** Displays the severity level of the alert: *Information, Warning,* or *Critical.* 

Alert Displays a description of the alert.

Time Displays the date and time the alert was generated.

**Device** Displays the device name of the device associated with the alert.

**Device Name** Displays the name of the device associated with the alert.

**IP Address** Displays the IP address of the device associated with the alert.

**ESSID** Displays the ESSID of the device associated with the alert.

**Wireless Mode** Displays the wireless mode of the device associated with the alert.

#### Tasks

The *Tasks* tab of the *Application Drawer* contains the following subtabs (on the left side of the dialog):

- Running Tasks that are currently running
- Scheduled Tasks that are schedules to run at a later time
- Finished Tasks that have finished running

Click the subtab to display the desired task list.

Control Panel	22	Alerts	Tasks							•
C Duming	Task			Status	Message	Started On	٣	Duration (s)	Scheduled For	Schedule
Charling	٠	Server IP L	lpdate	Finished	Server address update failed on 11 out of 11 de	2016.08.26 07	03	30		°
🕒 Scheduled	٠	Server IP L	lpdate	Finished	Server address update failed on 11 out of 11 de	2016.08.26 06	38	30		
C Finished	•	Reconnect		Finished	1 device(s) reconnected	2016.08.26 04	:47	62		
	•	Email Notifi	ication Task	Finished	Email notification sent successfully (subject: $\boldsymbol{\zeta}$	2016.08.26 04	42	1		
	•	Email Notifi	ication Task	Finished	Email notification sent successfully (subject: $\boldsymbol{\zeta}$	2016.08.26 04	:18	0		
	•	Email Notifi	ication Task	Finished	Email notification sent successfully (subject: $\boldsymbol{\zeta}$	2016.08.25 14:	38	0		
	•	Email Notifi	ication Task	Finished	Email notification sent successfully (subject: $\boldsymbol{\zeta}$	2016.08.25 14:	38	0		
	۰	Email Notifi	ication Task	Finished	Email notification sent successfully (subject: $\boldsymbol{\xi}$	2016.08.25 113	32	0		
	•	Email Notifi	ication Task	Finished	Email notification sent successfully (subject: $\ensuremath{\overline{\chi}}$	2016.08.25 113	32	1		
	۰	Discover D	evices	Finished	Discovered total 109 device(s), 1 new device(s	2016.08.25 07	22	70		
	•	Email Notifi	ication Task	Finished	Email notification sent successfully (subject: $\boldsymbol{\zeta}$	2016.08.24 08	21	0		
	-	Email Notif	leaton Task	Finished	emai notification cont successfully (subject 1.	2016.08.24 08	21	0		
										lemove

The following fields are displayed.

Active (Available on *Current Tasks* tab only.) Indicates if the task is active (check mark) or not active (no check mark).

Task Displays a description of the task.

**Status** Displays the status of the task: *Scheduled*, *Running*, *Paused*, and *Finished*.

Message Displays a status message for the task.

**Started On** Displays the start date and time of the task.

**Duration(s)** Displays how long the task took to run.

**Scheduled For** Displays the date and time at which the task is scheduled to run.

**Schedule** Displays the type of schedule assigned to the task: *Periodically* or *Once*.

**Scheduled Until** Displays the date and time to stop performing the task.

**Repeat Period** Displays how often the task is repeated.

Scheduled By Displays the user who scheduled the task.

**Cause** Displays the cause of the task: *User*, *Scheduler*, or *Rule* (i.e., automation rule).

**Started By** Displays the username of the user who started the task.

**Triggered by Rule** Displays the rule that triggered the task.

**Number of Times Executed** Displays the total number of times that the task has been executed.

The following buttons are available:

**Repeat** (Available only on the *Finished* subtab.) Click this button to repeat the selected task.

**View** Click this button to view details on the selected task. Click **Back** when finished viewing the details.

The format of the details displayed depends on the type of task that is selected. Below are two examples:

• Device discovery task:

	Discove	ry Options Progress	
Newly Found Devices (0)	Found Existing Devices (0)	Not Found Existing Devices (370)	Failed to Connect via SSH (0)
		192.168.1.134 (ANET)	
		192.168.1.86 (ANET)	
		* 🔛 192.168.1.106 (ANET)	
		192.168.2.84 (ANET)	
		192.168.1.170 (ANET)	
		🗢 🔛 192.168.1.14 (ANET)	
		🗇 🔛 192.168.1.14 (ANET)	
		I 192.168.2.4 (ANET)	
		192.168.2.162 (ANET)	

• Firmware update task:

Firmware Update for XC De	evices:		
Device	Previous Firmware	Activation No.	Operation Status
↔ 🏢 😆 192.168.X.X ()	7.2.2 (XC)	1	Firmware was updated successfully
Firmware was updated	d successfully		

**Remove** (Available only on the *Scheduled* and *Finished* subtabs.) To delete the selected task from the list, click this button and then click **Yes** to confirm.

	ne, aaron 🔻			Q					Cont	trol	
Discover Al 649 Online 558 Offin	e 😢 Not Monitored 2						🖨 Co	nfigure 🖸 Update Firm	ware	G Reboot	t
Network Topology	Status	Device Name	▲ IP	Firmware Version Wireless N	Aode SSID	Signal Strength @ath0~curi	airMAX Quality @ath0~curi air	MAX Capacity 0	CO Fr	requency	
🝞 airControl Server	online	Device22	192.168.X.X	6.0-devel-cs.29431 Station	UBNT01	-56 dBm	83 %	62 %	9% 57	720 MHz	
ABCD Network	online	Device59 Stop Monitoring	.168.X.X	5.6.3.28591 (XIM) Station	UBNT17	-67 dBm	64 %	68 %	2 % 56	660 MHz	
FECH Network	online	Device16 Configure	.168.X.X	8.0-beta11.30850 (X Access Po	oint UBNT10	-71dBm		0	% 57	735 MHz	
	online	Device92 Update Firmware	.168.X.X	4.0.4.5074 (XS5) Access Po	oint UBNT16	-96 dBm		(	% 57	785 MHz	
	offline	Device110 Reboot	.168.X.X	5.6.3.28591 (XW) Station	UBNT07						
PTP Disconnects	online	Device17 Open Web-U	.168.X.X	5.6.3.28591 (XIM) Station	UBNT11	-57 dBm	73 %	75 %	1% 56	660 MHz	
	online	Device13 More	.168.X.X	5.5.6.17762 (XIM) Station	UBNT13	-77 dBm	19 %	22 %	9% 53	200 MHz	
	offline	Device29	.168.X.X	6.0-devel-cs.29431 Station	UBNT07						
	online	Device34 🛩 First Branch Level C	0nly .168.X.X	6.0-beta11-cs.29258 Station	UBNT04	-84 dBm	26 %	14 %	1% 24	474 MHz	
	offline	Device27 Select/Unselect All	.168.X.X	5.6.2.27929 (XW) Station	UBNT27						
	online	Device14	52.168.X.X	5.6.8.29413 (XW) Station	UBNT07	-60 dBm	76 %	24 %	15 % 58	835 MHz	
	online	Device72	192.168.X.X	5.6.4.28924 (XM) Access Po	oint UBNT22	-69 dBm		9	7% 24	452 MHz	
	🔍 online	Device 50	192.168.X.X	5.5.6.17762 (XM) Station	UBNT14	-67 dBm	61 %	47 %	8 % 57	745 MHz	
	online	Device89	192.168.X.X	5.5.6.17762 (XM) Station	UBNT14	-74 dBm	51%	38 %	8 % 5	745 MHz	
	offine	Device07	192.168.X.X	4.0.4.5074 (XS5) Station	UBNT20						
	online	Device41	192.168.X.X	5.6.4.28924 (XW) Access Po	oint UBNT07	-80 dBm	56 %	29 %	7 % 58	505 MHz	
	online	Device25	192.168.X.X	8.0-beta13.31066 (X Access Po	oint UBNT28	-52 dBm		0	% 56	600 MHz	
	offline	Device30	192.168.X.X	8.0-beta 12.30917 (W. Access Po	oint UBNT07						
	online	Device11	192.168.X.X	8.0-beta12.30917 (W Access Po	oint UBNT12	-61 dBm		0	% 57	745 MHz	
	online	Device12	192.168.X.X	5.6.8.29413 (XW) Access Po	oint UBNT36	-58 dBm	97 %	90 %	8% 24	464 MHz	
	online	Device10	192.168.X.X	8.0-beta13.31066 (X Access Po	oint UBNT29	-51 dBm		0	% 58	580 MHz	
	online	Device36	192.168.X.X	8.0-beta13.31066 (X Station	UBNT31	-71 dBm		c	% 58	835 MHz	
						72 / Pm	61.01	20.9/	0.9/ 59	DOC MALIN	i.
	Statistics	Charts Events Alert	5								
		Device Summary 192.168.X.X (D	evice22)	Status: online		Current Statistics	Average Statist	ics for the Last 30min.			
		Device Name D	evice22	Unchecked Alerts 0		Signal Strength -56 dBm	Signal Strength	-55 dBm			
		SSID U	BNT01	Uptime 2 days	s 05:23:39	Chain 0 -57 dBm	Chain 0	-56 dBm			
		P 19	12.168.X.X	Connection Time 2 days	s 05:21:34	Chain 1 -64 dBm	Chain <sup>-</sup>	-62 dBm			
		Network Mode R	outer	Frequency 5720 M	ИНz	Noise Floor -101 dBm	Noise Floor	-101 dBm			
		Wireless Mode St	tation	Last Contact 00.00.2	20 ago	CCO 99 %	CCC	99 %			
		Topology Node Type B	asic	TX Total 1.44 G	8	TX Throughput 279.21 Kbps	TX Throughput	199.15 K.bps			
		Product N	anoStation Loco M5	RX Total 11.36 G	BB	RX Throughput 7.37 Mbps	RX Throughput	4.53 Mbps			
		MAC 4	4:D9:E7:42:94:XX	LAN Speed 100Mb	ips-Full	TX Rate 72 Mbps	RX Rate	68.55 Mbps			
		Firmware Version 6.	0-devel-cs.29431(XW)			RX Rate 130 Mbps	TX Rate	133.4 Mbps			
						airMAX Quality 83 %	airMAX Quality	84 %			
					8	airMAX Capacity 62 %	airMAX Capacity	62 %			
						Memory Usage 33 %	Memory Usage	33 %			
Jevice Groups					CP	U Load Average 0.02	CPU Load Average	0.02			
											47

# **Chapter 8: Context Menu**

airControl provides various useful functions through the context menu, accessed by right-clicking the selection.



Note: Context menu options vary depending on factors such as number of devices selected, or the part of the UI (*Device Tree, Live View* panel, etc.) where the context menu is invoked.

-	
<ul> <li>Image: A server a</li></ul>	er
+ ↔ 10.0.2.210	(ubntbridge1)
_∞ <u>0</u> 10.0	2.211 (ubntbridge1)
+↔ 0002220	) (ubntbridge)
	2.221 (ubntbridge)
	Stop Monitoning Configure Update Firmware Reboot Open Web-UI More
	Discover Devices Add Device Manually Expand/Collapse All

Context Menu - Device Tree (Network Topology Mode)

<ul> <li>Network Topology</li> </ul>	
* Device Groups	
By CCQ (647)	
By Firmware (649)	
By Products (649)	New Folder New Devices Group Edit Devices Group
	Remove By Firmware (649) Expand/Collapse All

Context Menu - Device Tree (Device Group Mode)

Status	Device Na	me 🍝	Р		Firmware Version	Wireless Mode
online	Device22		19	2.168.X.X	6.0-devel-cs.29431	Station
online	Device59	Stop Monitoring		.168.X.X	5.6.3.28591 (XM)	Station
online	Device16	Configure		.168.X.X	8.0-beta1130850 (X	Access Point
online	Device 92	Undate Errowere		.168.X.X	4.0.4.5074 (XSS)	Access Point
offine	Device110	Reboot		.168.X.X	5.6.3.28591(XW)	Station
online	Device17	One Web II		.168.X.X	5.6.3.28591 (XM)	Station
online	Device13	Open Web-O		.168.X.X	5.5.6.17762 (XM)	Station
offline	Device29	More	·	.168.X.X	6.0-devel-cs.29431	Station
online	Device34	✓ First Branch Level Only		.168.X.X	6.0-beta11-cs.29258	Station
offline	Device27	Select/Unselect All		.168.X.X	5.6.2.27929 (XW)	Station
online	Device14		12	L.168.X.X	5.6.8.29413 (XW)	Station
online	Device72		19	2.168.X.X	5.6.4.28924 (XM)	Access Point

#### Context Menu - Device List



Context Menu - Live View

Control Panel	Alerts	Tasks							0
O Domina	Task		State	tus	Message	Started On	Duration (s)	Scheduled For	Schedule
Charling	<ul> <li>Sta</li> </ul>	rt Monitoring 10.	0.2.211 (ub Finist	thed	Monitoring started successfully for 1 device(s)	2016.07.29 13:41	22		1
Scheduled	Sto	Monitoring 10.0	2.211 (ubr Finist	hed	Monitoring stopped successfully for 1 device(s	2016.07.29 13:41	3		
Finished	Sta	rt Monitoring 10.	0.2.211 (ub Finist	hed	Monitoring started successfully for 1 device(s)	2016.07.29 13:40	22		
	Det	ct N Repeat	evices or Finis	hed	Malware detection task finished successfully!	2016.07.29 13:26	2		
	<ul> <li>Rur</li> </ul>	Spe View	4 Devices Finish	hed	Finished speed testing for 4 device(s)	2016.07.28 18:04	20		
	<ul> <li>Rur</li> </ul>	Spe Remov	e Devices Finis	hed	Finished speed testing for 4 device(s)	2016.07.28 18:03	20		
	<ul> <li>Rur</li> </ul>	Spe Select/	Unselect Al	hed	Finished speed testing for 4 device(s)	2016.07.28 18:03	5		
	<ul> <li>Rur</li> </ul>	Sporter		hed	Finished speed testing for 4 device(s)	2016.07.28 17:46	5		
	<ul> <li>Rur</li> </ul>	Speed Test on	4 Device: Finisi	hed	Finished speed testing for 4 device(s)	2016.07.28 17:14	300		
	<ul> <li>Rur</li> </ul>	Speed Test on	4 Device: Finisl	hed	Finished speed testing for 4 device(s)	2016.07.28 17:12	10		
	Rur	Speed Test on	4 Device: Finist	hed	Speed test stopped by user	2016.07.28 17:12	300		
		+ Devices	Finish	hed	Pine stopped by user	2016.07 28 16:35	499		
							Repeat	View	lemove

Context Menu - Application Drawer

Options can be performed immediately, scheduled to run at a later time, or repeated periodically. For information on scheduling a task, see <u>"Scheduling Tasks" on page 43</u>.

# **Context Menu Options**

For detailed information on the context menu options, refer to the appropriate section:

- <u>"Start/Stop Monitoring" on page 36</u>
- <u>"Configure" on page 36</u>
- <u>"Update Firmware" on page 37</u>
- <u>"Reboot" on page 37</u>
- <u>"Open Web-UI" on page 37</u>
- "More" options:
  - <u>"Ping" on page 37</u>
  - <u>"Speed Test" on page 38</u>
  - <u>"Tag Configuration" on page 39</u>
  - <u>"Download Configuration" on page 39</u>
  - <u>"Malware Cleanup" on page 39</u>
  - <u>"Add to Group" on page 39</u>
  - <u>"Remove" on page 39</u>
  - <u>"Ignore" on page 39</u>
  - <u>"Properties" on page 40</u>
  - <u>"Copy Details" on page 40</u>
- <u>"First Branch Level Only" on page 40</u>
- <u>"Select/Unselect All" on page 41</u>
- <u>"Discover Devices" on page 41</u>
- <u>"Add Device Manually" on page 41</u>
- <u>"Expand/Collapse All" on page 42</u>
- <u>"Restore Configuration(s)" on page 42</u>
- <u>"Download Configuration(s)" on page 42</u>
- <u>"Reset Position Modifications" on page 42</u>
- <u>"New Folder" on page 42</u>
- <u>"New Devices Group" on page 42</u>
- <u>"Edit Devices Group" on page 43</u>
- <u>"Reattach to Topology" on page 43</u>
- <u>"Remove <group>" on page 43</u>

Note: Information on the following features can be found in the appropriate chapter:

- Detailed device statistics, charts, and event lists: see <u>"Device Details" on page 21</u>.
- Control Panel and detailed lists of alerts and tasks: see <u>"Application Drawer" on page 25</u>.

#### **Start/Stop Monitoring**

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

A discovered device can be monitored or unmonitored. To control (toggle) monitoring of an airOS device:

- 1. Select the device from the *Live View* display.
- 2. Right-click the selection to display the context menu.
- 3. Select **Stop Monitoring** or **Start Monitoring**. A dialog box will appear.
- 4. Select **Stop Monitoring** or **Start Monitoring** to confirm and perform the operation immediately.

To schedule the monitoring change for a later time, select **Schedule** (refer to <u>"Scheduling Tasks" on page 43</u> for detailed instructions on scheduling tasks).

#### Configure

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

To configure a single device or multiple devices (mass configuration – making the same configuration changes to multiple devices simultaneously), follow these steps:



Note: Mass configuration is supported only by devices running airOS 5 and airOS 6.

- 1. Select the device(s) to be configured.
- 2. Do one of the following:
  - Right-click the selection and select Configure.
  - (*Device List* view only) Select **Configure** from the menu bar.
- 3. The *Configure <device>* dialog will appear. This dialog provides the following tabs:
  - **Device** Identifies the selected device(s).
  - **Ubiquiti logo** Contains options for airMAX, airSelect, and airView.
  - Wireless Contains wireless network settings.
  - Services Contains options related to services such as ping, web server, etc.
  - System Contains system-related settings.
  - File Changes This shows the changes that you have made.

			Configure 10.0	1.2.210 (ubntb	ridge1)				
	Device	×	Wireless	Services	System	File Changes			
o. Device		Operati	ion Status						
++10.0.2.210 (ubnthridget)									
							Apply Configuration	Schedule. C	anc

- 4. Select the appropriate tab(s) and make the desired configuration changes.
- 5. Select when to apply the configuration changes:
  - To apply the changes now, click **Apply Configuration**.
  - To apply the changes at a later time, click **Schedule** (see <u>"Scheduling Tasks" on page 43</u> for details).

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#### **Update Firmware**

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

Use this option to update a device's firmware as follows:

- 1. Select the device(s) whose firmware will be updated.
- 2. Right-click the selection to display the context menu.
- 3. Select Update Firmware.
- 4. The *Update Firmware* on *<selection>* dialog will appear, showing the device(s) that you selected.

			Update firmware on 192.16	8.XX0		8
Select Firmware for XM Devices:	6.0-beta13-cs (XM)		•	]		
Device	Current Firmware	Activation No.	Operation Status			
↔ 📋 🙆 192.168.X.X (6)	6.0-beta12 (XM)	1				
					Cancel Schedule.	Start firmware update
!						

- 5. Click the drop-down box labeled *Select Firmware for* <*type> Devices* and select the firmware version for the upgrade. If the desired firmware is not listed:
  - a. Click Upload new.
  - b. Navigate to the firmware file and select it.
  - c. Click Select firmware image files.
  - d. The firmware will now be available for selection.
- 6. If you selected multiple devices and the selection contains diferent device types (XW, WA, etc.), repeat steps 5-6 for each device type.

			Update firmwa	re on 4 Devices		
Select Firmware for WA Devices				٥		
Device	Current Firmware	Activation No.	Operation Status			
🗇 💿 10.0.2.221 (ubntbridge)	8.0-beta14 (WA)	3				
↔ 💿 10.0.2.220 (ubntbridge)	8.0-beta14 (WA)	4				
Select Firmware for XW Devices				\$		
Device	Current Firmware	Activation No.	Operation Status			
🗢 💽 10.0.2.211 (ubntbridge1)	6.0-beta10 (XW)	1				
↔ 🕙 10.0.2.210 (ubntbridge1)	6.0-beta10 (XW)	2				
					Cancel Schedule.	Start firmware update

- 7. Select when to upgrade the firmware:
  - To upgrade now, click Start Firmware Upgrade.
  - To schedule the upgrade for a later time, click
     Schedule (see <u>"Scheduling Tasks" on page 43</u> for details on task scheduling).

#### Reboot

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

Use this option to reboot the selected device(s), as follows:

- 1. Select the device(s) to be rebooted.
- 2. Right-click the selection to display the context menu.
- 3. Select Reboot.
- 4. The *Reboot <selection>* dialog will appear, showing the device(s) that you selected for reboot.

	Debert 4 device/e)	
No. Device	Operation Status	
1 (v 10.0.2.211 (ubritbridge1)		
2 ↔ 10.0.2.210 (ubntbridge1)		
3. 🗢 🥶 10.0.2.221 (ubntbridge)		
4. ↔ 🥶 10.0.2.220 (ubntbridge)		

- 5. Select when to upgrade the firmware:
  - To reboot now, click **Reboot**.
  - To reboot at a later time, click Schedule (see <u>"Scheduling Tasks" on page 43</u> for details).

#### **Open Web-UI**

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

To manage an individual device using its web-based UI:

- 1. Select the device(s) to be managed.
- 2. Right-click the selection to display the context menu.
- 3. Select Open Web-UI.
- 4. Each device's web UI will open in your web browser. If prompted to log in, enter the username and password and click **Login**.
- 5. Use the device's web UI to manage the device as needed.



Note: For detailed information on the web UI, refer to the UI's User Guide, which is available at downloads.ubnt.com

#### Ping

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

Use this option to run a ping test on the selected device(s):

- 1. Select the device(s) which you want to ping test.
- 2. Right-click the selection to display the context menu.
- 3. Select More > Reboot.
- 4. The application drawer opens with the *Tasks* panel selected, showing the selected device(s) and options for the ping test.

ration 1minute \$						≣⊁	Jul-28 15:32m Jul-28 15:33m Jul-
vice	Current	Min	Мах	Average	Count	Lost	
10.0.2.211 (ubntbridge1)					0	0	
10.0.2.210 (ubntbridge1)					0	0	
10.0.2.221 (ubntbridge)					0	0	
10.0.2.220 (ubntbridge)					0	0	
							PrigLatency

- Duration Click the drop-down box and select the ping test duration: 1 second, 4 seconds, 5 seconds, 10 seconds, 30 seconds, 1 minute, 5 minutes, 1 hour, 3 hours, or Continuous. (If Continuous is selected, you must click Cancel to end the ping test.)
- Device Displays the device being ping tested.
- **Current** Displays the device's current ping latency time in msec.
- Min Displays the device's minimum ping latency time in msec for the current ping test.
- Max Displays the device's maximum ping latency time in msec for the current ping test.
- Average Displays the device's average ping latency time in msec for the current ping test.
- Count Displays the current ping count.
- Lost Displays the number of lost ping packets.
- 5. Select when to run the ping test:
  - To run the ping test now, click **Ping**.
  - To schedule the ping test for a later time, click **Schedule** (refer to <u>"Scheduling Tasks" on page 43</u> for further information on task scheduling).
- 6. During the ping test, the *Current*, *Min*, *Max*, *Average*, *Count*, and *Lost* fields are populated with real time data, and the ping latency is plotted on the right side.
- 7. When the test is finished, you are given the option to run the ping test again; to do so, click **Repeat** and go to step 4 of this section.

Duration Trimute •						= •	Jul-28 1557m Jul-28 1558m
Device	Current	Min	Max	Average	Count	Lost	
🕆 🌝 10.0.2.211 (ubntbridge1)	5ms	Ims	11ms	3.92ms	60	0	10
<ul> <li>i) 10.0.2.210 (ubritbridge1)</li> </ul>	2ms	Oms	9ms	2.1ms	60	0	8
🗢 👘 10.0.2.221 (ubnitbridge)	3ms	Ims	9ms	2.9ms	60	0	1.
(i) 10.0.2.220 (ubntbridge)	3ms	Oms	10ms	185ms	60	0	6
							2
							ms II// W////
							Ping Latency
Finished pinging 4 device(s)							

#### **Speed Test**

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

Use this option to run a speed test on the selected device(s):

- 1. Select the device(s) that you want to speed test.
- 2. Right-click the selection to display the context menu.

- 3. Select More > Reboot.
- 4. The application drawer opens with the *Tasks* panel selected, showing the selected device(s) and options for the speed test.



- Duration Click the drop-down box and select the speed test duration: 5 seconds, 10 seconds, 15 seconds, 20 seconds, 30 seconds, 1 minute, 5 minutes, 10 minutes, 15 minutes, 30 minutes, 1 hour, 3 hours, or Continuous. (If *Continuous* is selected, you must click Cancel to end the speed test.)
- Direction Click the drop-down box and select the direction of the speed test: TX and RX, TX, or RX.
- **Endpoint** Displays the destination for speed test traffic. To change this setting, click the ••• button, select the new destination, and click **Select**.
- From Device Displays the device being speed tested.
- **TX** Displays the device's transmit speed.
- RX Displays the device's receive speed.
- Total Displays the total speed (TX + RX speeds).
- 5. Select when to run the speed test:
  - To run the speed test now, click Start Speed Test.
  - To schedule the speed test for a later time, click **Schedule** (refer to <u>"Scheduling Tasks" on page 43</u> for further information on task scheduling).
- 6. During the speed test, the *TX* and/or *RX* fields (whichever are selected) and the *Total* field are populated with real time data, and the speed(s) are plotted on the right side.

dpoint airControl Server	n TX and BX	•	4≣			Jul-28 17:18m Jul-28 17:19m
om Device	тх	RX	Total	Time + TX	RX	
<ul> <li>i0.0.2.211 (ubntbridge1)</li> </ul>		135Mbps	135Mbps	15.	3.19Mbps ®	"WAY WAY AND A REAL AND A REAL
10.0.2.210 (ubntbridge1)	12.05Mbps	168Mbps	13.73Mbps	29.	105Mbps	S. A Make and Another and Aland 11
10.0.2.221 (ubntbridge)		142Mbps	142Mbps	3s.	3.15Mbps	
0 10.0.2.220 (ubntbridge)	13.38Mbps	17Mbps	15.08Mbps	4s.	2.1Mbps	
				58.	105Mbps	
				68.	105Mbps	2 ANIAMAMANA AA LAMAA
				78.	2.1Mbps	Mbps
				Re.	105.0mm	put@ath0 🏧 RX Throughput@ath0 🏧 TX Throughput@eth0 🚪

To display a detailed breakdown (by second) of the speed data, click the D button. To hide the detailed breakdown, click the D button.

When the test is finished, you are given the option to run the speed test again; to do so, click **Repeat** and go to step 4 of this section.

### **Tag Configuration**

(This option is only available for a monitored device in the Device Tree, Device List, Live View panel, and the Statistics tab of Device Details.)

Use this option to configure a tag for the selected device(s):

- 1. Select the device(s) that you want to tag.
- 2. Right-click the selection to display the context menu.
- 3. Select More > Tag Configuration.
- 4. The Tag Configuration of <x> Device(s) dialog opens.
- 5. Type the desired name into the Tag Name field and click Tag.

	Tag Configu	rations of 5	Device(s	)	
Tag Name					
				Cancel	Tag

#### For information on managing configuration tags, refer to "Configuration Tags" on page 33.

#### **Download Configuration**

(This option is only available for a selected device in the Device Tree, Device List, Live View panel, and the Statistics tab of Device Details.)

Use this option to download the configuration from the selected device(s) to a file:

- 1. Select the device(s) whose configurations are to be downloaded.
- 2. Right-click the selection to display the context menu.
- 3. Select More > Download Configuration.
- 4. Navigate to the location where you want to save the file. The Tag Configuration of <x> Device(s) dialog opens, displaying the name of the file to be saved.



Note: The default file name contains the device's MAC address and the current date.

5. Click Save configuration backup to save the configuration file.

#### Malware Cleanup

(This option is only available in the Device Tree, Device List, Live View panel, and the Statistics tab of Device Details.)

airControl provides the ability to detect malware on your devices, as well as remove any malware that is found. Use this option to run the malware utility to detect and remove malware on the selected device(s):

- 1. Select the device(s) to scan for malware.
- 2. Right-click the selection to display the context menu.
- 3. Select More > Malware Cleanup.
- 4. Select the desired operation: Detect Malware or **Detect and Clean Malware.**

- 5. The Detect Malware <selection > dialog or the Clean *Malware <selection>* opens.
- 6. Click **Start** to start detecting malware on the selected device(s). If you selected Detect and Clean Malware, any detected malware will also be removed.
- 7. To check the status or results of the malware detection, go to the Tasks tab of the Application Drawer.

### Add to Group

(This option is only available in the Device Tree, Device List, Live View panel, and the Statistics tab of Device Details.)

Use this option to add the selected device(s) to a device group in the Device Tree:

- 1. Select the device(s) that you want to add to a group.
- 2. Right-click the selection to display the context menu.
- 3. Select More > Add to Group.
- 4. A dialog will display available groups. Select the group that you want to add the device to and click Add.

#### Remove

(This option is only available in the Device Tree, Device List, Live View panel, and the Statistics tab of Device Details.)



Note: Only unmanaged devices can be removed.

Use this option to remove the selected device(s):

- 1. Select the unmanaged device(s) that you want to remove.
- 2. Right-click the selection to display the context menu.
- 3. Select More > Remove.
- 4. A dialog will notify you if any of the selected devices is managed. If this occurs, click Force Removal to unmanage the managed device(s), or, click **Cancel** to end the task.

#### Ignore

(This option is only available in the Device Tree, Device List, Live View panel, and the Statistics tab of Device Details.)



Note: An *ignored* device will not appear in discovery search results. This is useful when, for example, you do not know a device's password - ignore the device to avoid having to re-enter the password. Only unmanaged devices can be ignored.

Use this option to ignore the selected device(s):

- 1. Select the unmanaged device(s) that you want to ignore.
- 2. Right-click the selection to display the context menu.
- 3. Select More > Ignore.
- 4. If a dialog informs you that the device selection contains managed devices, and if you are sure that you want to ignore the managed device(s), click Force moving to 'Ignored Devices' folder. Otherwise, click **Cancel** to end the task, and then start again from step 1 by redefining the selection without managed devices.

#### **Properties**

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

Use this option to display the *Properties* dialog for the selected device(s):

	Properties for 1 device(s)		
Device Address	10.5.2.181		
SSH Port	22		
HTTP(S) Port	80		
	Use HTTPS		
Description			
Custom Device Tag			
Added By	Task: Discovery		
Topology Branch	Main		Select.
Uplink Type	Ethernet Uplink	÷	
Upstream interface	eth0		
	Use Overridden airControl Server Address		
Server Address	192.168.11		
Server Port	9081		
	🐨 Gateway		
	Server Connects to Device Directly		
	V Lock Position in Topology		
			Cancel Apply
		_	

Properties Dialog - One Device Selected

			Properties	for 2 device(s)		
Select one or multiple devices for editing				Device Address	IP vary for 2 devices)	
Cercice → © 10.0.2.20 (u.brittridge) ◆ © 10.0.2.20 (u.brittridge)	SSH Port 22 22	HTTP(S) Port 80 80	Topslogy Branch 10.0.2210 (ubnitivitä 10.0.2220 (ubnitivitä	Device Address SSH Port HTTP(5) Port Describition Custom Device Tag Added By Topology Branch Uptim Type Upstream Interface Set Changes	pP vay tor 2 device) 22 30 40 40 40 40 40 40 40 40 40 40 40 40 40	
						Cancel Apply

Properties Dialog - Multiple Devices Selected

The Properties dialog displays information on the selected device(s).



You can also use the *Properties* dialog to modify a device's settings. (After you are finished making changes, click **Apply** to save the changes.)

- **Device Address** Displays the IP address of the selected device(s).
- **SSH Port** Displays the SSH port number for the selected device(s).
- HTTP(S) Port Displays the HTTP or HTTPS port for the selected device(s).
- Use HTTPS Select this option to enable HTTPS on the selected device(s), or clear this option to disable HTTPS on the selected device(s).
- **Description** Displays a description for the selected device(s).
- **Custom Device Tag** Displays the custom device tag(s), if any, assigned to the selected device(s).

- Added By Displays the method used to add the device(s), such as *Task: Discovery*.
- Topology Branch Displays the branch of the topology (on the *Device Tree*) to which the selected device(s) are assigned. To change a device's topology branch, click Select, select the new branch, click Select Branch, and click Apply to save the change.
- Uplink Type Displays the uplink type: *Wireless uplink* or *Ethernet uplink*.
- **Upstream Interface** Displays the read-only upstream interface.
- Use Overridden airControl Server Address Select this option to cause airControl to use an overridden airControl server address. (You must specify the server's address and port number using the next two options.)
  - **Server Address** (Available only if *Use Overridden airControl Server Address* option is selected.) Displays the airControl server's address.
  - **Server Port** (Available only if *Use Overridden airControl Server Address* option is selected.) Displays the airControl server's port number.
- Gateway This sets the *Topology Node Type* to *Gateway* (otherwise it is set to *Basic*). Devices that are behind a NAT gateway are accessed using remapped IP addresses. This affects different tasks that take network topology into account.
- Server Connects to Device Directly Select this option if the server connects to the device directly.
- Lock Position in Topology Select this option to prevent the device's position from being changed automatically by the discovery task (or topology resolution).
- Set Changes (Available only if multiple devices are selected.) Click Set to *n* selected devices to set the changes on all selected devices.

#### **Copy Details**

(This option is only available in the *Device Tree*, *Device List*, *Live View* panel, and the *Statistics* tab of *Device Details*.)

Use this option to copy the setting of selected fields to the clipboard. You can select a specific field (click the button with the field's name), or all fields (click **Copy all fields to clipboard**).

#### **First Branch Level Only**

(This option is only available in the Device List.)

Use this option to enable/disable the *First Branch Level* feature which restricts the devices displayed in the *Device List* to one level below the root node that is selected in the *Device Tree*. When this feature is enabled, a checkbox is displayed next to it in the context menu; when the feature is disabled, the checkbox is cleared.

#### Select/Unselect All

(This option is only available in the *Device List*.)

Use this option to quickly select or unselect all devices in the *Device List*.

#### **Discover Devices**

(This option is only available in the Device Tree.)

Use this option to perform device discovery. The following dialog will appear:

Discover Devices
Discovery Options Progress
Discover Devices Via Discovery Broadcast 5 🐼 Resolve Topology 📄 Monthin Devices 📄 Discoverd Gateways Start From ab/Control Server (Solect Hrum the list below)
Topology
▼ StarControl Server
toplaced Devices
*** Interaction (administration)
Cancel Schedule. Run Discovery

For detailed information on device discovery, refer to **"Device Discovery" on page 13**.

#### **Add Device Manually**

(This option is only available in the Device Tree.)

Use this option to manually add a device to the system. The dialog that is displayed depends on the type of device being added.

#### Adding a Ubiquiti Device

	Add Device Manually 0 Devices		8
	Ubiquiti Device \$		
Device Address			
SSH Username	I		
SSH Password			
	Remember SSH credentials		
SSH Port	22		
HTTP(S) Port	80		
	Use HTTPS		
Description			
Custom Device Tag			
Topology Branch	airControl Server	Select	
Uplink Type	Ethernet Uplink +		
	Use Overridden airControl Server Address		
	Gateway		
	Discover Downstream Devices		
			Cancel Add
			1.

Ubiquiti Device Keep the default, Ubiquiti Device. Device Address Enter the device's IP address. SSH Username Enter the SSH username for the device. SSH Password Enter the SSH password for the device. Remember SSH Credentials Select this option to remember the SSH credentials. SSH Port Displays the SSH port number.

**HTTP(S) Port** Displays the HTTP(S) port number. **Use HTTPS** Select this option to use HTTPS.

**Description** Enter a description for the device.

**Custom Device Tag** Enter an optional custom device tag. **Topology Branch** Displays the topology branch to which

the device belongs. Uplink Type Select the uplink type: **Ethernet Uplink** or

**Uplink Type** Select the uplink type: **Ethernet Uplink** or **Wireless Uplink**.

**Use Overridden airControl Server Address** Select this option to cause airControl to use an overridden airControl server address. (You must specify the server's address and port number using the next two options.)

- Server Address (Available only if *Use Overridden airControl Server Address* option is selected.) Displays the airControl server's address.
- Server Port (Available only if *Use Overridden airControl Server Address* option is selected.) Displays the airControl server's port number.

**Gateway** This sets the *Topology Node Type* to *Gateway* (otherwise it is set to *Basic*). Devices that are behind a NAT gateway are accessed using remapped IP addresses. This affects different tasks that take network topology into account.

**Discover Downstream Devices** Select this option to descend into gateway devices and execute the discovery tool from the gateways.

#### Adding a Non-Ubiquiti Device

	Add Device Manually 0 Devices	8
	Other \$	
Device Type	Router ÷	
Device Address	1	]
Custom Device Tag		
Topology Branch	airControl Server	Select.
Uplink Type	Ethernet Uplink \$	
		Cancel Add

**Ubiquiti Device** Click the drop-down box and select **Other**.

**Device Type** Enter the type of device being added. **Device Address** Enter the device's IP address.

**Custom Device Tag** Enter an optional custom device tag. **Topology Branch** Displays the topology branch to which the device belongs.

**Uplink Type** Select the uplink type: **Ethernet Uplink** or **Wireless Uplink**.

#### **Expand/Collapse All**

(This option is only available in the Device Tree.)

Use this option to quickly expand or collapse the subnodes of the currently select node in the *Device Tree*.

#### **Restore Configuration(s)**

(This option is only available for configuration events listed on the *Events* tab of the *Device Details* panel.)

Use this option to restore a configuration saved to a file. The *Restore Configuration* dialog will appear:



The dialog will display saved configuration files. To restore a saved configuration immediately, select it and click **Restore**. To restore a saved configuration at a later time, click **Schedule**. To exit without restoring a configuration, click **Cancel**.

#### **Download Configuration(s)**

(This option is only available for configuration events listed on the *Events* tab of the *Device Details* panel.)

Use this option to save the configuration of the device to a file.

When the file selection dialog appears, navigate to the location where the file is to be saved and click **Save Configuration Backup**.

#### **Reset Position Modifications**

(This option is only available on the Live View panel.)

Use this feature to undo position changes made to the selected device(s) using the *Move* feature in the menu bar.

#### **New Folder**

(This option is only available under *Device Groups* in the *Device Tree*.)

Use this feature to create a new folder in Device Groups:

- 1. Right-click on the Device Tree.
- 2. Select New Folder.
- 3. In the *Insert Folder* dialog, enter the new **Folder Name** and click **Add**.

#### **New Devices Group**

(This option is only available under *Device Groups* in the *Device Tree*.)

Use this feature to create a device group in the Device Tree:

- 1. Right-click on the *Device Tree*.
- 2. Select New Devices Group.
- 3. Click Add. A form appears in the Device Details pane.
- 4. Enter the Group Name.
- 5. Select the devices to include in the group:
  - Filtered by criteria Select devices using criteria that you specify. Refer to <u>"Device Selection</u> <u>Criteria" on page 42</u>.
  - All devices Select all devices.
  - Add manually Add devices to the selection manually.
- Click **Subdivide** to specify additional criteria for selecting devices for the group:
- 6. Click **Create** to create the device group.

#### **Device Selection Criteria**

When creating a new device group, you can define criteria to select the devices for that group. These criteria are created as follows:

- A set of criteria consists of one or more rules.
- Each rule consists of one or more conditions.
- Conditions are of two types: standard or topologybased.

A topology-based condition selects devices based on their location within the topology.

A standard condition, which is used to select devices by comparing a field with a user-specified value, consists of the following (for detailed information on the fields, interfaces, and averaging periods, refer to <u>"Device Tag</u><u>Tab" on page 8</u>):

- Field Specify the field associated with the condition.
- **Interface** (If applicable) Specify the interface associated with the field.
- Averaging period (If applicable) Specify the averaging period: current, 5 min, or 30 min.
- Relational operation Specify the relational operator to apply to the field: = (equal to), != (not equal to), > (greater than), >= (greater than or equal to), < (less than), <= (less than or equal to).</li>
- Value Specify the value to compare the field against.
- To add a new condition to a rule, click the logical operator for the condition: **AND** or **OR**. Then define the condition as described above.
- To control the order of condition evaluation, click ( ) to put parentheses around the currently selected condition in the rule.

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- To delete the currently selected condition, click **Delete**.
- Click < or </li>
   to move current selection left or right among the fields in the rule.
- To create a topology-based condition, click Topology Relation. Then click NOT\_SELECTED, navigate to and select the applicable topology branch, and click Select.

#### **Edit Devices Group**

(This option is only available under *Device Groups* in the *Device Tree*.)

Use this feature to create a new device group in the *Device Tree*. To do so, enter the new **Group Name** and click **Add**.

#### **Reattach to Topology**

(This option is only available for devices in the *Ignored Devices* folder under *Device Groups* in the *Device Tree.*)

Use this feature to reattach an ignored device to the system's topology. The device will appear in the topology as a regular non-monitored device.

#### Remove <group>

(This option is only available under *Device Groups* in the *Device Tree*.)

Use this feature to remove an existing device group in the *Device Tree*:

- 1. Right-click the group to be removed in the *Device Tree*.
- 2. Select **Remove** <*name of group*>.
- 3. Click **Yes** to confirm, or click **No** to cancel the operation.

# Scheduling Tasks

Many of the context menu options offer the ability to schedule a task to run in the future. In addition, some tasks can be scheduled to run only once or on a recurring basis. If the option's dialog box has the *Schedule* button, you can perform task scheduling as follows:

#### Scheduling a Task to Run Once

If the dialog does not contain the *Schedule* setting, the task can only be scheduled to run once, as follows:

1. Click **Schedule** to display the *Schedule <task>* dialog:

	Sch	raute Dis	covery		
ierver's Time	22 Jun 2016 12	30			
Task Name	Discover Dev	ices		]	
Schedule	Once		\$		
Start On	22 Jun 2016	-	12 Hr.	0	30 Min. 0
				Sch	edule Cance
				(inclusion)	



Note: The name of the dialog box varies to reflect the type of task being scheduled.

- 2. Specify the following for the *Start On* setting:
  - Start date: Click ... to display a calendar, then navigate to the desired month and select the date.
  - Starting hour: Click the middle drop-down box and select from **00 Hr.** to **23 Hr.**
  - Starting minute: Click the right-most drop-down box and select from **00 Min.** to **59 Min.**
- 3. Click **Schedule** to save the task's schedule information.

The task is now scheduled and will run at the selected day and time. To see the task, select the *Tasks* tab of the *Application Drawer*.

#### Scheduling a Task to Run Repeatedly

If the dialog contains the *Schedule* setting, the task can be scheduled to run on a recurring basis, as follows:

1. Click **Schedule** to display the *Schedule* <*task*> dialog:

Server's Time	22 Jun 2016 12:3	90			
Task Name	Discover Devis	es			
Schedule	Once		\$		
Start On	22 Jun 2016	-	12 Hr.	÷	30 Min. 🗘
				_	



Note: The name of the dialog box varies to reflect the type of task being scheduled.

- 2. Specify the frequency for the task: **Once** or **Periodically** (perform device discovery at set intervals).
- If you selected Once in step 2 (you do not want the task to repeat), then go to step 2 of <u>"Scheduling a Task to</u> <u>Run Once" on page 43</u>.

- 4. If you selected *Periodically* in step 2:
  - a. Specify the Repeat From setting as follows:

Server's Time	19 Jul 2016 16:03			
Task Name	Discover Devices			
Schedule	Periodically	\$		
Repeat From	19 Jul 2016	15 Hr.	\$	56 Min. 🗧
Until	18 Aug 2016 -	15 Hr.	\$	56 Min. 🗢
Repeat Every	1 Day(s)		٥	

- Click ... to display a calendar, then navigate to the desired month and select the date.
- Click the middle drop-down box and select from **00 Hr.** to **23 Hr.**
- Click the right drop-down box and select from **00 Min.** to **59 Min.**
- b. Specify the Until setting as follows:

圁

Note: To configure a task to run indefinitely, set the *Until* setting for a date and time far in the future.

- Click ... to display a calendar, then navigate to the desired month and select the date.
- Click the middle drop-down box and select from **00 Hr.** to **23 Hr.**
- Click the right-most drop-down box and select from **00 Min.** to **59 Min.**
- c. Specify the following for the *Repeat Every* setting:
  - In the text box, enter a number.
  - Click the drop-down box and select Second(s), Minute(s), Hour(s), or Day(s).
- d. Click **Schedule** to save the task's schedule information

The task is now scheduled and will run from the specified starting date and time until the specified ending date and time, recurring with the specified frequency. To see the task, select the *Tasks* tab of the *Application Drawer*.

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airCont	trol°							-	_	Q										
Discover																				
* Network Topo	ology	Device Status	Device Name	P	▲ Firmw	are Version	Wireless Mode	SSID	Signal Strength	ai	MAX Quality	airMAX Ca	pacity	CCO Frequen	y U	ptime	Connection Time	MAC	Product	
	↔ = 10.5.2.125 (sim-26)	online	Frigg 2-154	10.5.2.154	5.6.5 (	XM)	Station	sim-27	-52 dBm		8 %	15	5 %	70 % 5180 MH	: 25	5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:9A	Rocket M	15
	↔ = 10.5.2.126 (sim-26)	online	Heimdall 2-155	10.5.2.155	5.6.5 (	XM)	Station	sim-27	-46 dBm		96 %	85	9%	3 % 5180 MH	: 25	5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:9B	Rocket M	15
	(a) (a) 10 5 2 127 (cim-26)	online	Holler 2-156	10.5.2.156	5.6.5 (	XM)	Station	sim-27	-45 dBm		90 %	8	1%	99 % 5180 MH	: 25	5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:9C	Rocket M	15
	(0.1212) (2120 (212 20)	online	Laga 2-157	airMAX Capacity	5.6.5 (	XM)	Station	sim-27	-46 dBm		84 %	99	9 %	37 % 5180 MH	: 28	5 days 01:48:56	25 days 01:48:56	00:15:6D:AA:02:9D	Rocket M	15
	(Sarri-20)	online	Loki 2-158	airMAX Quality	5.6.5 (	XM)	Station	sim-27	-46 dBm		98 %	66	5 %	77 % 5180 MH	: 25	5 days 01:48:56	25 days 01:48:56	00:15:6D:AA:02:9E	Rocket M	15
	↔ 📑 10.5.2.129 (sim-26)	online	Odin 2-159	airTime	5.6.5 (	XM)	Station	sim-27	-51 dBm		100 %	86	5 %	4 % 5180 MH	: 25	5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:9F	Rocket M	15
	↔ 📄 10.5.2.130 (sim-26)	online	Saga 2-160	Alert Count	5.6.5 (	XM)	Station	sim-28	-46 dBm		62 %	7	1%	74 % 5180 MH	: 28	5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:A0	Rocket M	15
-	↔ 📄 10.5.2.131 (sim-26)	online	Snotra 2-161	By tes RX	5.6.5 (	XM)	Access Point	sim-28	-52 dBm		84 %	3	%	95 % 5180 MH	: 25	5 days 01:48:56		00:15:6D:AA:02:A1	Rocket M	15
-	↔ 📄 10.5.2.132 (sim-26)	online	Thor 2-162	Bytes TX	5.6.5 (			sim-28	-52 dBm		91%	99	9.%	82 % 5180 MH	2	5 days 01:48:56	25 days 01:48:56	00:15:6D:AA:02:A2	Rocket M	15
-	↔ 🔄 10.5.2.133 (sim-26)	online	UII 2-163	Capacity Downlink					Edit admin							5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:A3	Rocket M	15
	↔ 🔄 10.5.2.134 (sim-26)	<ul> <li>online</li> </ul>	Vali 2-164	Capacity Uplink	F											5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:A4	Rocket M	15
	↔ 10.5.2.135 (sim-26)	<ul> <li>online</li> </ul>	Vidar 2-165	cco		Account	Device Tag	Device List	AP Details	STA Details	Multiple Selection	on Details				5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:A5	Rocket M	15
	↔ 🗒 10.5.2.136 (sim-26)	• online	Vidar 2-166	CINR			1-	1-	1		1					5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:A6	Rocket M	15
	↔ 10.5.2.137 (sim-26)	• online	Alaisiagae 2	Connection Time	vame		P 3	Firmware versio	n Wireless Mode	SSID	Signal Strength	6	IIMAX OUBIT	y arrvi	X Cape	5 days 01:48:55	25 days 0148.56	00.15/6D/AA:02/A7	Hocket M	10
	⇔ = 10.5.2.138 (eim.26)	online	Atla 2-168	CPU Load	host_1		192.168.1.1	5.6.1 (XM)	Access Point	SAMPLE_S	SID				li i	5 days 0148:56	25 days 0148:56	0015/60/44/02/48	Rocket M	10 17
		· online	Brag 2109	CPU Usage											l.	5 days 01.48.56	25 days 0148.56	00.15-60-44-02-45	Desket	10
	(SITT-20)	online	Egranti 2-171	Current Operation			10.0			en le Mele errord					_ 1	E days 0140.50	25 days 0148.56	00.15-60-44-02-45	Rocket M	10
	↔ 10.5.2.140 (sim-27)		Frour 2-172	Description			Hint: you	can resize, rearrang	je and sort courne	ns in this previa	ew interactively					E days 0148-56	25 days 0148.56	0015-60-44-02-40	Pocket M	10 10
•++ E	10.5.2.141 (sim-27)	online	Getion 2-173	Device Added Time				Device list colu	mns configuration	for Control Vie	w					5 days 0148:56	25 days 014856	001560:44:0240	Bocket M	15
-	↔ 📄 10.5.2.142 (sim-27)	online	Hodur 2-174	Device Name	Interf	ace A	veraging period	Text style	Custom name	Sorted	Column width					5 days 014856	25 days 0148.56	00.15.6D:AA:02:AE	Rocket M	15
-	↔ 📄 10.5.2.143 (sim-27)	online	Idun 2-175	Device Status				Normal =			100					5 days 0148.56	25 days 0148.56	00:15:6D:AA:02:AF	Rocket M	15
-	↔	online	Lofn 2-176													5 days 01:48:56	25 days 0148.56	00.15:6D:AA:02:B0	Rocket M	15
-	↔	online	Niord 2-177	Device Name	0			Normal C			170					5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:B1	Rocket M	15
-	↔ 🗐 10.5.2.146 (sirn-27)	online	Ran 2-178	P	٢			Normal ©		ascent	ling 92				2	5 days 01:48:56	25 days 0148.56	00.15:6D:AA:02:B2	Rocket M	15
	↔ 10.5.2.147 (sim-27)	online	Skadi 2-179	Firmuran Manian				Name 1			***					5 days 01:48:56	25 days 0148.56	00:15:6D:AA:02:B3	Rocket M	15
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Device Groups																				
				Control Panel											)					

# **Appendix A: Device Fields**

This appendix describes the device fields. These fields are used to specify the information that airControl displays for devices and are displayed in drop-down menus in the following locations:

- Edit User Settings > Device Tag > Field (refer to <u>"Device Tag Tab" on page 8</u>)
- Edit User Settings > Device List > Field (refer to <u>"Device List Tab" on page 9</u>)
- Edit User Settings > AP Details > Field (refer to <u>"AP Details, STA Details, and Multiple</u> Selection Details Tabs" on page 10)
- Edit User Settings > STA Details > Field (refer to <u>"AP Details, STA Details, and Multiple</u> <u>Selection Details Tabs" on page 10</u>)
- Edit User Settings > Multiple Selection Details > Field (refer to <u>"AP Details, STA Details, and Multiple</u> <u>Selection Details Tabs" on page 10</u>)
- Control Panel > Automation Rules (refer to <u>"Automation Rules" on page 31</u>)

The following table lists each field in alphabetical order, describes each field, lists the field's values (if applicable), and provides additional notes as needed.

Field Name	Description	Values	Notes
Access Point MAC	The MAC address of the access point to which the station is connected.		Not used in Automation Rules.
ACK Timeout	The ACK timeout value in ms.		
Added By	The user or method that added the device.	<username>, Task Discovery</username>	
AF Capacity RX	Displays the airFiber device's RX capacity for the specified Averaging Period.		Applies to airFiber devices only. Supports averaging.
AF Capacity TX	Displays the airFiber device's TX capacity for the specified Averaging Period.		Applies to airFiber devices only. Supports averaging.
AF Channel Width RX	The airFiber device's RX channel bandwidth.		Applies to airFiber devices only.
AF Channel Width TX	The airFiber device's TX channel bandwidth.		Applies to airFiber devices only.
AF Duplex	The airFiber device's duplex type.	Full Duplex, Half Duplex	Applies to airFiber devices only.
AF Frequency RX	The airFiber device's RX frequency.		Applies to airFiber devices only.
AF Frequency TX	The airFiber device's TX frequency.		Applies to airFiber devices only.
AF Link State	The airFiber device's link state.		Applies to airFiber devices only.
AF Operating Mode	The airFiber device's operating mode.	Master, Slave	Applies to airFiber devices only.
AF Remote IP	The IP address of the remote airFlber station.		Applies to airFiber devices only.
AF Remote MAC	The MAC address of the remote airFiber station.		Applies to airFiber devices only.
AF TX Modulation Rate	The airFiber device's TX modulation rate.		Applies to airFiber devices only.
AF TX Power	The airFiber device's TX power level.		Applies to airFiber devices only.
airMAX Capacity	The airMAX capacity level for the specified Interface.	<percentage></percentage>	Applies only to airMAX M-series devices with airMAX enabled. Wireless interface(s) only. Supports averaging.
airMAX Quality	The airMAX quality level for the specified <i>Interface</i> .	<percentage></percentage>	Applies only to airMAX M-series devices with airMAX enabled. Wireless interface(s) only. Supports averaging.
airTime	The device's current airtime as a percentage of total airtime.	<percentage></percentage>	Supports averaging.
Alert Count	The number of new alerts for the device.		
Bytes RX	The total number of bytes received on the specified Interface.		Summed. WLAN or LAN interfaces.
Bytes TX	The total number of bytes transmitted over the specified Interface.		Summed. WLAN or LAN interfaces.
Capacity Downlink	The device's downlink capacity in Kbps/Mbps for the specified <i>Interface</i> .		Wireless interface(s) only. Supports averaging.
Capacity Uplink	The device's uplink capacity in Kbps/Mbps for the specified Interface.		Wireless interface(s) only. Supports averaging.
CCQ	The wireless Client Connection Quality (CCQ) for the specified <i>Interface</i> and <i>Averaging Period</i> , where 100% is a perfect link state.	<percentage></percentage>	Applies only to airMAX M-series devices. Wireless interfaces only. Supports averaging.
CINR	The device's Carrier to Interference-plus-Noise Ratio (CINR) in dBm.		
Connection Time	The device's total connection time.	[ <dd> days] <hh:mm:ss></hh:mm:ss></dd>	Wireless interface(s) only. Applies to Stations only. Days are displayed if the connection time > 24 hours.
CPU Load	The CPU load value.		Supports averaging.
CPU Usage	The device's CPU usage in percent.	<percentage></percentage>	Supports averaging.
Current Operation	The task or operation the device is currently performing. For example, "Performing monitoring parameters", etc.		Not used in Automation Rules.
Description	Displays a user-defined description of the device.		To set the description, right-click the device. Then click <b>More</b> , <b>Properties</b> .
Device Added Time	The date and time when the device was added.	<yyyy.mm.dd hh:mm:ss&gt;</yyyy.mm.dd 	Not used in Automation Rules.

Field Name	Description	Values	Notes
Device Name	The device's hostname.		
Device Status	The device's status.	new, discovered, heartbeating, online, off_line, ignored, removed, any	
Device Tag	The device's device tag.		For information on how to configure the device tag, refer to <b>"Device Tag Tab" on page 8</b> .
Distance	The distance in km between devices for Acknowledgement (ACK) frames.		
Firmware Version	The device's firmware version number.		
Frequency	The device's operating frequency for the specified Interface.		Wireless interface(s) only.
Interface Status	The status of the specified <i>Interface</i> .	Up, Down	LAN interface only.
IP	The IP address of the device's wireless interface.		
LAN Speed	The LAN speed in Kbps/Mbps and the duplex mode.	10Mbps-Full, 100Mbps-Full, 1000Mbps-Full, 10Mbps-Half, 100Mbps-Half, 1000Mbps-Half	
Last Contact	The time elapsed since the last heartbeat was received from the device.	[ <dd> days] <hh:mm:ss></hh:mm:ss></dd>	Days are displayed if the total time > 24 hours.
Latency	The device's WLAN latency in ms for the specified Interface.		Wireless interface(s) only. Supports averaging.
MAC	The remote device's MAC address.		Applies to Stations only. Not used in Automation Rules.
Memory Free	The amount of free memory in KB/MB.		Supports averaging.
Memory Total	The device's total memory capacity in KB.		
Memory Usage	Displays the percentage of memory currently used.		Supports averaging.
Modulation Rate RX	The device's RX modulation rate.	1x (BPSK), 2x (QPSK), 4x (16QAM), 6x (64QAM), 8x (256QAM), Undefined	
Modulation Rate TX	The device's RX modulation rate.	1x (BPSK), 2x (QPSK), 4x (16QAM), 6x (64QAM), 8x (256QAM), Undefined	
NAT	The NAT status of the device.	has NAT, no NAT	
Network Mode	The device's network mode.	Bridge, Router	
Noise Floor	The noise floor level for the specified Interface.		Wireless interface(s) only. Supports averaging.
Number of Clients	The device's total number of clients for the specified <i>Interface</i> .		For access points only. Wireless interface(s) only. Supports averaging.
Ping Latency	Displays the ping latency in ms for the specified <i>Interface</i> .		Used only by <i>Edit User Settings</i> > <i>Multiple Selection Details</i> . Supports averaging.
Product	The product name of the device.		
Rate RX	The transmit data rate in Kbps/Mbps for the specified <i>Interface</i> .		Wireless interface(s) only. Supports averaging.

Field Name	Description	Values	Notes
Rate TX	The receive data rate in Kbps/Mbps for the specified Interface.		Wireless interface(s) only. Supports averaging.
Signal Chain 0	The chain 0 signal level for the specified Interface.		Wireless interface(s) only. Supports averaging.
Signal Chain 1	The chain 1 signal level for the specified Interface.		Wireless interface(s) only. Supports averaging.
Signal Strength	The signal strength in dBm for the specified Interface.		Wireless interface(s) only. Supports averaging.
SSID	The Service Set Identifier (SSID) of the wireless network to which the device belongs.		
Throughput RX	The receive throughput in Kbps/Mbps for the specified Interface.		WLAN or LAN interfaces. Supports averaging.
Throughput TX	The transmit throughput in Kbps/Mbps for the specified Interface.		WLAN or LAN interfaces. Supports averaging.
Topology Node Type	The device's topology node type. <i>Gateway</i> indicates that the device is a logical gateway within the airControl network topology.	Basic, Gateway	
Uplink Type	The device's uplink type.	Wireless uplink, Ethernet uplink	
Upstream Interface	The device's upstream interface, which allows the device to connect to other devices higher in the network topology.	ath0, eth0	
Uptime	The device uptime, the total time the device has been running since the last reboot (device power-up) or software upgrade.	[ <dd> days] <hh:mm:ss></hh:mm:ss></dd>	Days are displayed if the total uptime > 24 hours.
Wireless Mode	The device's wireless mode.	Access Point, Station	

# **Appendix B: Contact Information**

# **Ubiquiti Networks Support**

Ubiquiti Support Engineers are located around the world and are dedicated to helping customers resolve software, hardware compatibility, or field issues as quickly as possible. We strive to respond to support inquiries within a 24-hour period.

Ubiquiti Networks, Inc. 2580 Orchard Parkway San Jose, CA 95131 www.ubnt.com

**Online Resources** 

Support: <u>ubnt.link/airMAX-Support</u> Community: <u>ubnt.link/airControl</u> Downloads: <u>www.ubnt.com/download/utilities</u>



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