



**Enterprise System Controller** 

Release Version: 5.0.6

UniFi Controller User Guide Table of Contents

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# Chapter 1: Software Installation

# Introduction

Thank you for purchasing the Ubiquiti Networks® UniFi® Enterprise System. The UniFi devices are bundled with the UniFi Controller software, which allows you to manage your UniFi network using a web browser.

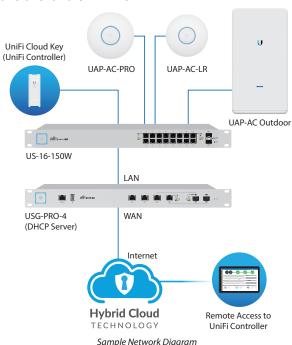
This User Guide is for use with version 4.8.7 or above of the UniFi Controller software.

# **System Requirements**

- Linux, Mac OS X, or Microsoft Windows 7/8/10
- Java Runtime Environment 1.6 (1.8 or above recommended)
- Web Browser: Mozilla Firefox, Google Chrome, Microsoft Edge, or Microsoft Internet Explorer 11 (or above)

# **Network Topology Requirements**

- A DHCP-enabled network (so any device can obtain an IP address)
- · One of the following:
  - · UniFi Cloud Key
  - A management station running the UniFi Controller software, located either on-site and connected to the same Layer-2 network, or off-site\* in a cloud or NOC
- For the public address system capability of the UAP-AC-EDU: A compatible Android<sup>™</sup> or iOS device located on the same Layer-2 network as the UniFi Controller and UniFi APs



\* Requires Layer-3 adoption. For details, refer to: <a href="http://ubnt.link/UniFi-Layer3-Adoption">http://ubnt.link/UniFi-Layer3-Adoption</a>

All UniFi devices support off-site management controllers.

Follow the instructions in this chapter after you install the hardware, which is described in the Quick Start Guide.

# **Software Installation**

Download the latest version of the UniFi Controller software at **downloads.ubnt.com/unifi** 

Follow the instructions for your specific computer or device type.

# **UniFi Cloud Key Users**

If you have the UniFi Cloud Key, please refer to <u>"UniFi</u> Cloud Key" on page 5 for more information.

## **UniFi Cloud Users**

If you have a UniFi cloud account, please refer to <u>"UniFi</u> Cloud Account" on page 12 for more information.

# **Linux Users**

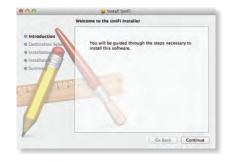
Please refer to the UniFi blog on our community site at: <a href="http://ubnt.link/UniFi-Blog">http://ubnt.link/UniFi-Blog</a>

#### **Mac Users**

1. Launch UniFi.pkg.



Click Continue and follow the on-screen instructions to install the software.



Go to Go > Applications and double-click the UniFi icon.



Proceed to <u>"Configuring the UniFi Controller Software"</u> on page 2.

## **PC Users**

- 1. Launch UniFi-installer.exe.
- 2. Click Install.



3. If your computer doesn't have Java 1.6 or above installed, you will be prompted to install it. Click **Install** to continue.



4. Click Next.



5. Ensure that the *Start UniFi Controller after installation* option is checked and click **Finish**.



Note: The UniFi Controller software can also be launched from Start > All Programs.



# **Configuring the UniFi Controller Software**

 The UniFi Controller software startup will begin. Click Launch a Browser to Manage Wireless Network.



2. Select your country and time zone. Alternatively, you can click **restore from a previous backup** to use a file that contains your backup settings. Click **Next**.



- Note: U.S. product versions are locked to the U.S. Country Code to ensure compliance with FCC regulations.
- Select the devices that you want to configure and click Next. You can click Refresh Now to have the UniFi Controller repeat its device discovery process.



Note: If there is more than one page of entries to display, click the navigation controls or page numbers at the bottom right of the screen to display different pages.

4. The UniFi Setup Wizard will create a secure primary wireless network for your devices.



### Perform the following steps:

- a. Enter the wireless network name (SSID) in the *Secure SSID* field.
- b. Enter a passphrase to be used for your primary network in the *Security Key* field.
- To enable guest access, select Enable Guest Access, and enter a guest network name in the Guest SSID field.
- d. Click Next.
- 5. Create the super admin for your UniFi Controller.



### Perform the following steps:

- a. Enter an admin name in the Admin Name field.
- b. Enter an email address in the Admin Email field.
- c. Enter a password in the *Password* field to use when accessing the management interface as a super admin.
- d. Confirm your password in the *Confirm Password* field.
- e. Click Next.



Note: Only the super admin – not any site admin – can view wired devices that are *Pending Approval* and then adopt them on the UniFi Controller. Ensure that you save the super admin login information for future use.

6. Review your settings. Click **Finish** to save your settings or click *Back* to make changes. Once the wizard is finished, the browser will be redirected to the management interface.



Congratulations, your wireless network is now configured.

A login screen will appear for the UniFi Controller management interface. Enter the admin name and password that you created and click **Login**.



Proceed to <u>"Using the UniFi Controller Software" on page 17</u> for information on using the UniFi Controller software.

UniFi Controller User Guide Chapter 2: UniFi Cloud

# **Chapter 2: UniFi Cloud**

# Introduction

You can access the UniFi Controller via the UniFi Cloud Key and/or the UniFi cloud account. This chapter describes the following:

- UniFi Cloud Key
- "UniFi Cloud Account" on page 12

# **UniFi Cloud Key**

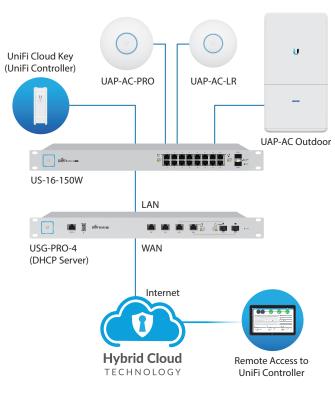
The UniFi Cloud Key includes the pre-installed UniFi Controller software.

# **System Requirement**

Web Browser: Google Chrome, Mozilla Firefox, Microsoft Edge, or Microsoft Internet Explorer 11 (or above)

# **Network Topology Requirement**

A DHCP-enabled network (for the UniFi Cloud Key to obtain an IP address)



Sample Network Diagram

# **Software Installation**

After you follow the hardware installation instructions in the UniFi Cloud Key Quick Start Guide, use one of the following methods to launch the software:

- If you are using Chrome, go to the *Chrome Instructions* section (recommended).
- If you are using a different web browser, go to <u>"Instructions for Other Web Browsers" on page 7.</u>

#### **Chrome Instructions**

- 1. Ensure that your host system is on the same Layer-2 network as the UniFi Cloud Key.
- Launch the Chrome web browser and type https://unifi.ubnt.com in the address field. Press enter (PC) or return (Mac).



Enter the username and password for your UBNT account. Click Sign In.



4. Click Find Cloud Key.



- Note: The default fallback IP address of the UniFi Cloud Key is 192.168.1.30.
- 5. If the Ubiquiti<sup>®</sup> Device Discovery Tool is already installed, proceed to step 7.

If the tool is not installed, you will be prompted to add it. Proceed to step 6.

- 6. To install the tool:
  - a. Click Install.



b. Click Add app to confirm.



7. The Ubiquiti Device Discovery Tool will search for the UniFi Cloud Key. Select it to continue.



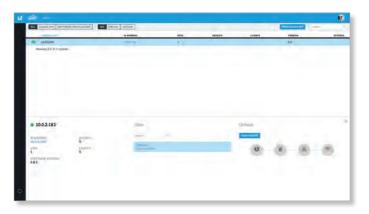
- 8. Configure the UniFi Controller:
  - a. Select the appropriate country.
  - b. Select the appropriate time zone.
  - c. Enter an admin name in the *Admin Name* field and a password in the *Password* field to use when accessing the management interface.
  - d. Confirm your password in the Confirm Password field
  - e. Keep the IP address or enter a hostname in the *Controller Hostname* field.
  - f. If you want to set up an SSH login for management access to the UniFi Cloud Key, then select **Use non-default SSH credentials**. Enter a username in the *SSH Username* field, and enter a password in the *SSH Password* field.
  - g. Click Submit to save your changes.



Wait for the UniFi Controller to be adopted, and then select it.



10. Click Launch Site.



A login screen will appear for the UniFi Controller management interface. Enter the admin name and password that you created and click **Login**.



Proceed to <u>"Using the UniFi Controller Software" on</u> <u>page 17</u> for information on using the UniFi Controller software.



Note: A future feature will enable backup of the UniFi Controller database and configuration on the included microSD card.

## **Instructions for Other Web Browsers**

- 1. Ensure that your host system is on the same Layer-2 network as the UniFi Cloud Key.
- 2. The UniFi Cloud Key is set to *DHCP* by default, so it will try to automatically obtain an IP address. Assign a specific IP address to the UniFi Cloud Key, or check the DHCP server for its IP address.

Note: The default fallback IP address of the UniFi Cloud Key is 192.168.1.30.

3. Launch the web browser. In the address field, type https:// followed by the appropriate IP address. Press enter (PC) or return (Mac).



4. Click Manage to run the UniFi Setup Wizard.



- Note: You can click *Configure* to change the settings of the UniFi Cloud Key (refer to "UniFi Cloud Key Configuration" on page 8 for more information). The default login is *ubnt/ubnt* or *root/ubnt*.
- 5. The *UniFi Setup Wizard* screen appears. Alternatively, you can click **restore from a previous backup** to use a file that contains your backup settings. Click **Next**.





Note: U.S. product versions are locked to the U.S. Country Code to ensure compliance with FCC regulations.

6. Select the devices that you want to configure and click **Next**.



7. The UniFi Setup Wizard will create a secure primary wireless network for your devices.



#### Perform the following steps:

- a. Enter the wireless network name (SSID) in the Secure SSID field.
- b. Enter a passphrase to be used for your primary network in the *Security Key* field.
- To enable guest access, select Enable Guest Access, and enter a guest network name in the Guest SSID field.
- d. Click Next.

8. Create the super admin for your UniFi Controller.



Perform the following steps:

- a. Enter an admin name in the Admin Name field.
- b. Enter an email address in the Admin Email field.
- c. Enter a password in the *Password* field to use when accessing the management interface as a super admin.
- d. Confirm your password in the *Confirm Password* field.
- e. Click Next.



Note: Only the super admin – not any site admin – can view devices that are *Pending Approval* and then adopt them on the UniFi Controller. Ensure that you save the super admin login information for future use.

 Review your settings. Click **Finish** to save your settings or click *Back* to make changes. Once the wizard is finished, the browser will be redirected to the management interface.



Congratulations, your wireless network is now configured.

A login screen will appear for the UniFi Controller management interface. Enter the admin name and password that you created and click **Login**.



Proceed to <u>"Using the UniFi Controller Software" on</u> <u>page 17</u> for information on using the UniFi Controller software.



Note: A future feature will enable backup of the UniFi Controller database and configuration on the included microSD card.

# **UniFi Cloud Key Configuration**

# **Login Instructions**

- 1. Ensure that your host system is on the same Layer-2 network as the UniFi Cloud Key.
- The UniFi Cloud Key is set to DHCP by default, so it will try to automatically obtain an IP address. Assign a specific IP address to the UniFi Cloud Key, or check the DHCP server for its IP address.



Note: The default fallback IP address of the UniFi Cloud Key is 192.168.1.30.

3. Launch the web browser. In the address field, type https:// followed by the appropriate IP address. Press enter (PC) or return (Mac).



- 4. You have two options:
  - Manage Click Manage to access the UniFi
     Controller. Proceed to "Using the UniFi Controller

     Software" on page 17 for more information.
  - Configure Click Configure to change the settings of the UniFi Cloud Key.



 After you click Configure, enter the Username and Password (the default login is ubnt/ubnt). Then click Login.

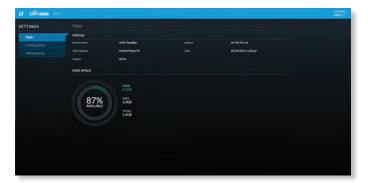


The Main screen will appear.

# **Navigation Bar**

The UniFi Cloud Key configuration consists of three primary pages:

- Main (see next column)
- "Configuration" on page 10
- "Maintenance" on page 10



#### Username

At the top right of each screen, click the *Username* to display the *Change Password* and *Logout* options:



**Change password** To change the password, click or Change password. The *Change Password* screen will appear:

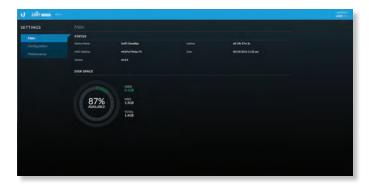


- **Old password** Enter the current password (the default is *ubnt*).
- New password Enter the new password.
- Confirm Password Enter the new password again.
- Submit Click Submit to apply changes.
- Cancel Click Cancel to discard changes.

**Logout** To manually sign out of the UniFi Cloud Key configuration, click ← Logout.

#### Main

The *Main* screen displays basic status information about the UniFi Cloud Key.



#### **Status**

**Device Name** Displays the hostname or alias of the UniFi Cloud Key.

**MAC Address** Displays the MAC address or hardware identifier of the UniFi Cloud Key.

**Version** Displays the version number of the UniFi Cloud Key firmware.

**Uptime** Displays the duration of time the UniFi Cloud Key has been running.

Date Displays the current date and time.

### **Disk Space**

Available Displays the percentage of available disk space.

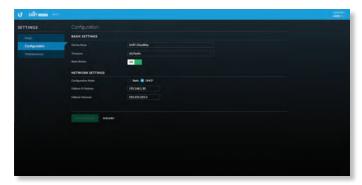
**Used** Displays the amount of used disk space.

Free Displays the amount of available disk space.

**Total** Displays the total amount of disk space.

# Configuration

The *Configuration* screen allows you to configure the basic and network settings of the UniFi Cloud Key.



## **Basic Settings**

**Device Name** Enter a descriptive name or identifier for the UniFi Cloud Key. Also known as a host name.

**Time Zone** Select the appropriate time zone.

**Reset Button** Use of the hardware *Reset* button on the UniFi Cloud Key is enabled by default. To prevent an accidental reset to default settings, click to toggle *Off*.

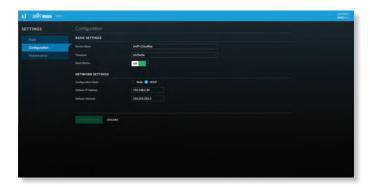
### **Network Settings**

**Configuration Mode** Select the Internet connection type for your service: **Static** or **DHCP**.

- Static The service provider assigns fixed network settings to your service for manual entry. Enter the following information:
  - IP address Enter the Internet IP address of the UniFi Cloud Key.
  - Netmask Enter the subnet mask of the UniFi Cloud Key.
  - Gateway Enter the IP address of the network's gateway router.
  - Primary DNS Enter the IP address of the network's primary DNS server.
  - Secondary DNS Enter the IP address of the network's secondary DNS server.



- DHCP The use of the Dynamic Host Configuration Protocol (DHCP) is the default. The UniFi Cloud Key automatically acquires network settings from the network's DHCP server.
  - Fallback IP Address Enter the IP address for the UniFi Cloud Key to use if an external DHCP server is not found.
  - Fallback Netmask Enter the netmask for the UniFi Cloud Key to use if an external DHCP server is not found.



**Apply Changes** Click **Apply Changes** to save changes.

**Discard** Click *Discard* to cancel changes.

# Maintenance

The Maintenance screen contains administrative options, so you can change the password, reboot the UniFi Cloud Key, power it off, reset it to factory defaults, upgrade the UniFi Cloud Key firmware, or upgrade the UniFi Controller software.



UniFi Controller User Guide Chapter 2: UniFi Cloud

#### **Security**

**Password** To change the password, click **Change Password**. The *Change Password* screen will appear:



- Old password Enter the current password (the default is *ubnt*).
- New password Enter the new password.
- Confirm Password Enter the new password again.
- Submit Click Submit to apply changes.
- Cancel Click Cancel to discard changes.

#### Maintenance

**Reboot** Click **Reboot** to powercycle the UniFi Cloud Key.

Power Off Click Power Off to turn off the UniFi Cloud Key.

**Reset to Defaults** Click **Reset to Defaults** to reset the UniFi Cloud Key to its factory default settings. This option will reboot the UniFi Cloud Key, and all factory default settings will be restored.



Note: We recommend that you back up your UniFi Controller configuration (refer to <u>"Backup" on page</u> <u>37</u> for more information) before resetting the UniFi Cloud Key to its defaults.

#### **Firmware**

**Version** Displays the version number of the UniFi Cloud Key firmware.

**Check for Updates** Click **Check for Updates** to see if there is a newer firmware version. If there is, then you can follow the on-screen instructions to upgrade now.

**Update Manually** Click **Update Manually** to update the firmware. The *Please Confirm Update* screen will appear.

#### You have two options:

 upload file If you have the firmware saved in a specific location, then click Select File to browse for the file.



 get file from URL If you know the URL of the firmware's location, then enter it in the URL field.



- Update Click Update to proceed with the update.
- Cancel Click Cancel to skip the update.



Note: Updating the UniFi Cloud Key firmware will also update the UniFi Controller software. We recommend that you back up your UniFi Controller configuration (refer to "Backup" on page 37 for more information) before updating the UniFi Cloud Key firmware.

#### UniFi

**Version** Displays the version number of the UniFi Controller software.

**Check for Updates** Click **Check for Updates** to see if there is a newer software version. If there is, then you can follow the on-screen instructions to upgrade now.



Note: We recommend that you back up your UniFi Controller configuration (refer to <u>"Backup" on page</u> <u>37</u> for more information) before upgrading.

# UniFi Cloud Account

You must be a super admin for initial cloud management. Once cloud access is enabled by the super admin, then any other admin can also enable cloud access.



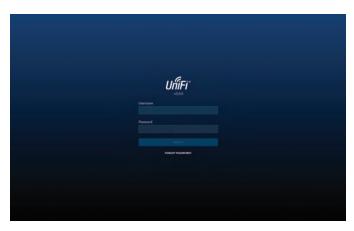
Note: The cloud account is also known as the Single Sign-On (SSO) account.

# **Login Instructions**

1. Launch the Chrome web browser and type https:// followed by the appropriate Controller Hostname/IP address as specified in <u>"Settings ></u> Controller" on page 35. Press enter (PC) or return (Mac).



2. Enter the username and password for your UBNT account. Click Sign In.





Note: If you do not have an account, click Register and follow the on-screen instructions.

A list of UniFi Controllers will appear.



You can apply one of the following primary filters:

- · All Displays all UniFi Controllers
- Cloud Key Only displays UniFi Cloud Keys.
- Software Installation Only displays instances of software installations.

A secondary filter is available:

- All Displays all UniFi Controllers.
- Online Only displays online UniFi Controllers.
- Offline Only displays offline UniFi Controllers.

Find Cloud Key Click to discover a UniFi Cloud Key on your local network.

Search Search Enter the text you want to search for. Simply begin typing; there is no need to press Enter.

You can click any of the column headers to change the list order.

(icon) Displays the icon corresponding to the device running the UniFi Controller. Green indicates an active UniFi Controller. Gray indicates an inactive UniFi Controller.



UniFi Cloud Key



Computer

**Controller** Displays the hostname, alias, or MAC address of the device running the UniFi Controller. You can click the name to get additional details at the bottom of the screen. (Go to "Additional Details" on page 14 for more information.)

IP Address Displays the IP address of the device running the UniFi Controller.

**Sites** Displays the total number of sites managed by the UniFi Controller.

**Devices** Displays the total number of devices managed by the UniFi Controller.

**Clients** Displays the total number of clients on the sites managed by the UniFi Controller.

**Version** Displays the software version number of your UniFi Controller.

**Actions** Click a button to perform the desired action:

• Remove Click 

REMOVE to remove the UniFi Controller from your cloud account.

**Chat** At the lower left of the screen, click open a window for online chat support.

## **Admin**

At the top right of the screen, click to display the My Account and Sign Out options:



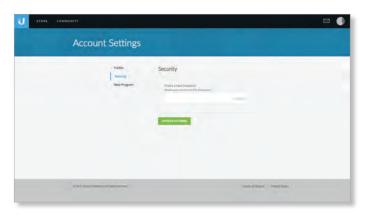
UniFi Controller User Guide Chapter 2: UniFi Cloud

**My Account** To change your account settings and/or password, click My Account . The *Account Settings* screen will appear:



There are three pages available:

- Profile Access your account settings:
  - First Name Enter your first name.
  - Last Name Enter your last name.
  - Username Enter your login username.
  - Email Enter the email address of your cloud account.
  - Update Settings Click to apply your changes.
- Security Change your account password:
  - **Create a New Password** Enter a new password with at least eight characters.
  - Update Settings Click to apply your changes.



• **Beta Program** Follow the on-screen instructions if you want to join the beta program.

Sign Out To manually sign out of the cloud account, click Sign Out

# **Find Cloud Key**

To add a UniFi Cloud Key, click **Find Cloud Key** at the top right of the screen. The *Find Cloud Key* screen will appear:



# **Adopt**

**IP address** Displays the IP address of the UniFi Cloud Key. **(status)** Displays the status information: *Pending Adoption*.

**mac** Displays the MAC address or hardware identifier of the UniFi Cloud Key.

**firmware** Displays the firmware version number of the UniFi Cloud Key.

**Adopt** Click to adopt the UniFi Cloud Key. Refer to step 8 of <u>"Chrome Instructions" on page 5</u> for more information.

Cancel Click to exit this screen.

## Manage



**IP address** Displays the IP address of the UniFi Cloud Key. (status) Displays the status information: *Adopted* or

Pending Adoption.

**mac** Displays the MAC address or hardware identifier of the UniFi Cloud Key.

**firmware** Displays the firmware version number of the UniFi Cloud Key.

Manage Click to configure the UniFi Cloud Key. Refer to "UniFi Cloud Key Configuration" on page 8 for more information.

**Cancel** Click to exit this screen.

# **Additional Details**

Select a UniFi Controller to display more information at the bottom of the screen.



 (icon) Green indicates an active UniFi Controller. Gray indicates an inactive UniFi Controller.

#### **Overview**

- (controller\_name) Displays the Controller Hostname/IP address as specified in <u>"Settings > Controller" on page</u>
   35.
- IP Address Displays the IP address of the device running the UniFi Controller.
- Sites Displays the total number of sites managed by the UniFi Controller.
- Devices Displays the total number of devices managed by the UniFi Controller.
- Clients Displays the total number of clients on the sites managed by the UniFi Controller.
- **Software Version** Displays the software version number of your UniFi Controller.
- Actions Click a button to perform the desired action:
  - Remove Click REMOVE to remove the UniFi Controller from your cloud account.

#### Sites

- Search Search Search Search For. Simply begin typing; there is no need to press Enter.
- (site\_name) Displays the name of the site. You can click the name to get additional details on the right.
- (Unread Alerts) Oisplays the number of unread alerts.

### (site name)

 Launch Site Click Launch Site to access the UniFi Controller. Proceed to <u>"Using the UniFi Controller</u> <u>Software" on page 17</u> for more information.



Note: If you have an issue accessing the local Controller, then click **force WebRTC**.

- (map) Displays a visual representation of your network's status. The status of each dashboard node is indicated by color:
  - **Black** Black indicates that the Internet connection is active.
  - **Green** Green indicates that the node is active and all devices are online.



- Red Red indicates one of the following:
  - WWW Internet connectivity is down.
  - WAN The UniFi Security Gateway is offline.
  - LAN One or more Switches are offline.
  - WLAN More than half of the APs are offline.



 Gray Gray indicates that there is no Internet connection or there are no devices available for that node.

You can place the mouse over each node icon to display basic status information.

 WWW The basic details of the Internet connection are displayed.



- Gateway Displays the IP address of the service provider's gateway.
- DNS Displays the IP addresses of the Domain Name System (DNS) servers.
- IP Displays the Internet IP address of the UniFi Security Gateway.
- **Uptime** Displays the length of time the Internet connection has been active.

- Latency Displays the amount of time it takes a packet to travel from the UniFi Security Gateway to the service provider's gateway.
- Up Displays the upload rate of your Internet connection.
- Down Displays the download rate of your Internet connection.
- WAN The basic details of the UniFi Security Gateway connection are displayed.



- LAN IP Displays the local IP address of the UniFi Security Gateway.
- Clients Displays the total number of local clients.
- Up Displays the upload rate of the UniFi Security Gateway.
- Down Displays the download rate of the UniFi Security Gateway.
- LAN The basic details of the wired network(s) are displayed.



- Gateway Displays the IP address of the service provider's gateway.
- Users Displays the number of clients connected to the wired network.
- **Guests** Displays the number of clients connected to the guest wired network.
- Switches Displays the number of UniFi Switches connected to the wired network.
- Down Displays the download rate of the wired network(s).
- Up Displays the upload rate of the wired network(s).

 WLAN The basic details of the wireless network(s) are displayed.



- **Users** Displays the number of clients connected to the primary wireless network(s).
- **Guests** Displays the number of clients connected to the guest wireless network(s).
- APs Displays the number of APs in the primary wireless network(s) and the number of APs in the guest wireless network(s).
- Down Displays the download rate of the wireless network(s).
- **Up** Displays the upload rate of the wireless network(s).

# Chapter 3: Using the UniFi Controller Software

The UniFi Controller software has a browser-based interface for easy configuration and management.

To access the interface, perform the following steps:

- 1. Launch the UniFi Controller application if hasn't already been started.
  - Mac users: Go > Applications > UniFi
  - Windows users: Start > All Programs > Ubiquiti UniFi
- 2. The UniFi login screen will appear. Enter the username and password in the appropriate fields and click **Log In**.



# **Navigation Bar**

The UniFi software consists of six primary pages. This User Guide covers each page with a chapter. For details on a specific page, refer to the appropriate chapter.

- "Dashboard" on page 39
- **"Map" on page 45**
- <u>"Devices" on page 51</u>
- "Clients" on page 59
- "Statistics" on page 63
- "Insights" on page 67

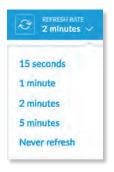
# **Common Interface Options**

The common interface options are accessible from all tabs in the UniFi interface.



#### Refresh

Click the *refresh* cicon to update the on-screen information. Click the *arrow* cicon to change the refresh interval: **15 seconds**, **1 minute**, **2 minutes** (default), **5 minutes**, or **Never refresh**.



#### **Current Site**

The UniFi Controller can manage multiple UniFi networks, which are called sites. Each site has its own configurations, maps, statistics, guest portals, and site administrator accounts. The multiple sites are logically separated, and the initial site is named *Default*.



**Current Site** To view available sites or create a new site, click the *arrow* icon.

Sites overview To display a list of available sites, click
 Sites overview. The Sites Overview screen will appear.



Each site is displayed with the following:

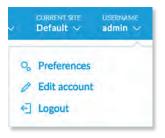
- Name Displays the name of the site.
- WAN The <sup>Ø</sup> icon is color-coded to display the WAN connection status. Green indicates active; red indicates inactive.
- LAN The icon is color-coded to display the wired network connection status. Green indicates active; red indicates inactive.
- Active Displays the number of active wired devices.
- Inactive Displays the number of inactive wired devices.
- **Pending** Displays the number of wired devices pending adoption.
- WLAN The <sup>®</sup> icon is color-coded to display the sireless network connection status. Green indicates active; red indicates inactive.
- Active Displays the number of active wireless devices.
- **Inactive** Displays the number of inactive wireless devices.
- Pending Displays the number of wireless devices pen adoption.
- **Users** Displays the number of wireless users and wired users a.
- **Guests** Displays the number of wireless guests <sup>at</sup> and wired guests <sup>at</sup>.
- Add new site To create a new site, click + Add new site, and the Add a New Site screen will appear:



- **Site Name** Enter a name that describes the site. It will be used in the *Current Site* drop-down menu.
- Cancel Click to discard changes.
- Submit Click to save changes.

#### Username

At the top right of the screen, click the **Username** to display the *Preferences*, *Edit Account*, and *Logout* options:

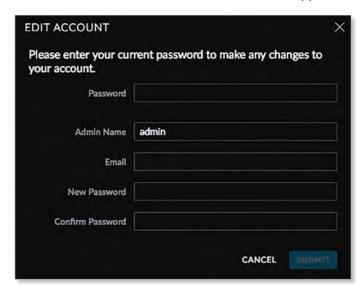


**Preferences** To change the UI settings, click Preferences.



- Dark settings Enabled by default. A dark theme is used on the Settings screens.
- Condensed view Enabled by default. The table padding is condensed and the font size is minimized to fit as much data on the screen as possible.
- Responsive tables Disabled by default. If enabled, the Responsive tables option removes columns on smaller-sized browsers to prevent excessive scrolling when the table columns are not customized.
- Inline property panel Enabled by default. When the
  property panel is inline, it compresses the main content
  when it is open. When the property panel is not inline, it
  opens on top of the content, as a popup.
- Language Select the appropriate language.
- Alerts position Select the position you want alerts to appear: Top left, Top center, Top right, Bottom left, Bottom center, or Bottom right.
- Date format Enter the format you want to use. The default is MM/DD/YYYY.
- Time format Enter the format you want to use. The default is hh:mm a.
- Datetime format Enter the date and time format you want to use. The default is MM/DD/YYYY hh:mm a. Click Learn more for more information about date and time format options.
- Cancel Click to discard changes.
- Reset to Defaults Click to reset to factory defaults.

**Edit Account** To change the login name and/or password, click **Edit account**. The **Edit Account** screen will appear:



- Password Enter your current password.
- · Admin Enter the admin name.
- Email Enter the email address of the admin account.
- New Password Enter the new password.
- Confirm Password Enter the new password again.
- · Submit Click to apply changes.
- Cancel Click to discard changes.

**Logout** To manually sign out of the UniFi Configuration Interface, click ← Logout.

# **Properties**

The *Properties* panel is hidden by default. To display it, select a device.

Information about each selected device appears as a popup within this panel. The information varies depending on the device type. For more information, see the appropriate chapter:

- "UniFi Security Gateway Details" on page 77
- "UniFi Switch Details" on page 85
- "UniFi Access Point Details" on page 95
- "UniFi VolP Phone Details" on page 107
- "Client Details" on page 109

### **Controls and Live Chat**

At the bottom left of the screen, there are four controls:

- *<sup>™</sup> Events* (see the next column)
- Alerts (see "Alerts" on page 20)
- Settings (see <u>"Settings" on page 20</u>)
- Chat with Us (see <u>"Chat with Us" on page 38</u>)

#### **Events**



**Maximize/Minimize** Click  $\checkmark$ <sup>7</sup> to maximize the screen size. Click again to minimize the screen size.

Close Click  $\times$  to close the screen.

**Show** Filter recent events based on the time period you specify. Select **Last hour**, **Last 8 hours**, **Last 24 hours**, **Last 48 hours**, **7 days**, **2 weeks**, or **30 days**.

You can apply one of the following filters:

- All Display all of the recent events.
- Admin Only display recent events for the administrator.
- LAN Only display recent events for the wired network.
- WLAN Only display recent events for the wireless networks.

Search Search You can enter text that you want to search for. Simply begin typing; there is no need to press **Enter**.

#### **Icons**

The messages use the following icons (not all are shown here):

- Scheduled for upgrade
- UniFi Security Gateway
- UniFi Access Point
- UniFi VoIP Phone

## **Clicking an Event Device Link**

The messages have clickable links for client and UniFi

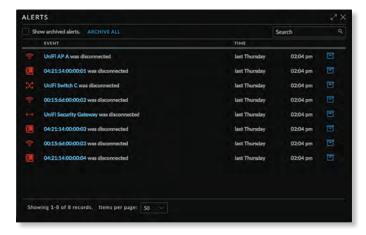
- "UniFi Security Gateway Details" on page 77
- "UniFi Switch Details" on page 85
- "UniFi Access Point Details" on page 95
- "UniFi VoIP Phone Details" on page 107
- "Client Details" on page 109

#### **Alerts**

When there is a new alert, an orange icon displaying the number of new alerts appears.



The Alerts  $\,^{\triangle}$  tab displays a list of important events, along with the corresponding device icon, device name, message, date, and time.



**Maximize/Minimize** Click <sup>1</sup> to maximize the screen size. Click again to minimize the screen size.

**Close** Click  $\times$  to close the screen.

**Show archived alerts** Select this option to display all of the archived alert messages.

**Archive All** Click **Archive All** to archives all of the alert messages.

Search Search You can enter text that you want to search for. Simply begin typing; there is no need to press **Enter**.

**Archive** Click to archive the selected alert message.

#### **Icons**

The messages use the following icons (not all are shown here):

- UniFi Security Gateway
- UniFi Switch
- UniFi Access Point
- UniFi VoIP Phone

# **Clicking an Alert Device Link**

The messages have clickable links for client and UniFi devices:

- "UniFi Security Gateway Details" on page 77
- "UniFi Switch Details" on page 85
- "UniFi Access Point Details" on page 95
- "UniFi VoIP Phone Details" on page 107
- · "Client Details" on page 109

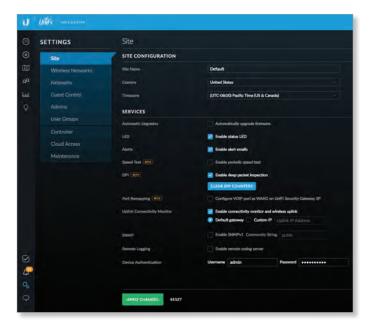
# **Settings**

The Settings % tab displays a list of available sub-tabs:

- Site Site-related settings.
- Wireless Networks Wireless network and group setup, including Zero Handoff Roaming.
- Networks Wired network setup.
- Guest Control Guest portal and policies.
- Admins Admin accounts and privileges.
- · User Groups User group settings.
- Controller Identity, discovery, and email server settings.
- Cloud Access Cloud login credentials.
- Maintenance System configuration backup, system configuration restore, and support files.

# **Settings > Site**

Configure the site-specific settings. To switch sites, select a different site from the *Current Site* drop-down menu at the top of any screen.



## **Site Configuration**

Site Name Change the name of the site.

**Country** Select the appropriate country.

**Time Zone** Select the appropriate time zone.

#### **Services**

**Automatic Upgrade** When enabled, the UniFi Controller will automatically upgrade your firmware when an update is available.

**LED** When enabled, the LEDs on the UniFi devices will light up. When disabled, the LEDs will turn off.

**Alerts** Select this option to enable alert emails, which will be sent to the email addresses of the administrators.

**Speed Test (Beta)** When enabled, you can run a periodic speed test.

**DPI (Beta)** Deep Packet Inspection (DPI) is more advanced than conventional Stateful Packet Inspection (SPI) filtering for traffic analysis. Ubiquiti's proprietary DPI engine includes the latest application identification signatures to track which applications (and IP addresses) are using the most bandwidth.

 Clear DPI Counters Click to delete all collected DPI data. Click Confirm or Cancel.



Note: The DPI feature requires use of the UniFi Security Gateway.

**Port Remapping (Beta)** When enabled, the VOIP port on the UniFi Security Gateway, model USG, will be remapped as a WAN2 port.

**Uplink Connectivity Monitor** It monitors the uplinks of the managed APs, either wired or wireless, by checking to see if the gateway/custom IP can be reached. The monitor and wireless uplink capability are enabled by default.

- Default Gateway Enabled by default. All managed APs will use the gateway of the AP that is providing IP information, either by DHCP or Static designation.
- Custom IP Click to specify an IP address.
  - Uplink IP Address All managed APs will use the IP address you enter.

**SNMP** Select this option to activate the SNMP (Simple Network Monitor Protocol) agent. SNMP is an application layer protocol that facilitates the exchange of management information between network devices. Network administrators use SNMP to monitor network-attached devices for issues that warrant attention.

Community String Specify the SNMP community string. It is required to authenticate access to MIB (Management Information Base) objects and functions as an embedded password. The device supports a read-only community string; authorized management stations have read access to all the objects in the MIB except the community strings, but do not have write access. The device supports SNMP v1. The default is public.

**Remote Logging** Enable to define a remote syslog server.

- Remote IP Address Enter the IP address of the syslog server.
- Port Enter the port number of the syslog server. The default is 514.

**Device Authentication** This option protects SSH access to the UniFi devices. All devices in the same site share the same SSH username and password. You can also make changes:

- Username Enter the new username.
- Password Enter the new password.

**Apply Changes** Click to save changes.

Reset Click to cancel changes.

## **Settings > Wireless Networks**

Configure the wireless networks for each site. You can have up to four wireless network names or SSIDs per WLAN group.



**WLAN Group** The *Default* WLAN group is automatically created.



**Add a New WLAN Group** To add a new WLAN group, click the  $\,^+$  button. Go to the *Add or Edit a WLAN Group* section.

## Add or Edit a WLAN Group



- Name Enter or edit a descriptive name for the WLAN group.
- Mobility To enable seamless roaming (Zero Handoff), select the checkbox.



Note: The UAP-AC, UAP-AC-Outdoor, UAP-AC-LITE, UAP-AC-LR, UAP-AC-PRO, and UAP-AC-EDU do not support Zero Handoff Roaming.

When you enable this option, multiple Access Points (APs) act as an AP cluster, appearing as a single AP. The wireless client detects only one AP, so it seamlessly roams from AP to AP – there is no need to re-negotiate. The APs determine which AP has the best connection and should serve the client. They use multicasting to communicate so they must be wired in the same Layer 2 domain.

Zero Handoff Roaming does not support wireless uplinks and can only be used on a secured network. It is also not meant for all scenarios. For example, if there is too much load or interference, then Zero Handoff Roaming may not be appropriate for your scenario.



Configure the following options:

- Radio Select the appropriate radio, 2G or 5G.
- Channel Select the channel that all of the APs will use for Zero Handoff Roaming.

**Load Balancing** (Not available if you enabled the *Mobility* option.) Select this option to balance the number of clients you specify per radio. Then enter the number of clients in the field provided.

**Legacy Support** (Not available if you enabled the *Mobility* option.) By default, legacy devices, such as 802.11b devices, are excluded. Select this option if you want to support legacy devices.

Save Click to apply changes.

Cancel Click to discard changes.

For each WLAN group, you have the following:

 Remove a WLAN Group To remove a WLAN group (except for the *Default*, which cannot be removed), select it from the drop-down menu, and then click the delete button.



 Options To make changes, select the WLAN group from the drop-down menu, and then click the *edit* 

 button.

 Go to "Add or Edit a WLAN Group" on page 21.

#### **Wireless Networks**

Name/SSID Displays the wireless network name or SSID.

**Security** Displays the type of security being used on your wireless network.

**Guest Network** Indicates whether or not the network is a guest network.

**Actions** Click a button to perform the desired action:

- Edit Click or to make changes to the wireless network settings. Go to the *Create or Edit a Wireless Network* section in the next column.
- Delete Click to remove the wireless network.

Create Wireless Network Click + CREATE NEW WIRELESS NETWORK to add a wireless network. Go to the Create or Edit a Wireless Network section in the next column.

#### Create or Edit a Wireless Network



- Name/SSID Enter or edit the wireless network name or SSID.
- **Enabled** Select this option to make this network active.
- Security Select the type of security to use on your wireless network.
  - Open This option is typically only used on the guest network. When enabled, wireless network access is open to anyone without requiring a password.
  - WEP WEP (Wired Equivalent Privacy) is the oldest and least secure security algorithm. WPA™ security methods should be used when possible.



 WEP Key Enter a WEP encryption key in hexadecimal format. You can enter a 64-bit or 128-bit key:

Туре	Нех
64-bit	10 Hexadecimal Characters (0-9, A-F, or a-f) Example: <b>00112233AA</b> Note: You can use 5 printable characters, which will be translated to the corresponding HEX code.
128-bit	26 Hexadecimal Characters (0-9, A-F, or a-f) Example: 00112233445566778899AABBCC Note: You can use 13 printable characters, which will be translated to the corresponding HEX code.

- Key Index Specify which Index of the WEP Key to use. Four different WEP keys can be configured at the same time, but only one is used. Select the effective key: 1, 2, 3, or 4.
- WPA-Personal WPA or Wi-Fi Protected Access was developed as an encryption method stronger than WEP. WPA-Personal requires a passphrase to connect to the wireless network.



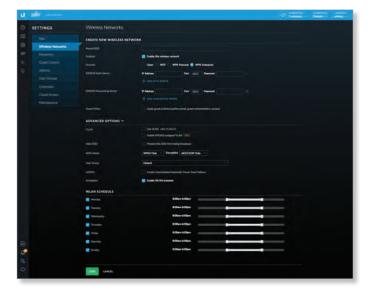
 Security Key Enter the passphrase that users will use to connect to the wireless network.  WPA-Enterprise WPA Enterprise uses a RADIUS server to authenticate users on the wireless network.



- RADIUS Auth Server Provide the following information about the RADIUS authentication server:
  - IP Address Enter the IP address.
  - Port Enter the port number. The default is 1812.
  - Password Enter the password.
  - Delete Click the delete icon to remove this authentication server.
  - Add Auth Server If you have another authentication server, click this option and complete the IP Address, Port, and Password fields.
- RADIUS Accounting Server Provide the following information about the RADIUS server:
  - IP Address Enter the IP address.
  - Port Enter the port number. The default is 1813.
  - Password Enter the password.
  - Delete Click the delete icon to remove this accounting server.
  - Add Accounting Server If you have another accounting server, click this option and complete the IP Address, Port, and Password fields.
- **Guest Policy** Select this option to enable guest access policies on this wireless network.

#### **Advanced Options**

Click to display options for advanced users.



- VLAN To use a VLAN, select Use VLAN ID and enter the VLAN ID number. If you enable WPA Enterprise, you have another option:
  - Enable RADIUS assigned VLAN (beta) Select this option to allow the RADIUS server to dynamically assign a VLAN to a wireless client.
- Hide SSID Select this option if you don't want the wireless network name or SSID to be broadcast.
- WPA Mode (Available if WPA security is enabled.) Select the appropriate WPA method: Both, WPA1 Only, or WPA2 Only (default).
- **Encryption** Select the appropriate encryption method: **Auto, TKIP Only,** or **AES/CCMP Only** (default).
- User Group Assign wireless users to a specific user group. For more information about user groups, see "Settings > User Groups" on page 34.
- UAPSD Disabled by default. Unscheduled Automatic Power Save Delivery. Select this option to enable the power save mode of Wi-Fi devices.
- Scheduled Select Enable WLAN Schedule to restrict wireless access to the schedule you set.
  - Monday-Sunday Select the days you want to schedule.
  - **Hours** Use the sliders to select the start and end times of the day's wireless access.
- · Save Click to apply changes.
- Cancel Click to discard changes.

### **Settings > Networks**

Configure the networks for each site.



#### **Networks**

Name Displays the network name.

Purpose Displays a description of this network.

**Subnet** Displays the IP address and prefix size.

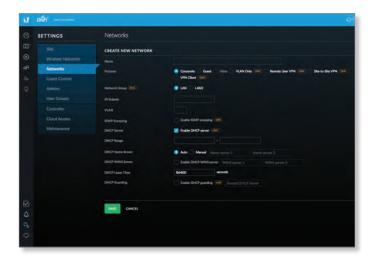
VLAN Displays the VLAN ID, if applicable.

**Actions** Click a button to perform the desired action:

- Edit Click to make changes to the network settings. Go to "Create or Edit a Network" on page 24.
- Delete (Not available for the default network.) Click

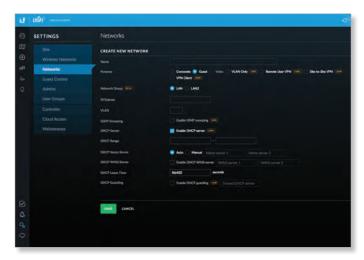
Create New Network Click + CREATE NEW NETWORK to add a network. Go to \*\*Create or Edit a Network\*\* on page 24.

#### Create or Edit a Network



- Name Enter or edit the network name.
- Purpose Select the most appropriate description: Corporate, Guest, Voice, VLAN Only, Remote User VPN, Site-to-Site VPN, or VPN Client. Then follow the instructions for your selection:

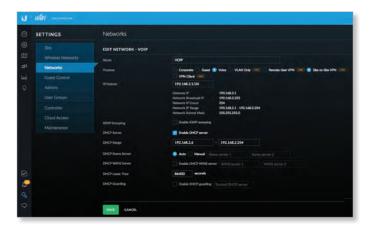
**Corporate or Guest Network** 



- Network Group (Beta) Select the appropriate option, LAN or LAN2.
- IP/Subnet Enter the IP address and prefix size.
- VLAN (Not available for the default Corporate network, LAN.) Enter the VLAN ID.
- IGMP Snooping Select this option to monitor IGMP (Internet Group Management Protocol) traffic and thereby manage multicast traffic.
- DHCP Server Enabled by default. The local DHCP server assigns IP addresses to DHCP clients on the network.
- DHCP Range Enter the starting and ending IP addresses of the range in the fields provided.
- DHCP Name Server Configure the name or DNS (Domain Name System) server setting.

- **Auto** Enabled by default. Name servers are automatically assigned by the DHCP server.
- **Manual** Select this option to manually select name servers.
  - Name Server 1/2 Enter the IP address of the name server in each field.
- DHCP WINS Server Select this option to designate WINS (Windows Internet Naming Service) server(s).
  - WINS Server 1/2 Enter the IP address of the WINS server in each field.
- DHCP Lease Time The IP addresses assigned by the DHCP server are valid only for the duration specified by the lease time. Increasing the time ensures client operation without interruption, but could introduce potential conflicts. Decreasing the lease time avoids potential address conflicts, but might cause more slight interruptions to the client while it acquires a new IP address from the DHCP server. Enter the number of seconds.
- DHCP Guarding Disabled by default. Select this option to detect and block unauthorized DHCP servers.
  - Trusted DHCP Server IP Enter the IP address of the trusted DHCP server.
- Save Click to apply changes.
- Cancel Click to discard changes.

Voice



If you previously enabled VoIP, then there is a *Voice* network; otherwise this network option is not available.

- IP/Subnet Enter the IP address and prefix size. The Gateway IP, Network Broadcast IP, Network IP Count, Network IP Range, and Network Subnet Mask are displayed.
- IGMP Snooping Select this option to monitor IGMP (Internet Group Management Protocol) traffic and thereby manage multicast traffic.
- **DHCP Server** Enabled by default. The local DHCP server assigns IP addresses to DHCP clients on the network.
- DHCP Range Enter the starting and ending IP addresses of the range in the fields provided.

- DHCP Name Server Configure the name or DNS (Domain Name System) server setting.
  - **Auto** Enabled by default. Name servers are automatically assigned by the DHCP server.
  - Manual Select this option to manually select name servers.
    - Name Server 1/2 Enter the IP address of the name server in each field.
- DHCP WINS Server Select this option to designate WINS (Windows Internet Naming Service) server(s).
  - WINS Server 1/2 Enter the IP address of the WINS server in each field.
- DHCP Lease Time The IP addresses assigned by the DHCP server are valid only for the duration specified by the lease time. Increasing the time ensures client operation without interruption, but could introduce potential conflicts. Decreasing the lease time avoids potential address conflicts, but might cause more slight interruptions to the client while it acquires a new IP address from the DHCP server. Enter the number of seconds.
- DHCP Guarding Select this option to detect and block unauthorized DHCP servers.
  - Trusted DHCP Server IP Enter the IP address of the trusted DHCP server.
- Save Click to apply changes.
- Cancel Click to discard changes.

**VLAN Only** 

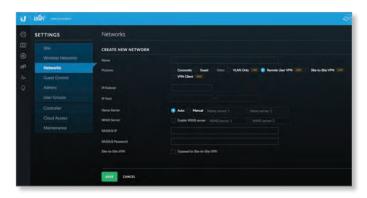
The UniFi Switch is required for this option.



- VLAN Enter the ID number of the VLAN. Devices belonging to the same VLAN communicate as if they were attached to the same wire. Every VLAN ID represents a different VLAN. The VLAN ID range is 2 to 4009.
- IGMP Snooping Select this option to monitor IGMP (Internet Group Management Protocol) traffic and thereby manage multicast traffic.
- DHCP Guarding Select this option to detect and block unauthorized DHCP servers.
  - Trusted DHCP Server IP Enter the IP address of the trusted DHCP server.
- Save Click to apply changes.
- Cancel Click to discard changes.

#### **Remote User VPN**

The UniFi Security Gateway is required for this option.



- IP/Subnet Enter the IP address and prefix size.
- IP Pool The starting and ending IP addresses of the pool automatically appear after you complete the IP/Subnet field.
- Name Server Configure the name or DNS (Domain Name System) server setting.
  - **Auto** Enabled by default. Name servers are automatically assigned by the DHCP server.
  - Manual Select this option to manually select name servers.
    - Name Server 1/2 Enter the IP address of the name server in each field.
- WINS Server Select this option to designate WINS (Windows Internet Naming Service) server(s).
  - WINS Server 1/2 Enter the IP address of the WINS server in each field.
- RADIUS IP Enter the IP address of the RADIUS server, which is used for authentication.
- RADIUS Password Enter the password of the RADIUS server.
- Site-to-Site VPN Enabled by default. The remote user can access the site's resources as well as the resources of any other VPNs connected to the site. If you disable this option, then the remote user can only access the site's resources.
- Save Click to apply changes.
- Cancel Click to discard changes.

#### Site-to-Site VPN

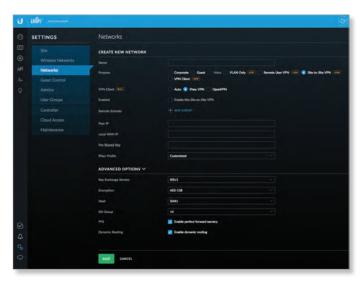
The UniFi Security Gateway is required for this option.



- VPN Client (Beta) Select the appropriate option:
  - Auto Auto is the default.
    - Remote Site Select the appropriate site from the drop-down list.



Note: If you have admin privileges for the local and remote sites, then you can view and select sites.

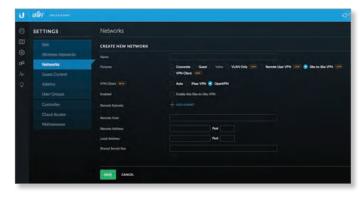


- **IPsec VPN** Select this option create a VPN that uses IPsec (IP security protocol).
  - Enabled Select this option to create an IPsec VPN tunnel over the Internet between two peer routers.
     (The UniFi Security Gateway is the local peer router.)
  - Remote Subnets Click Add Subnet to add an address for a remote network.
    - Add Subnet If you have another remote subnet, click this option and enter its network address.
  - Peer IP Enter the IP address of the peer router.
  - Local WAN IP Enter the Internet IP address of the UniFi Security Gateway.
  - Pre-Shared Key Enter the pre-shared secret key.
     Both peer routers must use the same pre-shared secret key for authentication.
  - IPsec Profile Select the appropriate option:
    - Customized Select this option to customize your settings.

- Azure dynamic routing Select this option if you are using Microsoft Azure with dynamic routing for a route-based VPN.
- Azure static routing Select this option if you are using Microsoft Azure with static routing for a policy-based VPN.
- Advanced Options Click to access the advanced configuration.
  - Key Exchange Version Both peer routers must use the same Internet Key Exchange (IKE) version.
     Select the appropriate version: IKEv1 or IKEv2.
  - Encryption Both peer routers must use the same encryption method. Select the appropriate encryption method: AES-128, AES-256, or 3DES.
  - Hash Both peer routers must use the same hash algorithm. Select the appropriate hash algorithm: SHA1 or MD5.
  - DH Group The DH (Diffie-Hellman) group specifies the strength of the DH encryption key for the key exchange. Both peer routers must use the same DH group. Select the appropriate DH group: 2, 5, 14, 15, 16, 19, 20, 21, 25, or 26. The default is 14.
  - PFS Select this option to enable PFS (Perfect Forward Secrecy), which helps enhance the security of keys.
  - Dynamic Routing Select this option to enable dynamic routing over the VPN tunnel.



Note: If you selected Azure dynamic routing or Azure static routing, then the defaults of the Advanced Options will also change accordingly.

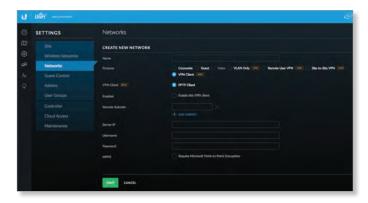


- OpenVPN Select this option to create a VPN that uses the OpenSSL (Secure Sockets Layer) library and SSL/TLS (Transport Layer Security) protocols.
  - Enabled Select this option to create an OpenVPN tunnel over the Internet between two peer routers.
     (The UniFi Security Gateway is the local peer router.)
  - Remote Subnets Click Add Subnet to add an address for a remote network.
    - Add Subnet If you have another remote subnet, click this option and enter its network address.

- Remote Host Enter the hostname of the remote router.
- Remote Address Enter the Internet IP address and port number of the remote router.
- Local Address Enter the Internet IP address and port number of the UniFi Security Gateway.
- Shared Secret Key Enter the pre-shared secret key.
   Both peer routers must use the same pre-shared secret key for authentication.
- Save Click to apply changes.
- Cancel Click to discard changes.

**VPN Client** 

The UniFi Security Gateway is required for this option.

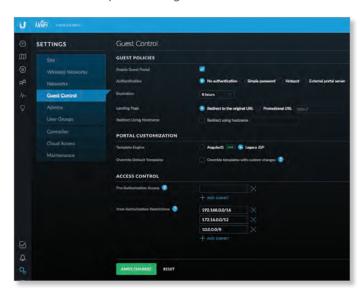


- VPN Client (Beta) PPTP Client is automatically selected.
- Enabled Select this option to enable the VPN client.
- Remote Subnets Enter the network address of the remote network.
  - Add Subnet If you have another remote subnet, click this option and enter its network address.
- Server IP Enter the IP address of the VPN server.
- Username Enter the VPN username.
- Password Enter the VPN password.
- MPPE Select this option to require MPPE (Microsoft Point-to-Point Encryption).
- Save Click to apply changes.
- · Cancel Click to discard changes.

# **Settings > Guest Control**

The Guest Control screen displays the following sections:

- Guest Policies (see below)
- "Access Control" on page 33
- <u>"Hotspot" on page 30</u> (for *Hotspot* authentication)
- "Access Control" on page 33



#### **Guest Policies**

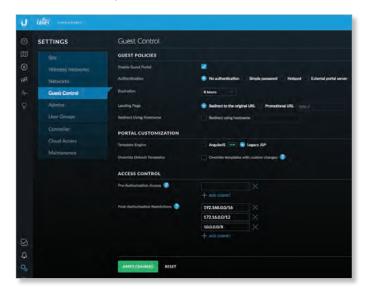
**Enable Guest Portal** Disabled by default. When disabled, guests can access the Internet without entering a password or accepting the terms of service. When this option is enabled, you can control the *Guest Portal*.

**Authentication** When the *Guest Portal* is enabled, the authentication options will appear:

- "Authentication > No Authentication" on page 27 (see below)
- "Authentication > Simple Password" on page 28
- "Authentication > Hotspot" on page 28
- <u>"Authentication > External Portal Server" on page 33</u>

**Authentication > No Authentication** 

Select this option if guests are not required to log in (you can choose to require the terms of service).



**Expiration** Specify the guest login expiration after a designated period of time: 8 hours, 24 hours, 2 days, 3 days, 4 days, 7 days, or User-defined, which can be designated in minutes, hours, and days.

**Landing Page** After connecting, guests are redirected to the landing page. Select one of the following options:

- Redirect to the original URL After connecting, guests are directed to the URL they requested.
- Promotional URL After connecting, guests are redirected to the URL that you specify. Ensure that the URL begins with http://.

Example: http://www.ubnt.com

**Redirect Using Hostname** Select this option to enter and use a hostname for the portal URL in place of the default IP address. Paired with an SSL certificate, this ensures that site certificates are displayed as trusted in the guest browser. Example: www.ubnt.com

When logging in with *No authentication*, guests can click **Connect** for immediate access.



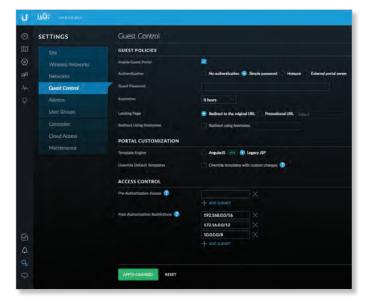
If you enable the terms of service, then guests will be required to accept the terms of use before gaining access to the Internet.



You can select **Enable terms of service** under *Settings* > *Guest Control* > *Portal Customization* to enforce selection of the terms of service by the guest. See <u>"Access Control" on page 33</u> for more information.

Authentication > Simple Password

Select this option if guests are required to enter a simple password (you can choose to require the terms of service). See <u>"Guest Policy" on page 23</u> for more information.



**Guest Password** Enter a password that guests must enter before connecting to the Internet.

**Expiration** Specify the guest login expiration after a designated period of time: 8 hours, 24 hours, 2 days, 3 days, 4 days, 7 days, or User-defined, which can be designated in minutes, hours, and days.

**Landing Page** After connecting, guests are redirected to the landing page. Select one of the following options:

- Redirect to the original URL After connecting, guests are directed to the URL they requested.
- Promotional URL After connecting, guests are redirected to the URL that you specify. Ensure that the URL begins with http://. Example: http://www.ubnt.com

**Redirect Using Hostname** Select this option to enter and use a hostname for the portal URL in place of the default IP address. Paired with an SSL certificate, this ensures that site certificates are displayed as trusted in the guest browser. Example: www.ubnt.com

When logging in with *Simple Password* authentication, guests will be required to enter the *Guest Password* before gaining access to the Internet.



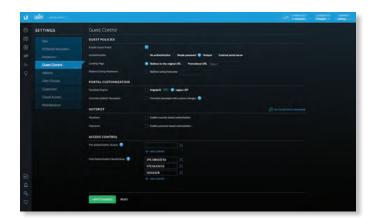
If you enable the terms of service, then guests will be required to accept the terms of use before gaining access to the Internet.



You can select **Enable terms of service** under *Settings* > *Guest Control* > *Portal Customization* to enforce selection of the terms of service by the guest. See <u>"Access Control" on page 33</u> for more information.

**Authentication > Hotspot** 

Select this option to enable *Hotspot* functionality, including the ability to customize portal login pages and bill customers using major credit cards or other supported methods. You must also select **Enable Guest Portal** under *Settings* > *Guest Control* to enforce voucher entry, payment, and selection of the terms of service by the guest. See <u>"Guest Policy" on page 23</u> for more information.



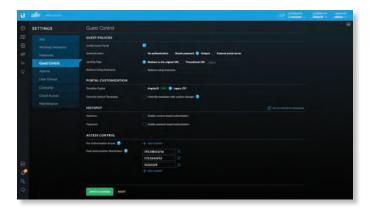
**Landing Page** After connecting, guests are redirected to the landing page. Select one of the following options:

- Redirect to the original URL After connecting, guests are directed to the URL they requested.
- Promotional URL After connecting, guests are redirected to the URL that you specify. Ensure that the URL begins with http://. Example: http://www.ubnt.com

**Redirect Using Hostname** Select this option to enter and use a hostname for the portal URL in place of the default IP address. Paired with an SSL certificate, this ensures that site certificates are displayed as trusted in the guest browser. Example: www.ubnt.com

#### **Portal Customization**

Select this option to have customized portal pages appear in place of the default login pages. (This option is not available if you are using an external portal server.)



**Template Engine** Select **AngularJS** for client-side rendering or **Legacy JSP** for server-side rendering. We recommend AngularJS unless you are using old templates.



Note: AngularJS is not compatible with old templates because the old templates were designed to work with JSP (Java Server Pages).

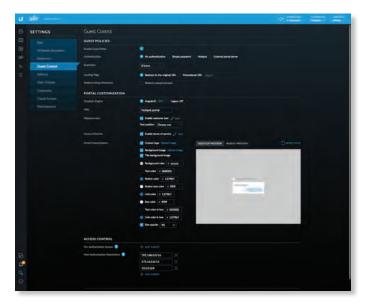
The UniFi Controller offers a built-in editor to customize AngularJS; however, it is not fully customizable at this time.

AngularJS is a single-page app, so it should work more quickly. However, AngularJS uses JS (JavaScript), which may not work with some really old web browsers or newer browsers with JS support disabled.

AngularJS uses responsive design, so it will adapt to the size of a mobile device, such as a tablet or smartphone.

Legacy JSP is fully customizable and uses old HTML, so it should work with any web browser. You can customize Legacy JSP only by overriding files. Legacy JSP works more slowly and is not responsive by default.

**AngularJS** Select **AngularJS** for client-side rendering.



- **Title** Enter the title of your portal. The default is *Hotspot portal*.
- Welcome Text Select Enable welcome text to add a welcome message.



After you have added your welcome text, click **Submit** to save your changes or click *Cancel*.

Once you have welcome text, then you can click or to make changes.

- **Text position** Select the appropriate location for the welcome text, **Under the logo** or **Above boxes**.

 Terms of Service Select Enable terms of service to add any terms of service you want hotspot users to accept.



Click **Submit** to save your changes or click *Cancel*.

Once you have the terms of service, then you can click to make changes.

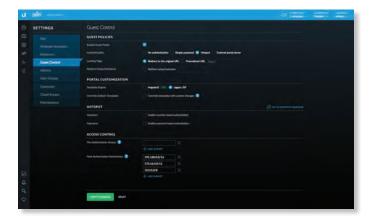
- **Portal Customization** You can make the following formatting changes:
  - Customize logo Click Upload image and select the logo you want to use. (We recommend the use of the .png format.) Then click Open.
  - Background image Click Upload image and select the image you want to use. (We recommend the use of the .jpg format.) Then click Open.
    - Tile background image Select this option if you want to repeat the background image in a tile pattern.
  - Background color Click Button color to select the appropriate color, or enter the hexadecimal HTML color value you want to use. The default is #cccccc.
  - Text color Click Button color to select the appropriate color, or enter the hexadecimal HTML color value you want to use. The default is #1379b7.
  - Button color Click Button color to select the appropriate color, or enter the hexadecimal HTML color value you want to use. The default is #1379b7.
  - Button text color Click Button text color to select the appropriate color, or enter the hexadecimal HTML color value you want to use. The default is #ffffff.
  - Link color Click Link color in box to select the appropriate color, or enter the hexadecimal HTML color value you want to use. The default is #1379b7.
  - Box color Click Box color to select the appropriate color, or enter the hexadecimal HTML color value you want to use. The default is #ffffff.
  - Text color in box Click Link color in box to select the appropriate color, or enter the hexadecimal HTML color value you want to use. The default is #000000.
  - Link color in box Click Link color in box to select the appropriate color, or enter the hexadecimal HTML color value you want to use. The default is #1379b7.
  - Box opacity You can change the opacity of the box background color. The default is 90.

- Desktop Preview Enabled by default. The Desktop Preview previews the portal in the desktop view.
- Mobile Preview Click Mobile Preview to preview the portal in the mobile view.
- Reset Style Reset Portal Customization changes to the factory defaults.



Note: At this time AngularJS does not support voucher customization; however, you can customize vouchers using the voucher.html and voucher.css files. Refer to "Customizable Default Files" on page 120 for more information.

**Legacy JSP** Server-side rendering is enabled by default.



 Override Default Templates Select this option if you want to manually edit templates. See <u>"Portal</u> Customization with Legacy JSP" on page 117 for more information.

#### **Hotspot**

When *Hotspot* authentication is selected, the *Hotspot* section is displayed.



Select the **Voucher** and/or **Payment** method of authorization:

- Vouchers Use Hotspot Manager to create vouchers (including distributable code, duration values, and use restrictions). See "Hotspot Manager" on page 113.
- Payments Set up payment-based authentication.



- Payment Packages (Available only for payment-based authentication.) There are three packages by default: Basic 8HR (\$5.99), Premium Daypass (\$8.99), and Free Trial.
  - Actions Click a button to perform the desired action:
  - Edit Click or to make changes to the package settings. Go to the Add or Edit a Package section.
  - **Delete** Click occurre to delete the package.
- Add Another Package Click + ADD ANOTHER PACKAGE to create a new package. Go to the Add or Edit a Package section.

### Add or Edit a Package



- Name Enter or edit the name of the package.
- Payment Select Free package if appropriate. (Only one free package is allowed. There is a free package by default, so unless you delete it, then this option is not available.)
- **Price** Select the appropriate currency from the drop-down menu, and then enter the price.
- Charged as Enter the text that will be shown on the credit card statement.
- Overwrite Limit Select this option if you want to overwrite the user group policy per WLAN/user.

- **Hours** Enter the number of access hours the package allows.
- **Limit Download** Enter the maximum download bandwidth in Kbps.
- **Limit Upload** Enter the maximum upload bandwidth in Kbps.
- **Limit Quota** Enter the maximum amount (in megabytes) of data transfer allowed per session.
- Submit Click to apply changes.
- Cancel Click to discard changes.
- Payment Field Options (Available only for paymentbased authentication.)
  - Enable first name field Select this option to create a field for a first name.
    - Required Select this option if you want to make this field mandatory.
  - Enable last name field Select this option to create a field for a last name.
    - Required Select this option if you want to make this field mandatory.
  - Enable address field Select this option to create a field for an address.
    - Required Select this option if you want to make this field mandatory.
  - Enable city field Select this option to create a field for a city.
    - Required Select this option if you want to make this field mandatory.
  - Enable state field Select this option to create a field for a state.
    - Required Select this option if you want to make this field mandatory.
  - **Enable zip field** Select this option to create a field for a zip code.
    - Required Select this option if you want to make this field mandatory.
  - Enable country field Select this option to create a field for a country.
    - Required Select this option if you want to make this field mandatory.
    - Default value Select the appropriate default country from the drop-down menu.

- Gateway (Available only for payment-based authentication.) You have multiple options:
  - PayPal™Website Payment Pro (US, Canada, UK) Use your PayPal Website Payments Pro account. To manage payments and transactions, click ☐ CO TO HOTSPOT MANAGER, and see "Hotspot Manager" on page 113.



Enter the PayPal account details:

- **Username** Enter the corresponding *Username*.
- Password Enter the corresponding Password.
- **Signature** Enter the corresponding *Signature* for the PayPal account that will receive payments.
- Use sandbox account For PayPal testing purposes, select this option. Then click Apply Sandbox Account to set up or access your <u>PayPal Sandbox</u> Test Environment.
- Stripe (US, Canada) Use your <u>Stripe</u> account. To manage payments and transactions, click **Go to** Hotspot Manager, and see <u>"Hotspot Manager" on</u> page 113.



Enter the Stripe account detail:

• API Key Enter the live secret API key.



Note: We recommend that you perform a test transaction with the test secret API key first before using the live secret API key.

Quickpay (Europe) Use your Quickpay account.
 To manage payments and transactions, click Go to Hotspot Manager, and see "Hotspot Manager" on page 113.



Enter the Quickpay account details:

- Merchant ID Enter the ID for your merchant account.
- MD5 Secret Enter the MD5 secret key.

Authorize.Net® (US, Canada) Use your <u>Authorize.Net</u> account. To manage payments and transactions, click
 Go to Hotspot Manager, and see <u>"Hotspot Manager"</u> on page 113.



Enter the Authorize. Net account details:

- API Login ID Enter the API login ID used to identify yourself as an authorized user.
- Transaction Key Enter the key used to authenticate transactions.
- Use test account For Authorize.Net testing purposes, select this option. Then click Apply Test Account to set up or access your <u>Authorize.Net</u> test account.
- Merchant Warrior (Australia, New Zealand) Use your <u>Merchant Warrior</u> account. To manage payments and transactions, click Go to Hotspot Manager, and see <u>"Hotspot Manager" on page</u> 113.



Enter the Merchant Warrior account details:

- Merchant UUID Enter the ID for your merchant account.
- API Key Enter the API key.
- API Passphrase Enter the API passphrase.
- Use test account For Merchant Warrior testing purposes, select this option. Then click Apply Test Account to set up or access your Merchant Warrior test account.
- IPpay™ (US, Canada) Use your IPpay account. To manage payments and transactions, click Go to Hotspot Manager, and see <u>"Hotspot Manager" on</u> page 113.



Enter the IPpay account details:

Terminal ID Enter the terminal number for your merchant account.

- Use test account For IPpay testing purposes, select this option. Then click Apply Test Account to set up or access your IPpay test account.
- Hotspot Operator Click Go to Hotspot Manager to manage Wireless Guests, Payments/Transactions, Vouchers, and Operator Accounts. See <u>"Hotspot</u> Manager" on page 113.

When logging in with voucher-based *Hotspot* authentication, guests will be required to enter the voucher number before gaining access to the Internet.



If you enable the terms of service, then guests will be required to accept the terms of use before gaining access to the Internet.



When logging in with payment-based *Hotspot* authentication, guests will be required to select the package type and click the payment choice before gaining access to the Internet.



If you enable the terms of service, then guests will be required to accept the terms of use before gaining access to the Internet.

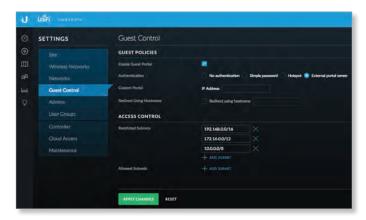


You can select **Enable terms of service** under *Settings* > *Guest Control* > *Portal Customization* to enforce selection of the terms of service by the guest. See <u>"Portal Customization with Legacy JSP" on page 117</u> for more

information.

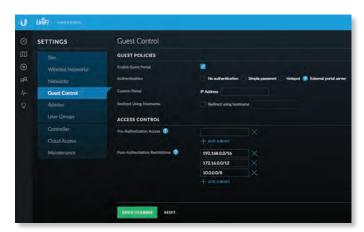
#### Authentication > External Portal Server

Select this option if you are using an external server to host a custom guest portal.



**Custom Portal** Enter the IP address in the IP Address field. **Redirect Using Hostname** Select this option to enter and use a hostname for the portal URL in place of the default IP address. Paired with an SSL certificate, this ensures that site certificates are displayed as trusted in the guest browser. Example: www.ubnt.com

#### **Access Control**



**Pre-Authorization Access** Enter any subnets that you want guests to be able to access, even if they have not been authenticated. Click the *delete* icon to remove a subnet from this list.

Add Subnet Click Add Subnet to add more allowed subnets.

Post-Authorization Restrictions Enter any subnets that you don't want guests to be able to access. Click the *delete* icon to remove a subnet from this list.

 Add Subnet Click Add Subnet to add more restricted subnets.

**Apply Changes** Click to save changes.

Reset Click to cancel changes.

### **Settings > Admins**

You can create administrator accounts that are site-specific; these site administrators can only see the sites they manage and cannot see any devices that are *Pending Approval*.

The super admin account is created during the Setup Wizard and has global admin (read/write) access; this super admin account cannot be revoked or re-invited. Only the super admin – not any site admin – can view wired devices that are *Pending Approval* and then adopt them on the UniFi Controller.



Note: Ensure that you save the super admin login information for future use, including the adoption of new wired devices.

To create operator accounts for the Hotspot Manager, see <u>"Operator Accounts" on page 115</u>.



**Username** Displays the name of the administrator.

**Email** Displays the email address of the administrator.

**Role** Displays the permissions level: *Admin* (read/write access) or *Read Only*.

**Verified** Displays a checkmark to indicate that an admin is verified after he or she responds to an email invitation.

**Actions** Click a button to perform the desired action:

- Revoke Click REVOKE to remove the selected account.
- Re-invite Click serving to re-send an invitation to a pending account.
- Edit Click of to make changes.

**Create New Admin** Click - CREATE NEW ADMIN to add a new site admin. Go to the *Create or Edit an Admin* section.

To create operator accounts for the Hotspot Manager, see <u>"Operator Accounts" on page 115</u>.

**Create or Edit an Admin** 



• Email Enter the email address of the new administrator.

- Name Enter the name of the new administrator.
- Invite to SDN Select this option to allow the new administrator access to SDN (Software-Defined Networking) settings. The new administrator must use his or her own cloud account (linked to the same email address) to manage the UniFi Controller. The admin who issued the invitation can select which role the new administrator will have with respect to the UniFi Controller.
- Role Select Administrator (read/write access) or Read Only.
- Invite Click to send an email invitation.
- Cancel Click to discard changes.

## **Settings > User Groups**

Configure user groups on this screen. The default user group is named *Default* and has no bandwidth limits.



### **User Group Settings**

Name Displays the name of the user group.

**Bandwidth Limit (Download)** Displays the download limit

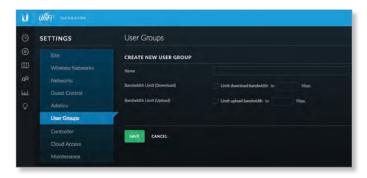
Bandwidth Limit (Upload) Displays the upload limit.

**Actions** Click a button to perform the desired action:

- Edit Click on to make changes to the user group settings. Go to the "Create or Edit a User Group" on page 34 section below.
- **Delete** Click to delete the user group. (The *Default* user group cannot be deleted.)

**Create New User Group** Click - CREATE NEW USER GROUP to create a new user group. Go to the *Create or Edit a User Group* section.

**Create or Edit a User Group** 



• Name Enter or edit the name of the user group.

- Bandwidth Limit (Download) Select to limit the download bandwidth. Enter the maximum in Kbps.
- Bandwidth Limit (Upload) Select to limit the upload bandwidth. Enter the maximum in Kbps.
- Save Click to apply changes.
- Cancel Click to discard changes.

See <u>"Wireless Client - Configuration" on page 111</u> or <u>"Wired Client - Configuration" on page 112</u> for information on how to assign a user or guest to a user group.

### **Settings > Controller**

(Available for the superadmin only.) Configure the system settings of the UniFi Controller.



### **Controller Settings**

**Controller Hostname/IP** Enter the hostname or IP address of the UniFi Controller.



Note: When alert emails are sent out, the *Controller Hostname/IP* will be specified in the *Controller URL* at the bottom of every message.

Override inform host with Controller
 Hostname/IP An inform host URL is used for layer-3
 device adoption using the UniFi Discovery Utility. Select
 this option to override the inform host URL. Then enter
 the appropriate hostname or IP address.



Note: The default inform port is 8080. (You can customize this in system.properties.)

**Network Discovery** When enabled, this option allows UniFi to be discoverable via UPnP on the Layer-2 network. This option is disabled by default.

**Support Messaging** Select the appropriate option: **Enable Live Chat for the Super Admin only, Enable Live Chat for all users**, or **Disable Live Chat for all users**.

#### **Mail Server**

When enabled, UniFi will send email alerts triggered by disconnected UniFi devices. Specify the administrator email address when you create an account under "Settings > Admins" on page 34.

**SMTP Server** Select this option to enable emails.

 Hostname Enter the outgoing (SMTP) mail server name.

- **Port** The default is 25. If Secure Sockets Layer (SSL) is enabled, then the port number will automatically change to 465.
- Enable SSL You can enable SSL to enhance secure communications over the Internet.
- Enable authentication Select this option to enable authentication.
  - Username Enter the username required by the mail server.
  - Password Enter the password required by the mail server.
- **Specify sender address** Select this option to specify the sender email address. Enter the email address that will appear as the sender of the email alert.
- Test SMTP Server Enter an email address and click
   Send to test the mail server setup.

Apply Changes Click to save changes.

Reset Click to cancel changes.

## Settings > Cloud Access

Set up the login for cloud access.



**Enable Cloud Access** Click to configure the login. The *Cloud Login Credentials* screen will appear.

### **Cloud Login Credentials**



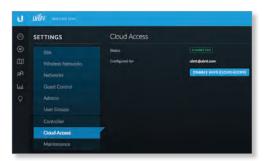
- Email or Username Enter the email address or username of your UBNT account.
- Password Enter the password of your UBNT account.
- No account? Register now. If you do not have a UBNT account, click here to visit this link: https://account.ubnt.com/register

Follow the on-screen instructions to set up an account.

- Enable Cloud Access Click to save changes.
- Cancel Click to discard changes.

### **Cloud Access**

If the login for cloud access is configured, then the *Cloud Access screen* will appear:



**Enable Cloud Access** Click to enable or disable cloud access.

Status Displays "Connected" if cloud access is active.

**Configured for** Displays the username or email address of your UBNT account.

**Disable User Cloud Access** (Available if you are a site admin.) Click to disable cloud access and remove the cloud login credentials.



**Disable and Remove Cloud Access** (Available if you are a super-admin.) Click to disable cloud access and remove the cloud login credentials.



Note: Enabling or disabling cloud access will affect cloud access for all admins on that UniFi Controller.



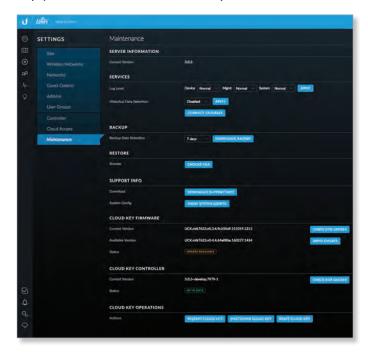
Apply Changes Click to save changes.

Reset Click to cancel changes.

## **Settings > Maintenance**

(Available for the superadmin only.) The *Maintenance* screen contains administrative options, so you can customize logs, manage system backups, and download configuration information to assist in support issues.

If your UniFi Controller is running on a UniFi Cloud Key, you can use the *Maintenance* tab to upgrade the UniFi Cloud Key firmware, upgrade the UniFi Controller software located on the UniFi Cloud Key, reboot the UniFi Cloud Key, power it off, or reset it to factory defaults.



### **Server Information**

**Current Version** Displays the software version.

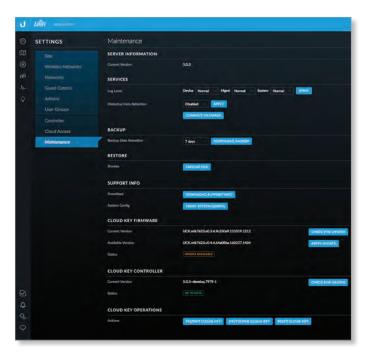
#### Services

**Log Level** You can customize the support information that is collected:

- Device Select the level of severity required to trigger device log entries: Normal, More, or Debug. The default is Normal.
- Mgmt Select the level of severity required to trigger management log entries: Normal, More, or Debug. The default is Normal.
- System Select the level of severity required to trigger system log entries: Normal, More, or Debug. The default is Normal.

**Historical Data Retention** Select the time duration of the historical data retention: **7 days**, **30 days**, **60 days**, **90 days**, **180 days**, **365 days**, or **Disabled**. The default is *Disabled*. Then click **Apply**.

 Compact Database Click to optimize disk usage by freeing up pre-allocated disk space. There may be service interruptions during the process. Click Confirm to continue.



### **Backup**

**Backup Data Retention** Select the time duration of the backup data retention: **7 days**, **30 days**, **60 days**, **90 days**, **180 days**, **365 days**, or **All time**. The default is *7 days*.

**Download Backup** Click this option to download a file that contains all of your settings and data retained for the duration you specify, so you can restore them later if you choose.

#### Restore

**Browse** Click **Choose File** to select a backup file that you've already downloaded. Follow the on-screen instructions to restore settings from the selected file.

**System Config** Click **Show System Config** to view configuration settings. The *System Config* screen appears.

### **Support Info**

**Download** Click this option to download a file to your computer with information about your configuration. You can email this file to our support team.

### **System Config**



- Network Config Click Network Config to view the network configuration settings.
- Version Displays the software version.
- DPI Displays the status of the DPI (Deep Packet Inspection) feature, which is configured in <u>"Settings > Site" on page 20</u>.

- Conn Monitor Displays the status of the Uplink
   Connectivity Monitor feature, which is configured in "Settings > Site" on page 20.
- Cloud Access Displays the status of the Cloud Access feature.
- **Current Site** Displays the name of the current site.
- Networks Displays the name(s) of the current network(s).
- Wireless Networks Displays the name(s) of the current wireless networks.
- Guest Portal Displays the status of the Guest Portal feature, which configured in <u>"Settings > Guest Control"</u> on page 27.
- Authentication Displays the type of authentication required for guest access, which configured in <u>"Settings"</u> > Guest Control" on page 27.
- Expiration Displays the period of time before a guest login expires, which configured in <u>"Settings > Guest</u> Control" on page 27.
- Landing Page Displays the type of landing page for guest access, which configured in <u>"Settings > Guest</u> Control" on page 27.
- Portal Customization Displays the status of the Portal Customization feature, which configured in <u>"Portal</u> Customization" on page 29.
- Close Click Close to exit this screen.
- Download Click Download to download a screenshot in .png format.

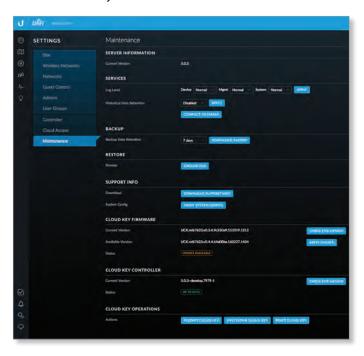
### **Network Config**



- Name Displays the name of the local wired network.
- Purpose Displays a description of this network.
- Subnet Displays the IP address and prefix size.
- DHCP Server Displays the status of the DHCP server feature.
- DHCP Range Displays the range of available IP addresses.
- DHCP Name Server Displays the IP address of the DNS server.
- DHCP WINS Server Displays the IP address of the WINS server.
- DHCP Lease Time Displays the lease time for any assigned IP address.
- **IGMP Snooping** Displays the status of the *IGMP Snooping* feature.
- Close Click Close to exit this screen.
- Download Click Download to download a screenshot in .png format.

### **Cloud Key Firmware**

The *Cloud Key Firmware* section is available if you are using a UniFi Cloud Key.



**Current Version** Displays the version number of the UniFi Cloud Key firmware. Click **Check for Update** to see if there is a newer firmware version. If there is, then you can follow the on-screen instructions to upgrade now.



Note: We recommend that you back up your UniFi Controller configuration (refer to <u>"Backup" on page</u> <u>37</u> for more information) before upgrading.

**Available Version** If there is an available update, then the available firmware version number is displayed. Click **Apply Update** to upgrade the firmware.

**Status** Displays the current status, *Up to Date* or *Update Available*.

## **Cloud Key Controller**

The *Cloud Key Controller* section is available if you are using a UniFi Cloud Key.

**Current Version** Displays the version number of the UniFi Controller software. Click **Check for Update** to see if there is a newer software version. If there is, then you can follow the on-screen instructions to upgrade now.



Note: We recommend that you back up your UniFi Controller configuration (refer to <u>"Backup" on page</u> <u>37</u> for more information) before upgrading.

**Available Update** If there is an available update, then the available software version number is displayed. Click **Apply Update** to upgrade the software.

**Status** Displays the current status, *Up to Date* or *Update Available*.

### **Cloud Key Operations**

**Restart Cloud Key** Click this option to powercycle the UniFi Cloud Key.

**Shut Down Cloud Key** Click this option to turn off the UniFi Cloud Key.

**Reset Cloud Key** Click this option to reset the UniFi Cloud Key to its factory default settings. This option will reboot the UniFi Cloud Key, and all factory default settings will be restored.



Note: We recommend that you back up your UniFi Controller configuration (refer to <u>"Backup" on page</u> <u>37</u> for more information) before resetting the UniFi Cloud Key to its defaults.

### **Chat with Us**

Click ♀ to open a window for online chat suport.



# **Chapter 4: Dashboard**

The *Dashboard* screen provides a visual representation of your network's status. Basic information is provided for each node:

- Latency
- Throughput
- "WAN" on page 40
- "LAN" on page 40
- <u>"WLAN" on page 41</u>

# Latency

The latency value from the latest Speed Test is displayed. The monitor is color-coded to indicate status:

**Black** A UniFi Security Gateway is active, and the Speed Test is available.

**Red** The Speed Test is not available because it requires an active UniFi Security Gateway.

# **Throughput**

The throughput value from the latest Speed Test is displayed. The monitor is color-coded to indicate status:

**Black** A UniFi Security Gateway is active, and the Speed Test is available.

**Red** The Speed Test is not available because it requires an active UniFi Security Gateway.

**Status information** Place your mouse over the *Latency* or *Throughput* monitor to display the following:

#### **WWW**

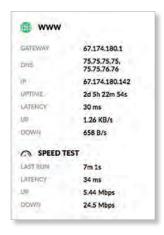
Current status information is displayed.

- Gateway Displays the IP address of the service provider's gateway.
- DNS Displays the IP addresses of the Domain Name System (DNS) servers.
- IP Displays the Internet IP address of the UniFi Security Gateway.
- Uptime Displays the length of time the Internet connection has been active.
- Latency Displays the amount of time it takes a packet to travel from the UniFi Security Gateway to the service provider's gateway.
- Up Displays the upload rate of your Internet connection.
- Down Displays the download rate of your Internet connection.

# **Speed Test**

Results from the latest Speed Test are displayed.

- Last Run Displays the duration of time since the last Speed Test.
- Latency Displays the amount of time it takes a packet to travel from the UniFi Security Gateway to the service provider's gateway.
- Up Displays the upload speed.
- Down Displays the download speed.



**Speed Test** Click the monitor to run the Speed Test.



After the Speed Test is complete, the following will be displayed:

- · Latency, duration of the average Ping round-trip time
- · Download speed
- · Upload speed



- Run Speed Test Click to run the test again.
- Close Click to exit the Speed Test.

### WAN

The basic details of the UniFi Security Gateway are displayed.



The monitor is color-coded to indicate status:

Green The WAN connection is active.

Red The WAN connection is inactive.

**Active Devices** Displays the number of Gateway devices adopted and active.

**Inactive** Displays the number of Gateway devices adopted but not active.

**Pending** Displays the number of Gateway devices pending adoption.

**Status information** Place your mouse over the monitor to display the following:

- LAN IP Displays the local IP address of the UniFi Security Gateway.
- Clients Displays the total number of local clients.
- Up Displays the upload rate of your Internet connection.
- Down Displays the download rate of your Internet connection.



### LAN

The basic details of the wired network(s) are displayed.



The monitor is color-coded to indicate status:

**Green** The wireless network is active.

**Red** The wireless network is inactive.

**Active Devices** Displays the number of wired devices adopted and active.

**Inactive** Displays the number of wired devices adopted but not active.

**Pending** Displays the number of wired devices pending adoption.

**Status information** Place your mouse over the monitor to display the following:

- Gateway Displays the Internet IP address of the UniFi Security Gateway.
- Users Displays the number of clients connected to the wired network.
- Guests Displays the number of clients connected to the quest wired network.
- Switches Displays the number of UniFi Switches managed on this site.
- Down Displays the download rate of the wired network(s).
- Up Displays the upload rate of the wired network(s).



### **WLAN**

The basic details of the wireless network(s) are displayed.



The monitor is color-coded to indicate status:

Green The wired network is active.

**Red** The wired network is inactive.

**Active Devices** Displays the number of APs adopted and active.

**Inactive** Displays the number of APs adopted but not active.

**Pending** Displays the number of APs pending adoption. **Status information** Place your mouse over the monitor to display the following:

- **Users** Displays the number of clients connected to the primary wireless network(s).
- Guests Displays the number of clients connected to the guest wireless network(s).
- APs Displays the number of APs managed on this site.
- Down Displays the download rate of the wireless network(s).
- Up Displays the upload rate of the wireless network(s).



# **Download Throughput & Latency**

The historical chart displays the download traffic in terms of throughput and latency over a 24-hour period.



Note: A UniFi Security Gateway must be active to enable this chart.



**Avg/Max Throughput** Average throughput is displayed as a dark gray bar. Maximum throughput is displayed as a light gray bar.

**Latency** Latency is displayed as a blue line.

**Status information** Place your mouse over a specific point to display the following about a date and time:

- Avg/Max Throughput Displays the average and maximum throughput values.
- Latency Displays the latency value.

# **Upload Throughput & Latency**

The historical chart displays the upload traffic in terms of throughput and latency over a 24-hour period.



Note: A UniFi Security Gateway must be active to enable this chart.



**Avg/Max Throughput** Average throughput is displayed as a dark gray bar. Maximum throughput is displayed as a light gray bar.

**Latency** Latency is displayed as a blue line.

**Status information** Place your mouse over a specific point to display the following about a date and time:

- Avg/Max Throughput Displays the average and maximum throughput values.
- Latency Displays the latency value.

## **Devices on 2.4 GHz Channel**

The 2.4 GHz Channel Occupancy Chart displays the channel use of the 2.4 GHz devices.



Note: At least one 2.4 GHz UniFi AP must be active to enable this chart.



**1-11** Each device is displayed as a blue square in its channel.

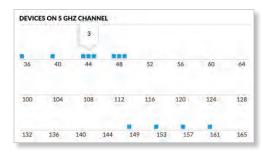
**Status information** Place your mouse over a specific channel to display the number of devices using that channel.

# **Devices on 5 GHz Channel**

The 5 GHz Channel Occupancy Chart displays the channel use of the 5 GHz devices.



Note: At least one 5 GHz UniFi AP must be active to enable this chart.

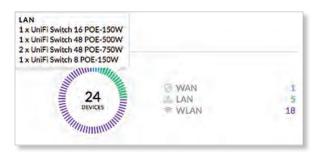


(Channels) Each device is displayed as a blue square in its channel.

**Status information** Place your mouse over a specific channel to display the number of devices using that channel.

### **Devices**

UniFi devices are displayed.



**Traffic** Displays the total number devices and a color-coded breakdown of the device types.

WAN Displays the number of gateway devices.

LAN Displays the number of wired devices.

WLAN Displays the number of wireless devices.

**Status information** Place your mouse over a specific device category to display the device models and their quantities.

## Clients

Network clients are displayed.



Note: The DPI feature must be enabled to display client information.



**Traffic** Displays the total number devices and a color-coded breakdown of the device types.

**Ubiquiti** Displays the number of Ubiquiti clients.

(Various) Displays the number of clients that belong in each of the remaining client categories.

**Other** Displays the number of clients that don't belong in the aforementioned categories.

**Status information** Place your mouse over a specific client category to display the client category name.

# **Deep Packet Inspection**

Deep Packet Inspection (DPI) is more advanced than conventional Stateful Packet Inspection (SPI) filtering for traffic analysis. Ubiquiti's proprietary DPI engine includes the latest application identification signatures to track which applications (and IP addresses) are using the most bandwidth.

The DPI feature requires the following:

- A UniFi Security Gateway must be active to enable this feature.
- DPI must enabled on the Settings > Site screen. See
   "Settings > Site" on page 20 for more information.



**Traffic** Displays the total amount of traffic and a color-coded breakdown of the traffic types.

**Streaming Media** Displays the amount of data that is identified as streaming media.

UniFi Controller User Guide Chapter 4: Dashboard

**Network Protocols** Displays the amount of data that is identified as network protocol traffic.

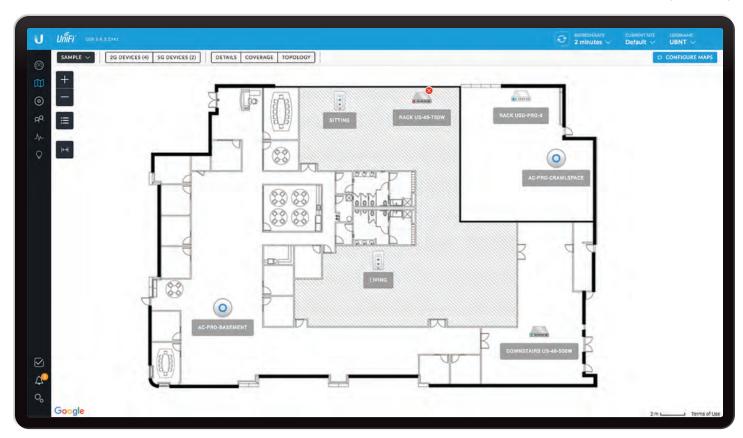
**Web / Web 2.0** Displays the amount of data that is identified as web-related traffic.

**Security Update** Displays the amount of data that is identified as part of a security update.

**Unknown** Displays the amount of data that is unidentified.

**Other** Displays the amount of data that doesn't belong in the aforementioned categories.

**Status information** Place your mouse over a specific traffic category to display the traffic category name and amount of data.



# **Chapter 5: Map**

The UniFi Controller software allows you to upload custom map images of your location(s) or use Google Maps™ for a visual representation of your UniFi network. When you initially launch the UniFi Controller application, a default map is displayed. The legend at the bottom of the map shows the scale of the map.

# **Adding Custom Maps**

To add a custom map, you must first create the image using an illustration, image editing, or blueprint application that exports a file in .jpg, .gif, or .png file format.

Once you've created the map, you can upload it to the UniFi Controller software:

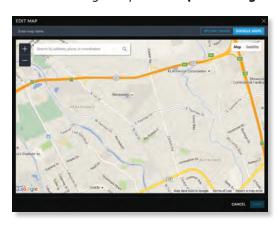
1. Click CONFIGURE MAPS



2. Click Add a Map.



3. The default is Google Maps. Click **Upload Image**.

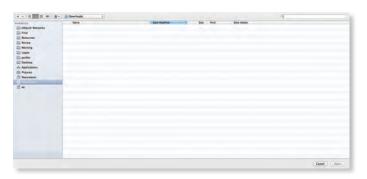


Chapter 5: Map UniFi Controller User Guide

4. Click Choose map image.



5. Locate the file to use as a map (valid file formats are .jpg, .gif, and .png) and then click **Open**. If you do not want to upload a file, click *Cancel*.



6. Enter a map name in the field provided and click Save.



Note: If the map is incorrect, click **Select a different map** and try again.



7. Click Done.

# **Adding a Google Map**

To add a *Google Map* to the UniFi Controller software *Map* view:

1. Click CONFIGURE MAPS



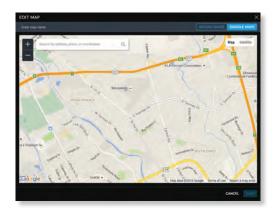
2. Click Add a Map.

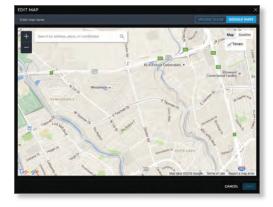


3. The default view is *Map* view, which looks like a street map. Click **Terrain** to display geographic markers.

Use the tools to navigate the map or adjust the zoom using the zoom control.

In the field provided, enter an address or the latitude and longitude of a specific location. Then press **Enter** or **Return**.





UniFi Controller User Guide Chapter 5: Map

You can also click *Satellite* for a bird's-eye view. Click **Labels** to display street and location names.



Enter a map name in the field provided and click **Save**. You can adjust

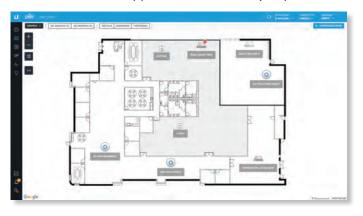
4. Click Done.

# **Placing Devices on the Map**

- 1. Click **■** at the lower right.
- 2. Drag each device icon from the *Unplaced Devices* list to the appropriate location on the map.



The device icon will appear in the area that you placed it.



#### **Status**

The device icon indicates the UniFi model (not all icons are shown below):

- UniFi AP Pro, UniFi AP AC Lite/LR/Pro
- Our Control of the Control of the
- UniFi AP In-Wall
- O UniFi AP/AP LR
- UniFi AP AC
- UniFi AP AC Outdoor
- UniFi AP Outdoor+
- UniFi AP Outdoor5
- UniFi Security Gateway
- UniFi Security Gateway Pro
- UniFi 24-Port Switch
- UniFi 48-Port Switch
- UniFi VolP Phone/Pro
- UniFi VolP Phone Executive

The LED color of the icon indicates the device status.

- Blue/Green Indicates the device is connected.
- Red/Orange Indicates the device is disconnected. A disconnected icon also marks the device icon.

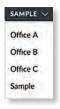
## **Device Options**

Click a UniFi icon to reveal options. Click the UniFi icon again to hide them.

- **Lock** Lock the device icon to its current location.
- Details Display the Details screen. For more information, go to the appropriate chapter:
  - "UniFi Security Gateway Details" on page 77
  - "UniFi Switch Details" on page 85
  - "UniFi Access Point Details" on page 95
  - "UniFi VoIP Phone Details" on page 107
- Statistics (Available for the UAP-AC-LITE, UAP-AC-LR, UAP-AC-PRO, and UAP-AC-EDU only.) Displays the RF Environment screen. For more information, go to "RF Environment" on page 98.
- Remove Remove the device icon from its location.

# **Map Display Options**

(Map) If multiple maps have been uploaded, you can select which map you want to view using this option.



You can apply one of the following filters:

- 2G Devices Displays the 2.4 GHz devices.
- 5G Devices Displays the 5 GHz devices.



Each device is displayed with its name. If no custom label is applied, the device's MAC address will be displayed.

To change a name applied to a device, refer to *Alias* in the appropriate section:

- <u>"UniFi Security Gateway Configuration" on page</u> 79
- "UniFi Switch Configuration" on page 89
- <u>"UniFi Access Point Configuration" on page 100</u>

You can apply one of the following display options:

- Details
- Coverage
- Topology

**Details** Displays the applicable information: MAC address, transmit/receive channel(s), number of users connected, and number of guests connected.



**Coverage** Displays a visual representation of the wireless range covered by any APs.

You can apply one of the following filters:

- 2G Coverage Displays the coverage by 2.4 GHz devices.
- **5G Coverage** Displays the coverage by 5 GHz devices.
  - dBm You can change the receiver sensitivity value for more accurate coverage results. The default is -90 dBm.



**Topology** Displays a visual representation of the network configuration and connections between any APs. A dashed line will indicate the wirelessly connected AP and its uplink to a wired AP, even if the wirelessly connected AP is isolated.



UniFi Controller User Guide Chapter 5: Map

**Configure Maps** Click CONFIGURE MAPS to add maps or edit the current map(s).

The left side of the map offers the following options:

- Zoom Slider Use to zoom the map detail in and out.
- Unplaced Devices Drag each device icon from the Unplaced Devices list to the appropriate location on the map.
- Set Map Scale Use this option to define the scale of the map. You will draw a line and define the distance that the line represents.

# **Setting the Map Scale**

- 1. Click the *set map scale* → button.
- 2. Click and hold to draw a line in the area that you want to use to set the scale of the map. If you need to redraw the line, just click and hold again to draw a new line.

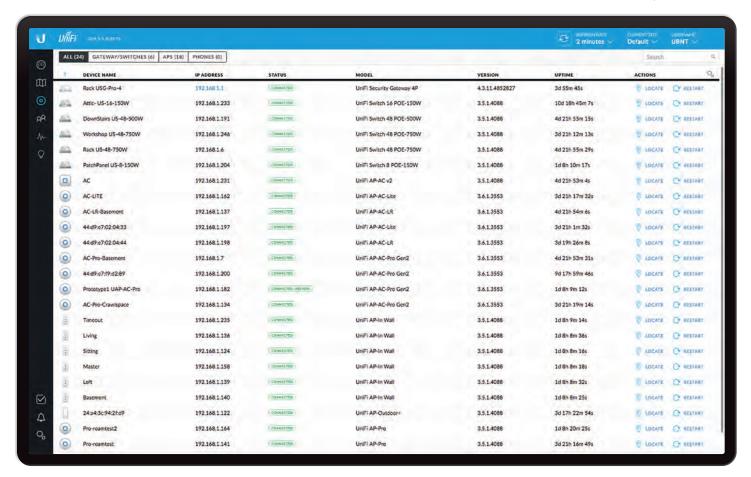


3. Enter the distance that the line represents in the *Distance* field. By default, the distance is specified in meters but you can switch to feet using the drop-down menu on the right. Click **Set Scale**.



The legend at the bottom of the map shows the new scale of the map.

UniFi Controller User Guide Chapter 6: Devices



# **Chapter 6: Devices**

The *Devices* screen displays a list of UniFi devices discovered by the UniFi Controller. You can click any of the column headers to change the list order.

You can apply one of the following primary filters:

- All Displays all UniFi devices.
- Gateway/Switches Displays all UniFi Security Gateways and Switches.
- APs Displays all UniFi APs.
- · Phones Displays all UniFi VoIP Phones.

If the APs filter is applied, then another filter is available:

- Overview Displays the number of clients, amount of data downloaded, amount of data uploaded, and channel setting.
- Config Displays the WLAN and radio settings for the 2.4 GHz and 5 GHz radio bands.
- Performance Displays the number of 2.4 GHz and 5 GHz clients, overall transmit rate, overall receive rate, transmit rates in the 2.4 GHz and 5 GHz radio bands, and channel setting.

**Items per page** Select how many results are displayed per page: **10**, **50**, **100**, or **200**.

If there is more than one page of entries to display, click the navigation controls or page numbers at the bottom right of the screen to display different pages.

**Search** Search Enter the text you want to search for. Simply begin typing; there is no need to press Enter.

(sort) You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

The icon column sorts by state, and for connected devices it also sorts by device type. This is the order:

- Connected Gateway
- · Connected Switch
- Connected AP
- · Connected Phone
- Any device that is being upgraded or provisioned
- · Any device that is being adopted or is restarting
- · Any device that is pending
- · Any device that is disconnected or in an error state

After this sorting is applied, the sort order uses alphabetical order according to the device name.

**Customize Columns** Each primary filter: *All*, *Gateway/Switches*, *APs*, or *Phones* applies a default set of columns to display. If you enable the *Customize Columns* option, then the primary filter no longer changes the columns.

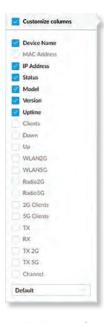
The very first time you enable the *Customize Columns* option, the UniFi Controller software will detect which columns are currently visible and remember your selection. For example:

- Enable the Customize Columns option on the APs > Performance screen.
- 2. Disable customization.
- 3. Apply the Gateway/Switches filter.
- 4. Enable the Customize Columns option again.
- 5. The columns of the *APs > Performance* screen will be displayed.

Click to customize the columns used for display.



#### Select Customize columns.



You can select additional columns for display.

- Reset columns to Click the drop-down at the bottom
  of the Customize columns screen to display the Reset
  columns to ... options. The option you select will apply
  no matter which primary filter: All, Gateway/Switches,
  APs, or Phones you select. This resets the columns but
  the UniFi Controller software will not remember your
  selection.
  - Default The Device Name, IP Address, Status, Model, Version, and Uptime columns are displayed.
  - **Gateway/Switches** The *Device Name*, *IP Address*, *Status*, *Model*, *Down*, and *Up* columns are displayed.
  - AP Overview The Device Name, IP Address, Status, Model, Clients, Down, Up, and Channel columns are displayed.
  - AP Config The Device Name, Status, Version, WLAN2G, WLAN5G, Radio2G, and Radio5G columns are displayed.

- AP Performance The Device Name, IP Address, Status, 2G Clients, 5G Clients, TX, RX, TX 2G, TX 5G, and Channel columns are displayed.
- All columns The Device Name, MAC Address, IP Address, Status, Model, Version, Uptime, Clients, Down, WLAN2G, WLAN5G, Radio2G, Radio5G, 2G Clients, 5G Clients, TX, RX, TX 2G, TX 5G, and Channel columns are displayed.



### All

All UniFi device types are displayed.

**(icon)** Displays the icon corresponding to the UniFi device (not all icons are shown below):

- UniFi AP Pro, UniFi AP AC Lite/LR/Pro
- UniFi AP AC EDU
- UniFi AP In-Wall
- UniFi AP/AP LR
- UniFi AP AC
- UniFi AP AC Outdoor
- UniFi AP Outdoor+
- UniFi AP Outdoor5
- UniFi Security Gateway
- UniFi Security Gateway Pro
- UniFi 24-Port Switch
- UniFi 48-Port Switch
- UniFi VolP Phone/Pro
- UniFi VolP Phone Executive

UniFi Controller User Guide Chapter 6: Devices

If displayed, the LED color of the device icon indicates the device status.

- Blue/Green Indicates the device is connected.
- Gray Indicates the device is pending approval.
- Red/Orange Indicates the device is disconnected or not managed by this site (Pending Approval or Managed by Other).

**Device Name** Displays the hostname, alias, or MAC address of the UniFi device. You can click the name to get additional details. For more information, see the appropriate chapter:

- "UniFi Security Gateway Details" on page 77
- "UniFi Switch Details" on page 85
- "UniFi Access Point Details" on page 95
- "UniFi VoIP Phone Details" on page 107

IP Address Displays the IP address used by the UniFi device.

Status Indicates the device status: Connected, Disconnected, Pending Approval, Adopting, Upgrading, Managed by Other, or Isolated (APs only).

Only the super admin - not any site admin - can view devices that are Pending Approval and then adopt them on the UniFi Controller.



Note: The super admin account was created during the initial installation; for more information, see "Configuring the UniFi Controller Software" on page 2.

Model Displays the model name of the UniFi device.

**Version** Displays the version number of the UniFi device's firmware.

**Uptime** Displays the duration of time the UniFi device has been running.

**Actions** Click a button to perform the desired action:

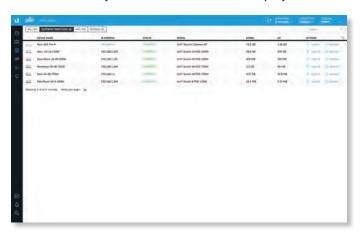
• Locate For most devices, click © LOCATE to flash the LED on the physical device and the device's icon on the Map tab so you can locate it. The LED will flash until the Locate button is clicked again. (The icon on the Map tab will flash three times and stop.)

If the device is a Phone, then click O LOCATE to ring the Phone and flash the Phone's icon on the Map tab so you can locate it. The Phone will ring until you click Locate again. (The icon on the *Map* tab will flash three times and stop.)

- **Restart** Click © RESTART to restart the selected device.
- **Upgrade** If a software upgrade is available for the device, click dipgrade to install the latest UniFi firmware on the device. The Status will appear as Upgrading until the process is complete and the device reconnects to the UniFi Controller software.
- Adopt Click ADOPT to adopt a device that appears as Pending Approval for its status. The Status will appear as Adopting until the device is connected.

# **Gateway/Switches**

All UniFi Gateway and Switch devices are displayed.



(icon) Displays the icon corresponding to the UniFi device (not all icons are shown below):



**UniFi Security Gateway** 



UniFi Security Gateway Pro



UniFi 24-Port Switch



UniFi 48-Port Switch

The LED color of the device icon indicates the device status.

- Blue Indicates the device is connected.
- Gray Indicates the device is pending approval.
- Red Indicates the device is disconnected or not managed by this site (Pending Approval or Managed by Other).

**Device Name** Displays the hostname, alias, or MAC address of the UniFi device. You can click the name to get additional details. For more information, see the appropriate chapter:

- "UniFi Security Gateway Details" on page 77
- "UniFi Switch Details" on page 85

IP Address Displays the IP address used by the UniFi device.

Status Indicates the device status: Connected, Disconnected, Pending Approval, Adopting, Upgrading, or Managed by Other.

Only the super admin - not any site admin - can view devices that are *Pending Approval* and then adopt them on the UniFi Controller.



Note: The super admin account was created during the initial installation; for more information, see "Configuring the UniFi Controller Software" on page 2.

Model Displays the model name of the UniFi device.

**Down** Displays the total amount of data downloaded by the UniFi device.

Chapter 6: Devices UniFi Controller User Guide

**Up** Displays the total amount of data uploaded by the UniFi device.

**Actions** Click a button to perform the desired action:

- Locate Click © LOCATE to flash the Status LED on the Gateway/Switch and its icon on the *Map* tab so you can locate it. The LED will flash until the *Locate* button is clicked again. (The icon on the *Map* tab will flash three times and stop.)
- **Restart** Click © RESTART to restart the selected device.
- **Upgrade** If a software upgrade is available for the device, click to install the latest UniFi firmware on the device. The *Status* will appear as *Upgrading* until the process is complete and the device reconnects to the UniFi Controller software.
- Adopt Click ADOPT to adopt a device that appears as
   Pending Approval for its status. The Status will appear as
   Adopting until the device is connected.

### **APs**

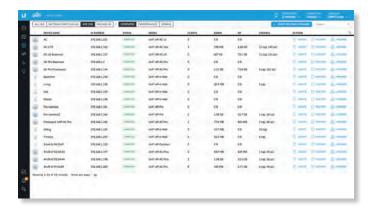
You can apply one of the following filters to display different status information:

- Overview Displays the number of clients, amount of data downloaded, amount of data uploaded, and channel setting.
- **Performance** Displays the number of 2.4 and 5 GHz clients, overall transmit rate, overall receive rate, 2.4 and 5 GHz transmit rates, and channel setting.
- **Config** Displays the WLAN and radio settings for the 2.4 GHz and 5 GHz radio bands.

On any sub-tab, you can initiate a rolling upgrade of the firmware for all APs.

**Start Rolling Upgrade** (Available if any AP has an upgrade available.) Click start rolling Upgrade to begin automatically upgrading APs, one by one, except for wirelessly uplinked APs, which are intentionally excluded from upgrading.

### **Overview**



**(icon)** Displays the icon corresponding to the AP model (not all icons are shown below):

- UniFi AP Pro, UniFi AP AC Lite/LR/Pro
- Output
  UniFi AP AC EDU
- UniFi AP In-Wall
- OniFi AP/AP LR
- UniFi AP AC Outdoor
- UniFi AP Outdoor+
- UniFi AP Outdoor5

The LED color of the icon indicates the device status.

- Blue/Green Indicates the device is connected.
- Gray Indicates the device is pending approval.
- **Red/Orange** Indicates the device is disconnected or not managed by this site (*Pending Approval* or *Managed by Other*).

**Device Name** Displays the hostname, alias, or MAC address of the AP. You can click the name to get additional details; see <u>"UniFi Access Point Details" on page 95</u> for more information.

**IP Address** Displays the IP address of the AP.

**Status** Displays the connection status.

- Connected The AP is physically wired to the network.
- Connected (100 FDX) The AP is physically wired to the network at 100 Mbps in full-duplex mode.
- Connected (wireless) The AP is wirelessly uplinked to a physically wired AP.
- Disconnected The AP is unreachable by the UniFi Controller software.
- Isolated A managed AP is unable to locate its uplink.
- Managed by Other The AP is not in the default state but it is not controlled by the UniFi Controller.
- **Pending Approval** The AP is in the default state and is available for adoption.

Only the super admin – not any site admin – can view devices that are *Pending Approval* and then adopt them on the UniFi Controller.



Note: The super admin account was created during the initial installation; for more information, see <u>"Configuring the UniFi</u>
<u>Controller Software" on page 2</u>.

Model Displays the model name of the UniFi device.

**Clients** Displays the number of clients connected to the AP.

**Down** Displays the total amount of data downloaded by the AP.

Up Displays the total amount of data uploaded by the AP.

UniFi Controller User Guide Chapter 6: Devices

**Channel** Displays the transmit/receive channel being used by the AP. The radio band is represented as (ng) for 2.4 GHz and (na)/(ac) for 5 GHz.

**Actions** Click a button to perform the desired action:

- Locate Click © LOCATE to flash the LED on the AP and the AP's icon on the *Map* tab so you can locate it. The LED will flash until the *Locate* button is clicked again. (The icon on the *Map* tab will flash three times and stop.)
- **Restart** Click © RESTART to restart the selected device.
- Upgrade If a software upgrade is available for the device, click device to install the latest UniFi firmware on the device. The Status will appear as Upgrading until the process is complete and the device reconnects to the UniFi Controller software.
- Adopt Click ADOPT to adopt a device that appears as
   Pending Approval for its status. The Status will appear as
   Adopting until the device is connected.

### **Performance**



**(icon)** Displays the icon corresponding to the AP model (not all icons are shown below):

- UniFi AP Pro, UniFi AP AC Lite/LR/Pro
- UniFi AP AC EDU
- UniFi AP In-Wall
- O UniFi AP/AP LR
- UniFi AP AC Outdoor
- UniFi AP Outdoor+
- UniFi AP Outdoor5

The LED color of the icon indicates the device status.

- Blue/Green Indicates the device is connected.
- Gray Indicates the device is pending approval.
- Red/Orange Indicates the device is disconnected or not managed by this site (Pending Approval or Managed by Other).

**Device Name** Displays the hostname, alias, or MAC address of the AP. You can click the name to get additional details; see <u>"UniFi Access Point Details" on page 95</u> for more information.

IP Address Displays the IP address of the AP.

Status Displays the connection status.

- **Connected** The AP is physically wired to the network.
- Connected (100 FDX) The AP is physically wired to the network at 100 Mbps in full-duplex mode.
- Connected (wireless) The AP is wirelessly uplinked to a physically wired AP.
- Disconnected The AP is unreachable by the UniFi Controller software.
- Isolated A managed AP is unable to locate its uplink.
- Managed by Other The AP is not in the default state but it is not controlled by the UniFi Controller.
- **Pending Approval** The AP is in the default state and is available for adoption.

Only the super admin – not any site admin – can view devices that are *Pending Approval* and then adopt them on the UniFi Controller.



Note: The super admin account was created during the initial installation; for more information, see <u>"Configuring the UniFi</u>
Controller Software" on page 2.

**2G Clients** Displays the number of clients connected to the AP using the 2.4 GHz band.

**5G Clients** Displays the number of clients connected to the AP using the 5 GHz band.

TX Displays the overall TX (transmit) rate.

**RX** Displays the overall RX (receive) rate.

**TX 2G** Displays the overall TX rate for the 2.4 GHz radio band. The different colors represent different types of packet activity:

Color	Packet Activity
	Packets sent
	Packets retried
	Packets not sent due to likely interference

**TX 5G** Displays the overall TX rate for the 5 GHz radio band. The different colors represent different types of packet activity:

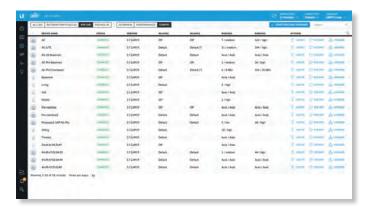
Color	Packet Activity
	Packets sent
	Packets retried
	Packets not sent due to likely interference

**Channel** Displays the transmit/receive channel being used by the AP. The radio band is represented as (ng) for 2.4 GHz and (na)/(ac) for 5 GHz.

**Actions** Click a button to perform the desired action:

- Locate Click © LOCATE to flash the LED on the AP and the AP's icon on the *Map* tab so you can locate it. The LED will flash until the *Locate* button is clicked again. (The icon on the *Map* tab will flash three times and stop.)
- Restart Click © RESTART to restart the selected device.
- **Upgrade** If a software upgrade is available for the device, click device to install the latest UniFi firmware on the device. The *Status* will appear as *Upgrading* until the process is complete and the device reconnects to the UniFi Controller software.
- Adopt Click ADOPT to adopt a device that appears as
   *Pending Approval* for its status. The *Status* will appear as
   *Adopting* until the device is connected.

# **Config**



**(icon)** Displays the icon corresponding to the AP model (not all icons are shown below):

- UniFi AP Pro, UniFi AP AC Lite/LR/Pro
- Our Company of the Company of the
- UniFi AP In-Wall
- O UniFi AP/AP LR
- UniFi AP AC Outdoor
- UniFi AP Outdoor+
- UniFi AP Outdoor5

The LED color of the icon indicates the device status.

- Blue/Green Indicates the device is connected.
- Gray Indicates the device is pending approval.
- Red/Orange Indicates the device is disconnected or not managed by this site (Pending Approval or Managed by Other).

**Device Name** Displays the hostname, alias, or MAC address of the AP. You can click the name to get additional details; see <u>"UniFi Access Point Details" on page 95</u> for more information.

Status Displays the connection status.

- Connected The AP is physically wired to the network.
- Connected (100 FDX) The AP is physically wired to the network at 100 Mbps in full-duplex mode.
- Connected (wireless) The AP is wirelessly uplinked to a physically wired AP.
- Disconnected The AP is unreachable by the UniFi Controller software.
- Isolated A managed AP is unable to locate its uplink.
- Managed by Other The AP is not in the default state but it is not controlled by the UniFi Controller.
- Pending Approval The AP is in the default state and is available for adoption.

Only the super admin – not any site admin – can view devices that are *Pending Approval* and then adopt them on the UniFi Controller.



Note: The super admin account was created during the initial installation; for more information, see <u>"Configuring the UniFi</u>
Controller Software" on page 2.

**Version** Displays the version number of the UniFi AP's firmware.

**WLAN 2G** Displays the name of the WLAN group using the 2.4 GHz radio band.

**WLAN 5G** Displays the name of the WLAN group using the 5 GHz radio band.

**Radio 2G** Displays the channel and TX power settings used in the 2.4 GHz radio band.

**Radio 5G** Displays the channel and TX power settings used in the 5 GHz radio band.

**Actions** Click a button to perform the desired action:

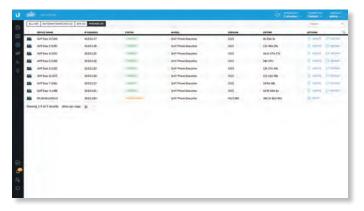
- Locate Click © LOCATE to flash the LED on the AP and the AP's icon on the *Map* tab so you can locate it. The LED will flash until the *Locate* button is clicked again. (The icon on the *Map* tab will flash three times and stop.)
- **Restart** Click © RESTART to restart the selected device.
- **Upgrade** If a software upgrade is available for the device, click by upgrade to install the latest UniFi firmware on the device. The *Status* will appear as *Upgrading* until the process is complete and the device reconnects to the UniFi Controller software.
- Adopt Click ADOPT to adopt a device that appears as Pending Approval for its status. The Status will appear as Adopting until the device is connected.

UniFi Controller User Guide Chapter 6: Devices

### **Phones**



Important: For management of the UniFi VoIP Phones, please download the UniFi VoIP Controller here: downloads.ubnt.com/unifi



(icon) Displays the icon corresponding to the Phone (not all icons are shown below):

UniFi VoIP Phone/Pro

UniFi VolP Phone Executive

**Device Name** Displays the hostname, alias, or MAC address of the Phone. You can click the name to get additional details; see <u>"UniFi VoIP Phone Details" on page 107</u> for more information.

**IP Address** Displays the IP address used by the Phone.

**Status** Indicates the device status: *Connected*, *Disconnected*, *Pending Approval*, *Adopting*, *Upgrading*, or *Managed by Other*.

Only the super admin – not any site admin – can view devices that are *Pending Approval* and then adopt them on the UniFi Controller.



Note: The super admin account was created during the initial installation; for more information, see "Configuring the UniFi Controller Software" on page 2.

Model Displays the model name of the Phone.

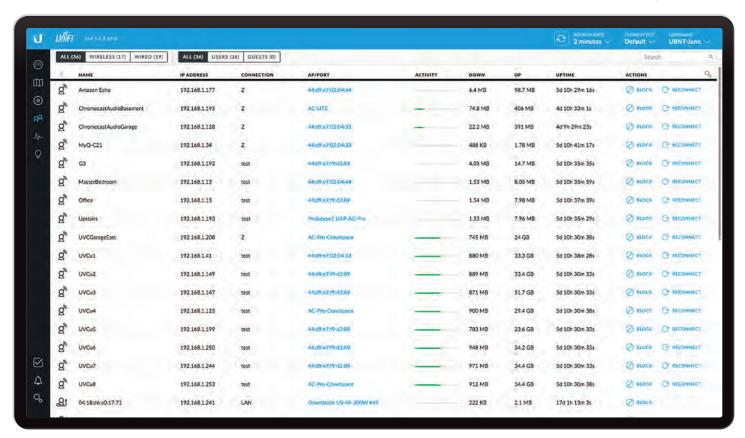
**Version** Displays the version number of the Phone's firmware.

**Uptime** Displays the duration of time the Phone has been running.

**Actions** Click a button to perform the desired action:

- Locate Click © LOCATE to ring the Phone and flash the Phone's icon on the *Map* tab so you can locate it. The Phone will ring until you click *Locate* again. (The icon on the *Map* tab will flash three times and stop.)
- Restart Click © RESTART to restart the selected device.
- **Upgrade** If a software upgrade is available for the device, click device to install the latest UniFi firmware on the device. The *Status* will appear as *Upgrading* until the process is complete and the device reconnects to the UniFi Controller software.

Adopt Click ADOPT to adopt a device that appears as
 *Pending Approval* for its status. The *Status* will appear as
 *Adopting* until the device is connected.



# **Chapter 7: Clients**

The *Clients* screen displays a list of network clients. You can click any of the column headers to change the list order.

You can apply one of the following primary filters:

- All Displays all clients, regardless of connection type.
- · Wireless Displays all wireless clients.
- · Wired Displays all wired clients.

A secondary filter is available:

- · All Displays all users and guests.
- · Users Only displays users.
- · Guests Only displays guests.

**Items per page** Select how many results are displayed per page: **10**, **50**, **100**, or **200**.

The columns of information vary depending on which primary filter (*All, Wireless*, or *Wired*) is applied.

If there is more than one page of entries to display, click the navigation controls or page numbers at the bottom right of the screen to display different pages.

Search Search Enter the text you want to search for. Simply begin typing; there is no need to press Enter.

(sort) You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

The icon column sorts by state, and for connected devices it also sorts by device type. This is the order:

- Connected wireless user
- · Connected wireless guest
- · Connected wired user
- · Connected wired guest

After this sorting is applied, the sort order uses alphabetical order according to the client name.

**Customize Columns** Each primary filter: *All, Wireless*, or *Wired* applies a default set of columns to display. If you enable the *Customize Columns* option, then the primary filter no longer changes the columns.

Click to customize the columns used for display.



Select Customize columns.



You can select additional columns for display. Options include the following:

- Name Displays the hostname, alias, or MAC address
  of the connected client. You can click the name to get
  additional details; refer to <u>"Chapter 7: Clients" on page</u>
   59 for more information.
- Hostname Displays the hostname of the connected client.
- MAC Address Displays the MAC address of the connected client.
- IP Address Displays the IP address used by the client.
- 802.1x Identity Displays the identity used for 802.1x authentication.
- 802.1x VLAN Displays the VLAN (Virtual Local Area Network) used for 802.1x authentication.
- **Status** Displays *Authorized* for all authorized guests or *Pending* for guests pending authorization.
- Network Indicates which local network is used.
- AP/Port For wireless clients, displays the name of the connected AP or port. You can click the name to get additional details; refer to "UniFi Access Point Details" on page 95 for more information.

For wired clients, displays the name of the network device and port number used by the client. You can click the name to get additional details; refer to <u>"UniFi</u> <u>Switch Details" on page 85</u> for more information.

- Channel Displays the channel used.
- PHY Mode Displays the wireless standard and frequency band used by the signal. Displays a leaf given if the device uses power save mode.
  - 11na (5 GHz)
  - 11ac (5 GHz)
  - 11ng (2.4 GHz)
  - 11b (2.4 GHz)

- **Signal** Displays the signal strength level and signal type:
- TX Rate Displays the overall TX (transmit) rate.
- RX Rate Displays the overall RX (receive) rate.
- Activity Displays the relative level of activity for each client.
- Down Displays the total amount of data downloaded by the client.
- Up Displays the total amount of data uploaded by the client.
- **Uptime** Displays the amount of time the client has been connected for this session.

### All

(icon) Displays the icon corresponding to a wireless or wired client:

- wireless user
- wireless guest
- wired guest

Name Displays the hostname, alias, or MAC address of the connected client. You can click the name to get additional details; refer to "Client Details" on page 109 for more information.

**IP Address** Displays the IP address used by the client.

**Connection** Indicates which local network is used. If the connection is wireless, then this displays the wireless network name or SSID.

AP/Port Indicates which AP or switch port is used.

**Activity** Displays the relative level of activity for each client.

**Down** Displays the total amount of data downloaded by the client.

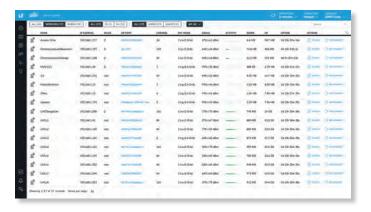
**Up** Displays the total amount of data uploaded by the client.

**Uptime** Displays the amount of time the client has been connected for this session.

**Actions** Click a button to perform the desired action:

- **Block** Click BLOCK to block this client from accessing the network. Click UNBLOCK to unblock this client.
- Reconnect Click RECONNECT to reconnect a wireless
   client. You can click RECONNECT to kick out a client,
   which usually reconnects back quickly; this is useful for
   troubleshooting or resolving a problematic wireless
   connection.

### Wireless



**Frequency band** If the *Wireless* filter is applied, then the *Frequency band* filter is available:

- All Displays all wireless clients.
- 2G Only displays 2.4 GHz clients.
- 5G Only displays 5 GHz clients.

**AP** Select the AP whose clients you want displayed. Each option in the drop-down list also indicates the number of wireless clients in parentheses.

(icon) Displays the icon corresponding to a wireless client:

- wireless user
- wireless guest

Name Displays the hostname, alias, or MAC address of the connected client. You can click the name to get additional details; refer to "Client Details" on page 109 for more information.

**IP Address** Displays the IP address used by the client.

**Status** (Displayed when the *Guests* filter is applied.) Displays *Authorized* for all authorized guests or *Pending* for guests pending authorization.

**WLAN** Displays the name of the wireless network.

**AP/Port** Displays the name of the connected AP. You can click the name to get additional details; refer to "UniFi Access Point Details" on page 95 for more information.

**Channel** Displays the channel used.

**Phy Mode** Displays the wireless standard and frequency band used by the signal. Displays a leaf  $\mathscr{D}$  icon if the device uses power save mode.

- 11na (5 GHz)
- 11ac (5 GHz)
- 11ng (2.4 GHz)
- 11b (2.4 GHz)

**Signal** Displays the signal strength level and signal type:

**Activity** Displays the relative level of activity for each client.

**Down** Displays the total amount of data downloaded by the client.

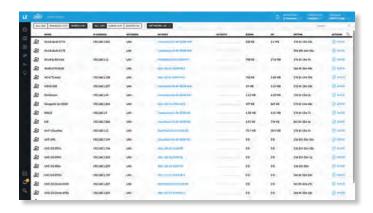
**Up** Displays the total amount of data uploaded by the client.

**Uptime** Displays the amount of time the client has been connected for this session.

**Actions** Click a button to perform the desired action:

- **Block** Click BLOCK to block this client from accessing the network. Click UNBLOCK to unblock this client.
- Reconnect Click © RECONNECT to reconnect a wireless
  client. You can click © RECONNECT to kick out a client,
  which usually reconnects back quickly; this is useful for
  troubleshooting or resolving a problematic wireless
  connection.

### Wired



**Network** If the *Wired* filter is applied, then the *Network* filter is available. Each option in the drop-down list also indicates the number of wired clients in parentheses.

- All Displays all wired clients.
- (name) Select the network whose clients you want displayed.

(icon) Displays the icon corresponding to a wired client:

- wired user
- wired guest

Name Displays the hostname, alias, or MAC address of the connected client. You can click the name to get additional details; refer to "Client Details" on page 109 for more information.

**IP Address** Displays the IP address used by the client.

**Network** Indicates which local network is used.

**AP/Port** Displays the name of the network device and port number used by the client. You can click the name to get additional details; refer to <u>"UniFi Switch Details" on page 85</u> for more information.

Chapter 7: Clients UniFi Controller User Guide

**Activity** Displays the relative level of activity for each client.

**Down** Displays the total amount of data downloaded by the client.

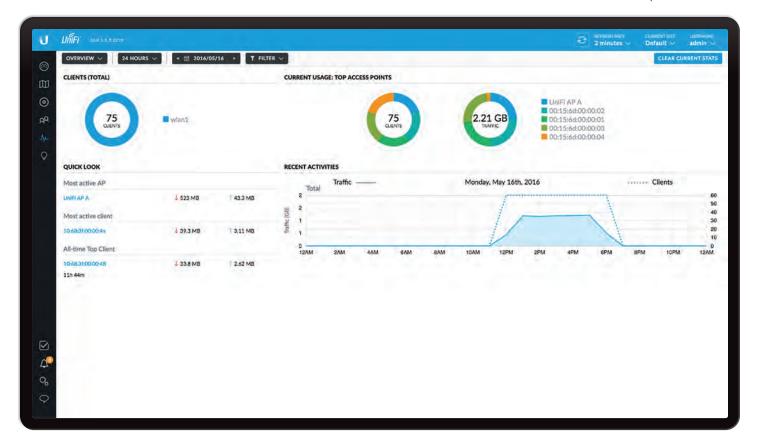
**Up** Displays the total amount of data uploaded by the client.

**Uptime** Displays the amount of time the client has been connected for this session.

**Actions** Click a button to perform the desired action:

- **Block** Click ⊘ BLOCK to block this client from accessing the network. Click ⊘ UNBLOCK to unblock this client.
- Unauthorize/Authorize (Available for Guests only.)
   Click 
   Ounauthorize to remove authorization of guest access and disconnect the guest, or click 
   Outhorize for guests pending authorization.

UniFi Controller User Guide Chapter 8: Statistics



# **Chapter 8: Statistics**

The *Statistics* screen provides a visual representation of the clients and network traffic connected to your managed UniFi network.

There are two views available:

- Overview The default view describes the wireless clients and network traffic. Please refer to the next column for more information.
- Traffic Stats (Available if you have a UniFi Security Gateway with the DPI feature enabled.) The Traffic Stats screen describes the network traffic by application usage. Go to "Traffic Stats" on page 65 for more information.

# **Overview**

The *Overview* screen describes the usage by wireless clients and UniFi Access Points.



**24 Hours** The default view. Select **Week** or **Month** to change the duration interval.

**Date** Click either arrow to change the date in one-day increments.

< 11 2016/05/11 >

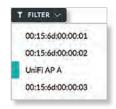
Click the date to display the calendar.



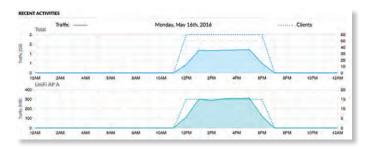
Calendar Click a specific date to display its statistics.
 Click either arrow to change the calendar in one-month increments.

**Filter** You can view the number of clients and amount of traffic by UniFi AP. The *Filter* drop-down list displays managed UniFi APs by name or MAC address.

Click T FILTER Y to view the drop-down list. Then click the appropriate AP.



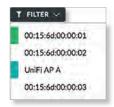
A second graph that is color-coded to the selected AP appears.



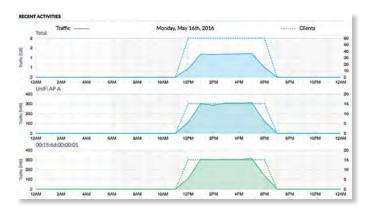
You can place your mouse over an hour or day to display the number of clients and amount of data.



You can select multiple APs for filtering. For example, if you select a second AP:



A third graph that is color-coded to the additional AP appears.



**Clear Current Stats** Reset the current statistics to start over.

## **Clients (Total)**



**# of Clients** A visual pie chart represents the client distribution amongst the APs. Place the mouse cursor over the chart for the number of clients per network.

# **Quick Look**

QUICK LOOK		
Most active AP		
00/15/66/00/00/03	↓ 255 MB	21.3 MB
Most active client		
10,68/3f00:00:4a	4 19.7 MB	1.46 MB
Alf-time Top Client		
10/88/36/00/00/48	↓ 17.9 MB	1.28 MB
10h 46m		

UniFi Controller User Guide Chapter 8: Statistics

### **Most Active AP**

The details of the most active Access Point are displayed:

Name or MAC address You can click this link to open the AP Details screen. See <u>"UniFi Access Point Details" on page 95</u> for additional information.

**Download** Displays the total amount of data downloaded by the AP.

**Upload** Displays the total amount of data uploaded by the AP

#### **Most Active Client**

The details of the most active client in current use are displayed:

Name or MAC address You can click this link to open the Client Details screen. See "Client Details" on page 109 for additional information.

**Download** Displays the total amount of data downloaded by the client.

**Upload** Displays the total amount of data uploaded by the client.

### **All-Time Top Client**

for additional information.

The details of the all-time, most active client are displayed:

Name or MAC address You can click this link to open the Client Details screen. See "Client Details" on page 109

**Uptime** Displays the duration of time the client has been connected.

**Download** Displays the total amount of data downloaded by the client.

**Upload** Displays the total amount of data uploaded by the client.

## **Current Usage: Top Access Points**

The details of the most active Access Points in current use are displayed.

**# of Clients** A pie chart represents the client distribution on the most active Access Points. Place the mouse cursor over the chart for the number of clients per specified AP.



**Traffic** A pie chart represents traffic on the most active Access Points. Place the mouse cursor over the chart for the amount of traffic per specified AP.



### **Recent Activities**

The details of recent network activities are displayed.



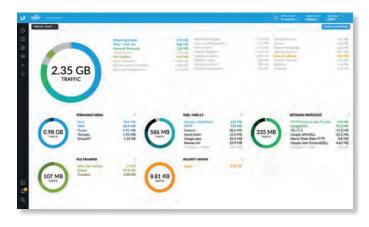
**Clients** In the graph, a dashed line displays the number of clients connected during the selected time period. Place the mouse cursor over an hour or day to display the exact number.

**Traffic** In the graph, a solid line displays the network traffic during the selected time period. Place the mouse cursor over an hour or day to display the specific amount of data.

### **Traffic Stats**

(Available if you have a UniFi Security Gateway with the *DPI* feature enabled. Go to <u>"Settings > Site" on page</u> <u>20</u> for more information.) The *Traffic Stats* screen describes the network traffic by application usage.

Deep Packet Inspection (DPI) is more advanced than conventional Stateful Packet Inspection (SPI) filtering for traffic analysis. Ubiquiti's proprietary DPI engine includes the latest application identification signatures to track which applications (and IP addresses) are using the most bandwidth.



# **Overall Traffic**

Applications are organized by category, such as Streaming Media, Web / Web 2.0, and Network Protocols. The total amount of traffic is broken down by category.

**Amount of Traffic** A pie chart represents the traffic distribution by the most popular categories. Place the mouse cursor over the chart for the amount of traffic per category.

Chapter 8: Statistics UniFi Controller User Guide

A list displays a comprehensive breakdown of the traffic by category. You can click any category to have it displayed with a detailed breakdown of the application usage within that category.



# (Category)

The most popular categories are displayed with the amount of traffic broken down further by application.

**Amount of Traffic** A pie chart represents the traffic distribution by the most popular applications. Place the mouse cursor over the chart for the amount of traffic per application.

A list displays a comprehensive breakdown of the traffic by application.

You can click  $\times$  to remove a category from display.



# **Add Category**

To add a new category for display, follow these steps:

1. Click **Add Category** or the + sign.



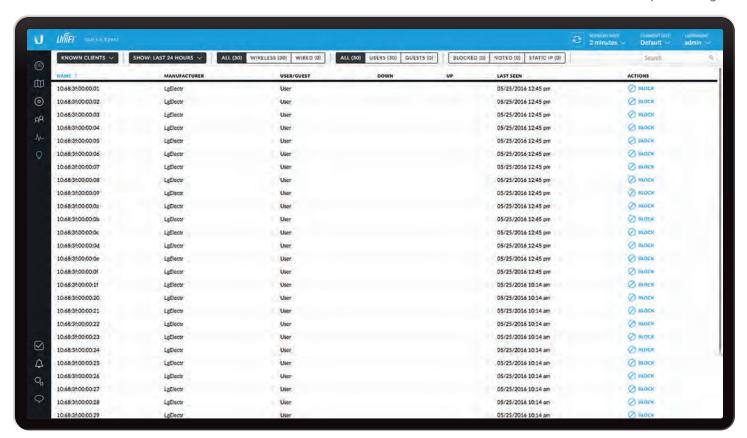
2. Select a category. You can also enter a keyword in the *Filter* field; simply begin typing; there is no need to press *Enter*.



3. Click Save.



UniFi Controller User Guide Chapter 9: Insights



# **Chapter 9: Insights**

The *Insights* screen displays different kinds of status information. Eight filters are available:

- Known Clients Displays information about detected clients.
- Neighboring Access Points Displays information about wireless devices not managed by the UniFi Controller.
- Past Connections Displays information about previous client connection sessions (for example, a client can have multiple sessions from different days).
- Past Guest Authorizations Displays information about the authorization of previous guest connections.
- Switch Stats Displays information about the status, ports, PoE, and traffic activity of the UniFi Switches.
- Port Forward Stats Displays information about the port forwarding entries used by the UniFi Security Gateway.
- Dynamic DNS Displays information about the use of DDNS services.
- Remote User VPN Displays information about the remote user VPN connections.
- AC-EDU Streams Displays information about the streaming by the UniFi AC EDU Access Points.

These sub-tabs share common options:

**Items per page** Select how many results are displayed per page: **10**, **50**, **100**, or **200**.

On any sub-tab, you can click any of the column headers to change the list order.

If there is more than one page of entries to display, click the navigation controls or page numbers at the bottom right of the screen to display different pages.

**Search** Search Enter the text you want to search for. Simply begin typing; there is no need to press Enter.

**(sort)** You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

**Customize Columns** Each of these filters: *Switch Stats, Port Forward Stats, Dynamic DNS, Remote User VPN,* and *AC-EDU Streams,* applies a default set of columns to display. If you enable the *Customize Columns* option, then the selected columns are displayed.

Click \( \cdot\) to customize the columns used for display.

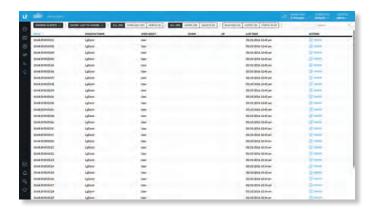


## Select Customize columns.

The column options will vary depending on the filter. They are described further in the following sections:

- "Switch Stats" on page 70
- "Port Forward Stats" on page 73
- "Dynamic DNS" on page 74
- <u>"Remote User VPN" on page 75</u>
- <u>"AC-EDU Streams" on page 75</u>

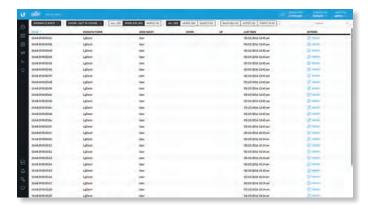
# **Known Clients**



**Show** Filter the results on the page based on the date the client was last seen. Select **last 24 hours**, **3 days**, **7 days**, **2 weeks**, **30 days**, **120 days**, or **All**.

You can apply one of the following filters:

- All Display all clients, regardless of connection type.
- Wireless Display all wireless clients.



• Wired Display all wired clients.



You can also apply one of the following filters:

- All Display all users and guests.
- User Only display users.
- Guest Only display guests.

An additional filter is available:

- Blocked Only display blocked clients.
- Noted Only display clients whose configurations include notes. (See <u>"Wireless Client Configuration"</u> on page 111 or <u>"Wired Client Configuration"</u> on page 112 for more information.)
- Static IP Only display clients using static IP addresses.

Name Displays the hostname, alias, or MAC address of the connected client. You can click the name to get additional details; see <u>"Client Details" on page 109</u> for more information.

**Manufacturer** Displays the name of the device manufacturer.

**User/Guest** Indicates whether the client is/was connected to a primary or guest network.

**Down** Displays the total amount of data downloaded by the client.

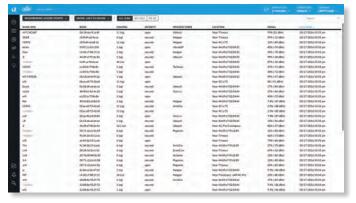
**Up** Displays the total amount of data uploaded by the client.

**Last Seen** Displays the last date and time the client was connected.

**Actions** Click a button to perform the desired action:

- **Block** Click BLOCK to block this client from accessing the network. Click UNBLOCK to unblock this client.
- Reconnect Click reconnect to reconnect a wireless client. You can click reconnect to kick out a client, which usually reconnects back quickly; this is useful for troubleshooting or resolving a problematic wireless connection.

# **Neighboring Access Points**



**Show** Filter the results on the page based on the time the AP was last seen. Select **last 24 hours**, **3 days**, **7 days**, **2 weeks**, **30 days**, **120 days**, or **All**.

You can apply one of the following filters:

- All Displays all wireless APs.
- 2G Only displays 2.4 GHz APs.

• 5G Only displays 5 GHz APs.

Name/SSID Displays the name of the wireless network. BSSID Displays the MAC address of the AP's wireless interface.

**Channel** Displays the channel setting that the AP was detected on.

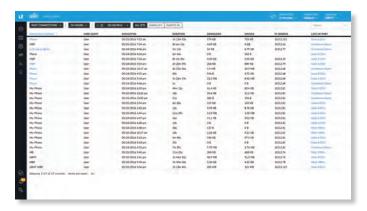
**Security** Displays the security status indicating whether encryption is used.

Manufacturer Displays the name of the AP manufacturer.

**Location** Displays the name of the closest AP managed by the UniFi Controller. You can click the name to get additional details on the AP.

**Signal** Displays the signal strength level and signal type: **Last Seen** Displays the last date and time the AP was connected.

# **Past Connections**



**24 Hours** The default view. Select **Week** or **Month** to change the duration interval.

**Date** Click either arrow to change the date in one-day increments.

< ± 2016/05/11 >

Click the date to display the calendar.



Calendar Click a specific date to display its statistics.
 Click either arrow to change the calendar in one-month increments.

You can apply one of the following filters:

- All Display all users and guests.
- User Only display users.
- Guest Only display guests.

Name/MAC Address Displays the hostname, alias, or MAC address of the connected client. You can click the name to get additional details; see <u>"Client Details" on page 109</u> for more information.

**User/Guest** Indicates whether the client is/was connected to a primary or guest network.

**Associated** Displays the date and time the client first connected.

**Duration** Displays the length of time the client was connected.

**Download** Displays the total amount of data downloaded by the client.

**Upload** Displays the total amount of data uploaded by the client.

IP Address Displays the last known IP address of the

Last AP/Port Displays the name or MAC address of the last AP used by the wireless client or the last port used by the wired client. You can click the device name for more information; refer to "UniFi Access Point Details" on page 95 or "UniFi Switch Details" on page 85.

# **Past Guest Authorizations**



**24 Hours** The default view. Select **Week** or **Month** to change the duration interval.

**Date** Click either arrow to change the date in one-day increments.

< 🛱 2016/05/11 >

Click the date to display the calendar.



Calendar Click a specific date to display its statistics.
 Click either arrow to change the calendar in one-month increments.

Name/MAC Address Displays the hostname, alias, or MAC address of the previous guest.

Package Displays the name of the guest access package.

**Amount** Displays the amount paid by the guest.

**Authorized By** Displays the name of the authorizing body.

**Start** Displays the start date and time of the session.

**Duration** Displays the length of time the guest was connected.

**Download** Displays the total amount of data downloaded by the guest.

**Upload** Displays the total amount of data uploaded by the guest.

IP Displays the last known IP address of the guest.

Last AP/Port Displays the name or MAC address of the last AP used by the wireless guest or the last port used by the wired guest. You can click the device name for more information; refer to "UniFi Access Point Details" on page 95 or "UniFi Switch Details" on page 85.

## Switch Stats

You can apply one of the following filters:

- Overview Displays the general status information of each port.
- PoE Displays the specific PoE configuration and status of each port.
- Counters Displays the specific TX and RX rates for each port.

You have additional filters:

- All Switch Displays the ports of all UniFi Switches or a specific Switch.
- Link Status Displays the ports of the specified status:
  - All Displays all ports.
  - Connected Displays all connected ports.
  - Disconnected Displays all disconnected ports.

**Clear Counters** Click CLEAR COUNTERS \( \sigma\) and select one of the following:

- All Resets all counters to zero.
- (switch\_name) Resets the counters of the selected UniFi Switch to zero.

**Customize Columns** Click to customize the columns used for display.



#### Select **Customize columns**.



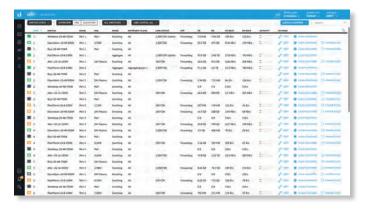
You can add or remove columns for display. The *Customize* columns option will apply, and the filter options: *Overview*, *PoE*, and *Counters* will disappear.

- Reset columns to Click the drop-down at the bottom of the Customize columns screen to display the Reset columns to ... options.
  - Overview The Switch, Name, PoE, Mode, Network/VLANs, Link Status, STP, TX, RX, TX Rate, RX Rate, and Activity columns are displayed.
  - PoE The Switch, Name, PoE, PoE Detection, PD Class, Power, Voltage, and Current columns are displayed.
  - Counters The Switch, TX Bytes, TX Frames, TX
     Multicast, TX Broadcast, TX Errors, RX Bytes, RX Frames,
     RX Multicast, RX Broadcast, and RX Errors columns are
     displayed.

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#### **Overview**



**Port** The ports display their status and port number:

- Indicates a 10/100 Mbps connection.
- Indicates a 1 Gbps (1000 Mbps) connection.
- Indicates a 10 Gbps connection.
- ✓ Indicates 1 Gbps (1000 Mbps) connection with PoE.
- Indicates the connection is disabled (no network or VLAN is enabled).
- Indicates no connection (the network or VLAN is enabled, but the port is not in use).

**Switch** If *All Switches* is selected, then this displays the hostname, alias, or MAC address of the UniFi Switch. You can click the name to get additional details. For more information, see <u>"UniFi Switch Details" on page 85</u>.

Name Displays the name of the port.

**PoE** Displays the PoE setting:

- · (blank) PoE is disabled.
- 24V Passive 24V passive PoE is enabled.
- PoE+ 802.3at/af devices can be plugged in and automatically receive PoE.
- \_W Power output is displayed in watts.

Mode Displays the operation mode:

- Switching The default mode.
- Mirroring The network traffic of this port will receive the mirrored traffic from the port selected in <u>"Port</u> Configuration" on page 87.
- Aggregate This port is part of an aggregate link. A port channel, also known as a Link Aggregation Group (LAG), combines multiple links into a single logical link (single IP address) for load balancing and/or redundancy.

**Networks/VLANs** Displays the networks/VLANs that the port belongs to. If the *Mode* is *Aggregate*, then it displays the aggregation detail.

**Link Status** Displays the connection speed and duplex mode.

**STP** Displays the STP (Spanning Tree Protocol) mode.

TX Displays the amount of data transmitted.

RX Displays the amount of data received.

TX Rate Displays the transmit rate.

**RX Rate** Displays the receive rate.

**Activity** Displays the level of activity. The different colors represent different types of packet activity.



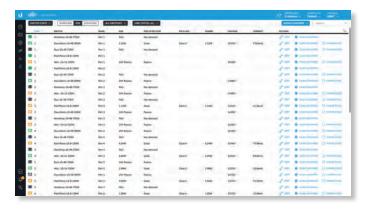
You can place your mouse over the *Activity* icon to display the specific TX or RX rate.



**Actions** Click a button to perform the desired action:

- Edit Click or to make changes to the port settings. For more information, see "UniFi Switch Details" on page 85.
- Clear Counters Click CLEAR COUNTERS to clear the port statistics.
- Power Cycle If applicable, click POWER CYCLE to power cycle the port.

#### PoE



**Port** The ports display their status and port number:

- Indicates a 10/100 Mbps connection.
- Indicates a 1 Gbps (1000 Mbps) connection.
- Indicates a 10 Gbps connection.
- ✓ Indicates 1 Gbps (1000 Mbps) connection with PoE.
- Indicates the connection is disabled (no network or VLAN is enabled).
- Indicates no connection (the network or VLAN is enabled, but the port is not in use).

**Switch** If *All Switches* is selected, then this displays the hostname, alias, or MAC address of the UniFi Switch. You can click the name to get additional details. For more information, see <u>"UniFi Switch Details" on page 85</u>.

Name Displays the name of the port.

**PoE** Displays the PoE setting:

- (blank) PoE is disabled.
- 24V Passive 24V passive PoE is enabled.
- PoE+ 802.3at/af devices can be plugged in and automatically receive PoE.
- \_W Power output is displayed in watts.

**PoE Detection** Displays the PoE status:

- (blank) PoE is disabled.
- Not detected No 802.3at/af device is detected.
- Passive 24V passive PoE is enabled.
- Good An 802.3at/af device is plugged in and automatically receiving PoE.

**PD Class** Displays the PD (Powered Device) class of the detected device, if applicable; this indicates its power requirements.

**Power** Displays the power output in watts, if applicable.

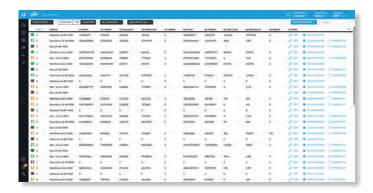
**Voltage** Displays the voltage output, if applicable.

**Current** Displays the current output in amperes, if applicable.

**Actions** Click a button to perform the desired action:

- Edit Click of the make changes to the port settings. For more information, see "UniFi Switch Details" on page 85.
- Clear Counters Click CLEAR COUNTERS to clear the port statistics.
- Power Cycle If applicable, click POWER CYCLE to power cycle the port.

### **Counters**



**Port** The ports display their status and port number:

- Indicates a 10/100 Mbps connection.
- Indicates a 1 Gbps (1000 Mbps) connection.
- Indicates a 10 Gbps connection.
- ✓ Indicates 1 Gbps (1000 Mbps) connection with PoE.
- Indicates the connection is disabled (no network or VLAN is enabled).
- Indicates no connection (the network or VLAN is enabled, but the port is not in use).

**Switch** If *All Switches* is selected, then this displays the hostname, alias, or MAC address of the UniFi Switch. You can click the name to get additional details. For more information, see "UniFi Switch Details" on page 85.

**TX Bytes** Displays the number of bytes transmitted.

**TX Frames** Displays the number of frames transmitted.

**TX Multicast** Displays the number of multicast packets transmitted.

**TX Broadcast** Displays the number of broadcast packets transmitted.

**TX Errors** Displays the number of error packets transmitted.

**RX Bytes** Displays the number of bytes received.

**RX Frames** Displays the number of frames received.

**RX Multicast** Displays the number of multicast packets received.

**RX Broadcast** Displays the number of broadcast packets received.

**RX Errors** Displays the number of error packets received.

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**Actions** Click a button to perform the desired action:

- Edit Click on to make changes to the port settings.
   For more information, see "UniFi Switch Details" on page 85.
- Clear Counters Click CLEAR COUNTERS to clear the port statistics.
- Power Cycle If applicable, click POWER CYCLE to power cycle the port.

## **Port Forward Stats**

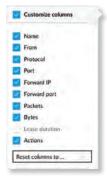
You can apply one of the following primary filters:

- All Displays all port forwarding entries.
- **User-Defined** Displays the user-defined port forwarding entries.
- UPnP Displays the UPnP port forwarding entries.

**Customize Columns** Click to customize the columns used for display.

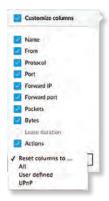


Select Customize columns.



You can add or remove columns for display.

- Reset columns to Click the drop-down at the bottom of the Customize columns screen to display the Reset columns to ... options.
  - All The Name, From, Protocol, Port, Forward IP, Forward Port, Packets, Bytes, and Actions columns are displayed.
  - User Defined The Name, From, Protocol, Port, Forward IP, Forward Port, Packets, Bytes, and Actions columns are displayed.
  - UPnP The Name, Protocol, Port, Forward IP, Forward Port, Packets, Bytes, and Lease Duration columns are displayed.



#### All



**Name** Displays the name of the port forwarding entry. **From** Displays the source IP address, if specified, or *Anywhere*.

**Protocol** Displays the protocol that will be forwarded.

**Port** Displays the port or ports that will be forwarded to the LAN. Also known as the external port(s).

**Forward IP** Displays the destination IP address that will receive the forwarded port traffic.

**Forward Port** Displays the destination port or ports that will receive the forwarded port traffic. Also known as the internal port(s).

Packets Displays the number of packets transferred.

Bytes Displays the number of bytes transferred.

**Actions** Click a button to perform the desired action:

Edit Click on to make changes to the UniFi Security
Gateway settings. For more information, see "UniFi
Security Gateway Details" on page 77.

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### **User-Defined**



Name Displays the name of the port forwarding entry. From Displays the source IP address, if specified, or *Anywhere*.

**Protocol** Displays the protocol that will be forwarded.

**Port** Displays the port or ports that will be forwarded to the LAN. Also known as the external port(s).

**Forward IP** Displays the destination IP address that will receive the forwarded port traffic.

**Forward Port** Displays the destination port or ports that will receive the forwarded port traffic. Also known as the internal port(s).

Packets Displays the number of packets transferred.

Bytes Displays the number of bytes transferred.

**Actions** Click a button to perform the desired action:

Edit Click on to make changes to the UniFi Security
Gateway settings. For more information, see "UniFi
Security Gateway Details" on page 77.

#### **UPnP**



Name Displays the name of the port forwarding entry.

Protocol Displays the protocol that will be forwarded.

**Port** Displays the port or ports that will be forwarded to the LAN. Also known as the external port(s).

**Forward IP** Displays the destination IP address that will receive the forwarded port traffic.

**Forward Port** Displays the destination port that will receive the forwarded port traffic. Also known as the internal port.

Packets Displays the number of packets transferred.

Bytes Displays the number of bytes transferred.

**Lease Duration** Displays the uptime of the port forwarding entry.

# **Dynamic DNS**



**Customize Columns** Click <sup>©</sup> to customize the columns used for display.



Select Customize columns.



You can add or remove columns for display.

**Service** Displays the name of the DDNS service.

**Status** Displays the status of the latest DDNS update.

**Hostname** Displays the hostname registered with the DDNS service.

**Username** Displays the username of the DDNS account.

**Server** Displays the IP address or hostname of the DDNS server that should receive DDNS updates.

IP Displays the WAN (public) IP address of the hostname.

**Last Updated** Displays the duration of time since the hostname IP address was last updated.

**Actions** Click a button to perform the desired action:

Edit Click on to make changes to the UniFi Security
Gateway settings. For more information, see "UniFi
Security Gateway Details" on page 77.

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## Remote User VPN



**Customize Columns** Click to customize the columns used for display.



Select Customize columns.



You can add or remove columns for display.

**Interface** Displays the interface being used.

Remote IP Displays the IP address of the remote user.

**User** Displays the username of the remote user.

**Down Pkts** Displays the amount of data downloaded as packets.

**Down Bytes** Displays the amount of data downloaded as bytes.

**Up Pkts** Displays the amount of data uploaded as packets.

**Up Bytes** Displays the amount of data uploaded as bytes.

**Uptime** Displays the duration of time the VPN tunnel has been active without interruption.

**Actions** Click a button to perform the desired action:

• **Terminate** Click ≪ TERMINATE to end the VPN tunnel.

## **AC-EDU Streams**



**Customize Columns** Click to customize the columns used for display.



Select Customize columns.



You can add or remove columns for display.

- Reset columns to Click the drop-down at the bottom of the Customize columns screen to display the Reset columns to ... options.
  - All The Device, Stream, Ready, Streaming, and Connected columns are displayed.



**Terminate Stream** Click **\* TERMINATE** and then click the live stream you want to terminate.

**Device** Displays the hostname, alias, or MAC address of the UniFi AC EDU AP. You can click the name to get additional details. For more information, see <u>"UniFi</u> Access Point Details" on page 95.

**Stream** Displays the unique identifier for this live stream.

**Ready** Displays the status of the UniFi AC EDU AP, *Yes* or *No*.

**Streaming** Displays the duration of the live streaming, *Yes* or *No*.

**Connected** Displays the status of the connection, *Yes* or *No*.

# **Chapter 10: UniFi Security Gateway Details**

The UniFi Security Gateway hyperlink opens the UniFi Security Gateway's *Details* window either in the *Properties* panel or as a separate popup window. You can always dock this window in the *Properties* panel or detach it as a separate window.

# **Properties**

The *Properties* panel appears on the right side of the screen. Information about each selected device appears as a popup within this panel.



Remove All Click = to close the *Properties* panel.

Collapse All Click = to collapse all of the popups to rows.



The top of the popup remains and displays the following:

- **Display** Click > to display the device information.
- (icon) Displays the icon of the device (the icon will vary depending on the model).
- (status) Displays to indicate the device status.
  - Pending Approval A solid orange circle indicates the default state, available for adoption.
  - Connected A solid green circle indicates a managed connection.
  - Managed by Other A solid gray circle indicates that the device is not in the default state but not controlled by the current UniFi Controller.
  - Disconnected A red warning icon ▲ indicates no connection.

- Name/MAC Address Displays the device name or MAC address of the device.
- Restart Click © to restart the selected device.
- Locate Click <sup>®</sup> to flash the LED on the device and the device icon on the *Map* tab so you can locate it. The LED will flash until the *Locate* button is clicked again. (The icon on the *Map* tab will flash three times and stop.)
- Upgrade Click to upgrade the device. (This icon does not appear if an upgrade is not available or there are pending changes.)
- **Undock from Properties Panel** Click <sup>17</sup> to display the same information in a separate popup screen that can be moved anywhere within the browser screen.
- Close Properties Click  $\times$  to close the device popup.

**Hide Property Panel** Click \* to hide the *Properties* panel but allow the device popups to remain accessible from this panel. Click the *properties* • icon to re-open it.

The upper part of the detached popup screen has an icon for each port.

- Indicates a 10/100 Mbps connection.
- Indicates a 1 Gbps (1000 Mbps) connection.
- Indicates the connection is disabled (no network or VLAN is enabled).
- Indicates no connection (the network or VLAN is enabled, but the port is not in use).

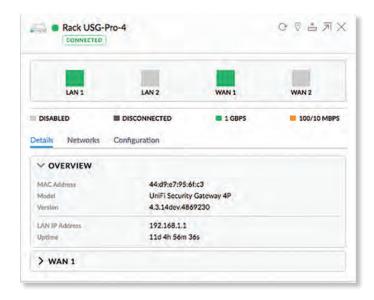
There are three clickable tabs:

- · "UniFi Security Gateway Details" on page 78
- "UniFi Security Gateway Networks" on page 78
- <u>"UniFi Security Gateway Configuration" on page 79</u>

# **UniFi Security Gateway - Details**

Click **Details** to display the device specifics, LAN/WAN connection details, and uptime.

#### Overview



**MAC Address** Displays the MAC address or unique hardware identifier of the Gateway.

**Model** Displays the model name of the Gateway.

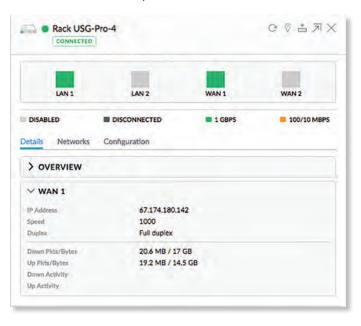
**Version** Displays the version number of the Gateway's firmware.

**LAN IP Address** Displays the local IP address of the Gateway.

**Uptime** Displays the duration of time the Gateway has been running without interruption.

## **WAN 1**

The number of WAN sections will vary depending on the number of active WAN ports.



**IP Address** Displays the WAN (public) IP address of the WAN interface.

**Speed** Displays the connection speed in Mbps.

**Duplex** Displays the mode, Full Duplex or Half Duplex.

**Down Pkts/Bytes** Displays the amount of data downloaded as packets and bytes.

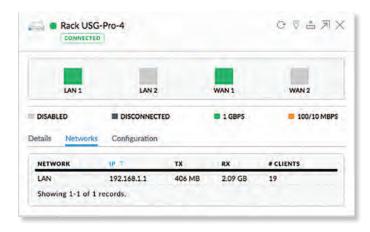
**Up Pkts/Bytes** Displays the amount of data uploaded as packets and bytes.

**Down Activity** Displays the level of download activity in Bytes per second.

**Up Activity** Displays the level of upload activity in Bytes per second.

# **UniFi Security Gateway – Networks**

Click **Networks** to display the network name, IP address, TX and RX throughput, and number of clients.



**(sort)** You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

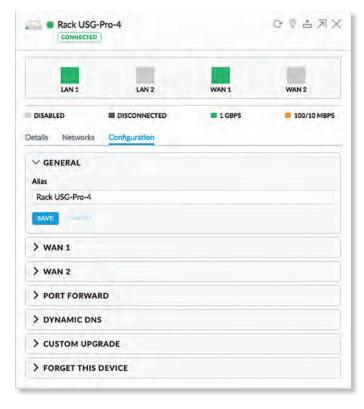
**Network** Displays the name of the network.

- IP Displays the local IP address of the network.
- **TX** Displays the outgoing (transmit) throughput.
- **RX** Displays the incoming (receive) throughput.
- # Clients Displays the number of clients on the network.

# **UniFi Security Gateway – Configuration**

Click **Configuration** to configure the alias, WAN settings, port forwarding, Dynamic DNS, and custom upgrade entries. You can also remove the Gateway from management by this UniFi Controller.

#### General



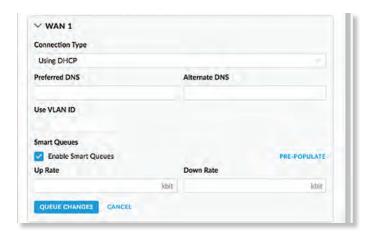
**Alias** Displays the customizable name or identifier of the Gateway. The *Alias* is also known as the host name.

Save Click Save to apply the change.

#### WAN 1/2

**Connection Type** Select the Internet connection type for your service.

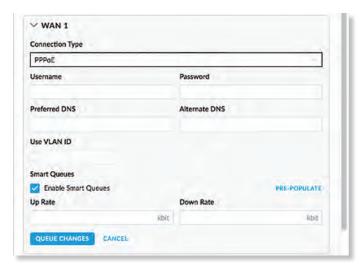
- Using DHCP The use of the Dynamic Host Configuration Protocol (DHCP) is the default. The Gateway automatically acquires network settings from the service provider's DHCP server.
  - Preferred DNS Enter the IP address of the service provider's primary DNS server.
  - Alternate DNS Enter the IP address of the service provider's secondary DNS server.



- Static IP The service provider assigns fixed network settings to your service for manual entry. Enter the following information:
  - IP Address Enter the Internet IP address of the Gateway.
  - **Subnet Mask** Enter the subnet mask of the Gateway.
  - **Router** Enter the IP address of the service provider's gateway router.
  - Preferred DNS Enter the IP address of the service provider's primary DNS server.
  - Alternate DNS Enter the IP address of the service provider's secondary DNS server.



- PPPoE Point-to-Point Protocol over Ethernet (PPPoE)
  is a virtual private and secure connection between two
  systems that enables encapsulated data transport. Enter
  the following information:
  - Username Enter the username used to connect to the PPPoE server.
  - Password Enter the password used to connect to the PPPoE server.
  - Preferred DNS Enter the IP address of the service provider's primary DNS server.
  - Alternate DNS Enter the IP address of the service provider's secondary DNS server.



 Disabled If you are not using the WAN 2 port, then select Disabled.



**Use VLAN ID** To use a VLAN, select **Use VLAN ID** and enter the VLAN ID number.

**Load Balancing** (Available for *WAN 2* if *Using DHCP*, *Static IP*, or *PPPoE* is enabled.) Set up basic load balancing with two Internet connections from different Internet Service Providers (ISPs).

 Failover only Select this option if you want to use WAN 2 only if WAN 1 fails.



 Weighted LB Select this option if you want the load balanced between the two WAN ports. Then enter a weight in the field provided; the default is 50.



**Smart Queues** The Smart Queue feature provides FQ-CODEL (Fair Queuing with Controlled Delay) + HTB (Hierarchical Token Bucket) function and supports dynamic interfaces, even if the dynamic interfaces do not exist yet (the policy will be applied later when the interface comes up).

The HTB rate limiting is computation-intensive, so the rate limiting will not work well (cannot achieve the specified rate) above a certain threshold rate. The actual threshold (applied to the sum of the upload and download rates) depends on the specific Gateway model and conditions of the actual environment.

It may require some testing to find the actual threshold in a specific environment, depending on the actual setup, traffic patterns, and other conditions. You can use the *Pre-Populate* option as a starting point for the *Up* and *Down Rates*. The actual rate limits will be set to 95% of the specified value, so you can experiment with different values if necessary.

The smart queue policy applies to a single interface. If you are using more than one WAN interface, then you would configure a separate smart queue policy for the WAN 2 port in the WAN 2 section.

- Pre-Populate Click Pre-Populate to set the Up and Down Rates to 80% of the last speed test results.
- Up Rate Enter the bandwidth limit in Kbits/sec.
- **Down Rate** Enter the bandwidth limit in Kbits/sec.
- **Pre-Populate** Click **Pre-Populate** to set the *Up* and *Down Rates* to 80% of the last speed test results.

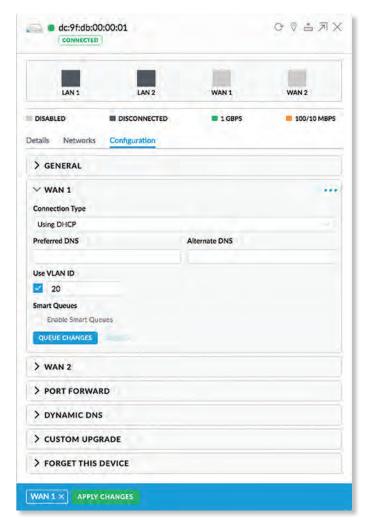


Note: If you enable the *Smart Queues* option, then you will not be able to use the *DPI* feature as traffic will not be offloaded.

Queue Changes Click Queue Changes to line up the changes to take effect. This allows you to make multiple changes to the device and then apply them all at once so that the device doesn't have to re-provision over and over again when you change different sections of the configuration. Each section with pending changes is highlighted by an ellipsis.

When you are done with your changes, click **Apply Changes** at the bottom of the screen. (You can cancel the changes of any section by clicking *X* of the appropriate section.)

Cancel Click Cancel to discard changes.



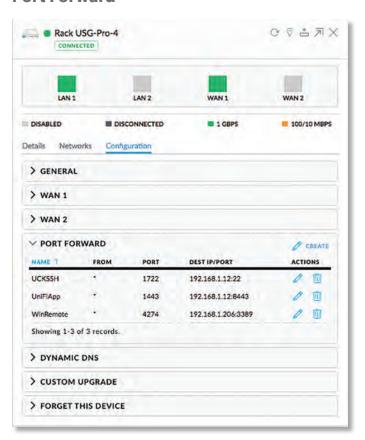
**Pending Changes** If you want queue changes for multiple devices and then apply them later, the *Pending Changes* option appears in the **Properties** panel. Click to display the devices.



**Apply** Click  $\checkmark$  APPLY to save changes.

**Discard** Click × DISCARD to cancel changes.

#### **Port Forward**



Create Click coexist to add a new entry. Go to "Create or Edit Port Forwarding Entry" on page 82.

Name Displays the name of the port forwarding entry.

From Displays the source IP address, if specified.

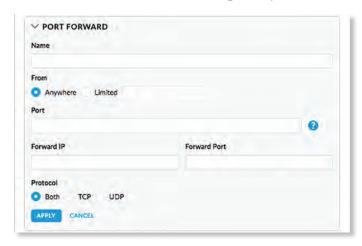
**Port** Displays the port or ports that will be forwarded to the LAN. Also known as the external port(s).

**Dest IP/Port** Displays the destination IP address and port(s) that will receive the forwarded port traffic. Also known as the internal port(s).

**Actions** Click a button to perform the desired action:

- Edit Click / to edit the port forwarding entry.
- Delete Click to delete the port forwarding entry.

# **Create or Edit Port Forwarding Entry**



Name Enter a name to identify this port forwarding entry.

**From** The default is *Anywhere*, which accepts traffic from any source IP address. To specify a source IP address, select **Limited** and enter the source IP address in the field provided.

Port Enter the port or ports that will be forwarded to the LAN (also known as the external port or ports). You can identify the port or ports by name, number, and/or range. To specify multiple ports, use a comma-separated list (example: 20-23,554).

**Forward IP** Enter the LAN IP address that will receive the forwarded port traffic.

**Forward Port** Enter the port or ports that will receive the forwarded port traffic (also known as the internal port). You can identify the port or ports by name, number, and/or range. If you do not specify this port, then the original destination port of the traffic will be used.

**Protocol** Select the protocol that will be forwarded: **Both**, **TCP**, or **UDP**.

**Apply** Click **Apply** to save changes.

Cancel Click Cancel to discard changes.

# **Dynamic DNS**

Domain Name System (DNS) translates domain names to IP addresses; Each DNS server on the Internet holds these mappings in its respective DNS database. Dynamic Domain Name System (DDNS) is a network service that notifies the DNS server in real time of any changes in the device's IP settings. Even if the device's IP address changes, you can still access the device through its domain name.



**Create** Click or to add a new entry. Go to the *Create or Edit DDNS Entry* section on the next page.

**Service** Displays the name of your Dynamic DNS (DDNS) service provider.

**Hostname** Displays the host name of the device.

**Username** Displays the user name of the DDNS account.

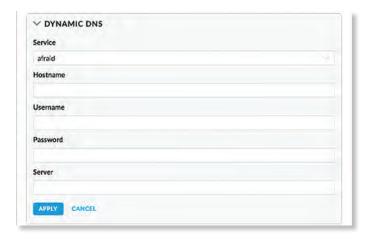
Password Displays the password of the DDNS account.

Server Displays the address of your DDNS server.

**Actions** Click a button to perform the desired action:

- Edit Click / to edit the DDNS entry.
- **Delete** Click to delete the DDNS entry.

# Create or Edit DDNS Entry



**Service** If available, select your DDNS service provider from the drop-down list.

**Hostname** Enter the host name of the device, which has to be updated on the DDNS server. For example: sample.ddns.com

Username Enter the user name of the DDNS account.

Password Enter the password of the DDNS account.

**Server** Enter the address of your DDNS server.

**Apply** Click **Apply** to save changes.

Cancel Click Cancel to discard changes.

# **Custom Upgrade**

For firmware upgrades, the UniFi devices retrieve the latest firmware from the Ubiquiti website. To specify firmware saved in a custom location, select this option.



(URL) Enter the location URL of the firmware.

**Custom Upgrade** Click CUSTOM UPGRADE to upgrade the firmware from the location you entered.

# **Forget This Device**



**Forget** Click **Forget** to remove the Gateway from management by the UniFi Controller software and reset it to factory default settings.



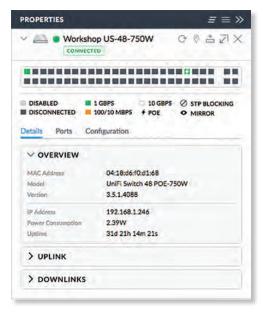
Note: Use caution when clicking *Forget*. This will restore the Gateway to factory default settings while it is in a *Connected* state.

# Chapter 11: UniFi Switch Details

A UniFi Switch hyperlink opens the UniFi Switch's *Details* window either in the *Properties* panel or as a separate popup window. You can always dock this window in the *Properties* panel or detach it as a separate window.

# **Properties**

The *Properties* panel appears on the right side of the screen. Information about each selected device appears as a popup within this panel.



Remove All Click = to close the *Properties* panel.

Collapse All Click = to collapse all of the popups to rows.



The top of the popup remains and displays the following:

- **Display** Click > to display the device information.
- (icon) Displays the icon of the device (the icon will vary depending on the model).
- (status) Displays to indicate the device status.
  - Pending Approval A solid orange circle indicates the default state, available for adoption.
  - Connected A solid green circle indicates a managed connection.
  - Managed by Other A solid gray circle indicates that the device is not in the default state but not controlled by the current UniFi Controller.
  - Disconnected A red warning icon ▲ indicates no connection.

- Name/MAC Address Displays the device name or MAC address of the device.
- Restart Click © to restart the selected device.
- Locate Click ® to flash the LED on the device and the device icon on the Map tab so you can locate it. The LED will flash until the Locate button is clicked again. (The icon on the Map tab will flash three times and stop.)
- Upgrade Click to upgrade the device. (This icon does not appear if an upgrade is not available or there are pending changes.)
- **Undock from Properties Panel** Click ☑ to display the same information in a separate popup screen that can be moved anywhere within the browser screen.
- Close Properties Click  $\times$  to close the device popup.

**Hide Property Panel** Click \* to hide the *Properties* panel but allow the device popups to remain accessible from this panel. Click the *properties* con to re-open it.

The upper part of the detached popup screen has an icon for each port.

- Indicates a 10/100 Mbps connection.
- Indicates a 1 Gbps (1000 Mbps) connection.
- Indicates a 10 Gbps connection.
- ✓ Indicates 1 Gbps (1000 Mbps) connection with PoE.
- Indicates the connection is disabled (no network or VLAN is enabled).
- Indicates no connection (the network or VLAN is enabled, but the port is not in use).
- Indicates STP blocking.
- Indicates mirroring mode.

Place your cursor over a port to view details.



- Port Displays the port number.
- Name Displays the name of the port.
- Status Displays the connection speed and duplex mode
- TX Displays the amount of data transmitted.
- RX Displays the amount of data received.
- PoE (Not applicable to the SFP ports.) Displays the PoE setting:
  - Off PoE is disabled.
  - 24V Passive 24V passive PoE is enabled.
  - \_W Power output is displayed in watts.
  - PoE+ 802.3at/af devices can be plugged in and automatically receive PoE.

- Networks/VLANs Displays the networks/VLANs that the port belongs to.
- Uplink/Downlink Displays the name of the uplink or downlink device.

There are three clickable tabs:

- "UniFi Switch Details" on page 86
- "UniFi Switch Ports" on page 87
- "UniFi Switch Configuration" on page 89

## **UniFi Switch – Details**

Click **Overview** to display the device specifics, connection details, and uptime.

#### **Overview**



**MAC Address** Displays the MAC address or unique hardware identifier of the Switch.

Model Displays the model name of the Switch.

**Version** Displays the version number of the Switch's firmware.

IP Address Displays the IP address of the Switch.

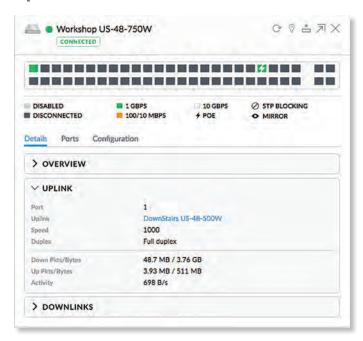
**Power Consumption** Displays the amount of power used by the Switch.

**Temperature** Displays the general temperature of the Switch.

**Fan Level** If the Switch has a fan, then the *Fan Level*, from 0 to 3, is displayed. If the Switch does not have a fan, then the *Fan Level* is not displayed.

**Uptime** Displays the duration of time the Switch has been running without interruption.

# **Uplink**



Port Displays the port number.

**Uplink** Displays the name or MAC address of the uplink device. You can click the name to get additional details.

**Speed** Displays the connection speed in Mbps.

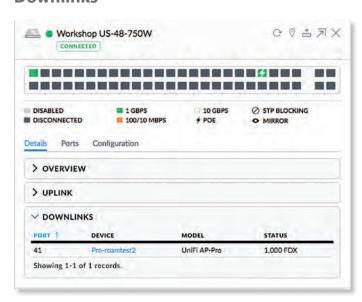
**Duplex** Displays the mode, *Full Duplex* or *Half Duplex*.

**Down Pkts/Bytes** Displays the amount of data downloaded as packets and bytes.

**Up Pkts/Bytes** Displays the number of packets and total bytes uploaded by the device.

**Activity** Displays the level of activity in Bytes per second.

#### **Downlinks**



(sort) You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

Port Displays the number of the connected port.

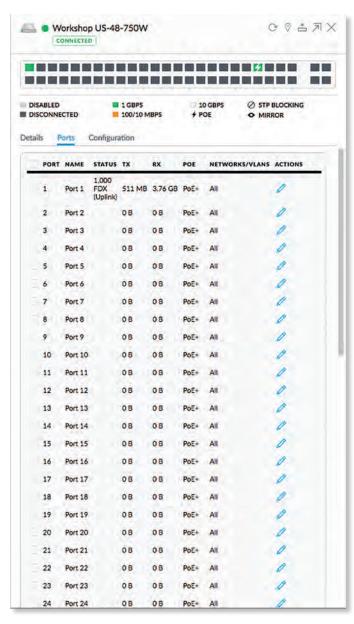
**Device** Displays the name or MAC address of the downlink device. You can click the name to get additional details.

**Model** Displays the model number of the downlink device.

**Status** Displays the connection speed and duplex mode.

## **UniFi Switch - Ports**

Click **Ports** to display the port name, status, TX and RX throughput, PoE setting, and networks/VLANs.



Port Displays the port number.

Name Displays the name of the port.

**Status** Displays the connection speed and duplex mode.

TX Displays the amount of data transmitted.

**RX** Displays the amount of data received.

**PoE** Displays the PoE setting:

- · Off PoE is disabled.
- 24V Passive 24V passive PoE is enabled.
- \_W Power output is displayed in watts.
- PoE+ 802.3at/af devices can be plugged in and automatically receive PoE.

**Networks/VLANs** Displays the networks/VLANs that the port belongs to.

**Actions** Click a button to perform the desired action:

- Edit Click / to change the port configuration. Proceed to the following section, *Port Configuration*.
- Powercycle (Available only if the connected devices uses PoE.) Click ○ to restart the connected device.

# **Port Configuration**



- Port Displays the number of the port.
- Name Displays the customizable name or identifier of the port.

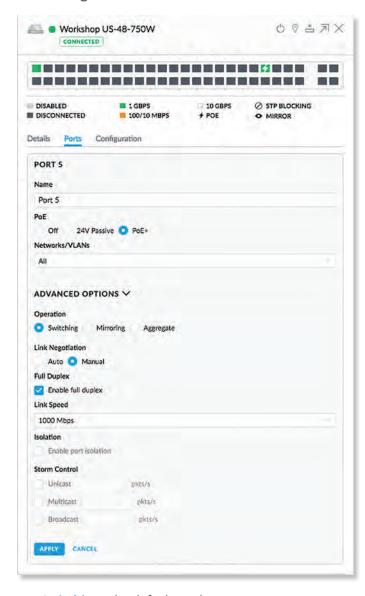
- PoE All ports are set to auto-sensing PoE+ by default.
  - Off Disable PoE.
  - 24V Passive Select this option to power devices that support 24V passive PoE.



Note: Before activating 24V passive PoE, ensure that the connected device supports PoE and the supplied voltage.

- PoE+ 802.3at/af devices can be plugged in and automatically receive PoE.
- Networks/VLANs Select the appropriate network or VLAN, or select *Disabled* to disable this port. The default is All
- Advanced Options Click the icon to display additional options.
- Operation Select the operation mode for this port.
   Switching, Mirroring, or Aggregate. Proceed to the appropriate section.

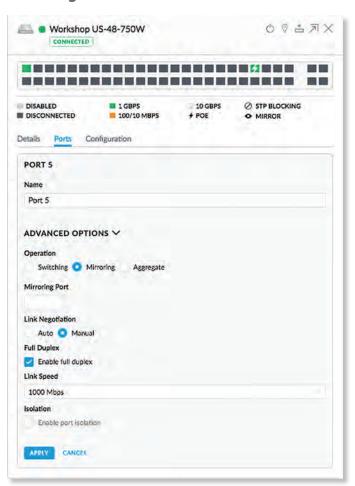
## Switching



Switching The default mode.

- Link Negotiation Keep the default, Auto, or select Manual to specify the duplex and speed:
  - Full Duplex (Available for RJ45 ports only.)
     Full-duplex transmission is enabled by default.
  - Link Speed For RJ45 ports, select the appropriate speed: 1000 Mbps, 100 Mbps, or 10 Mbps. For SFP+ ports, select the appropriate speed: 10 Gbps or 1000 Mbps. For SFP ports, select 1000 Mbps.
- Isolation Select this option to create a Private VLAN (Virtual Local Area Network). Isolated ports cannot communicate directly with each other.
- Storm Control Monitor the unicast, multicast, and/or broadcast traffic for this port. If the specified type of traffic on this port exceeds the threshold rate you specify, then the UniFi Switch drops the excess traffic.
  - Unicast Select this option to monitor unicast traffic.
     Enter the threshold value in packets per second.
  - Multicast Select this option to monitor multicast traffic. Enter the threshold in packets per second.
  - Broadcast Select this option to monitor broadcast traffic. Enter the threshold in packets per second.
- Apply Click Apply to save changes.
- Cancel Click Cancel to discard changes.

## Mirroring



- Mirroring The network traffic of this port will receive the mirrored traffic from the port listed below for analysis:
  - Mirroring Port Enter the number of the port that will be mirrored.
  - Link Negotiation Keep the default, Auto, or select
     Manual to specify the duplex and speed:
    - Full Duplex (Available for RJ45 ports only.)
       Full-duplex transmission is enabled by default.
    - Link Speed For RJ45 ports, select the appropriate speed: 1000 Mbps, 100 Mbps, or 10 Mbps. For SFP+ ports, select the appropriate speed: 10 Gbps or 1000 Mbps. For SFP ports, select 1000 Mbps.
- Isolation Select this option to create a Private VLAN (Virtual Local Area Network). Isolated ports cannot communicate directly with each other.
- · Apply Click Apply to save changes.
- Cancel Click Cancel to discard changes.

# **Aggregate**



 Aggregate A port channel, also known as a Link Aggregation Group (LAG), combines multiple links into a single logical link (single IP address) for load balancing and/or redundancy. If you select this option, then this port becomes the start port of the aggregate link.

- Aggregate Ports Enter the end port number of the LAG. (Two to four ports are permitted per LAG.)
- Link Negotiation Keep the default, Auto, or select Manual to specify the duplex and speed:
  - Full Duplex (Available for RJ45 ports only.)
     Full-duplex transmission is enabled by default.
  - Link Speed For RJ45 ports, select the appropriate speed: 1000 Mbps, 100 Mbps, or 10 Mbps. For SFP+ ports, select the appropriate speed: 10 Gbps or 1000 Mbps. For SFP ports, select 1000 Mbps.
- Apply Click Apply to save changes.
- Cancel Click Cancel to discard changes.

# **UniFi Switch – Configuration**

Click **Configuration** to configure the alias, network/VLANs, services, and network settings. You can also use this tab to copy another switch's configuration to this Switch, perform a custom upgrade, gain terminal access to the Switch, or remove the Switch from management.

# General



**Alias** Displays the customizable name or identifier of the Switch. The *Alias* is also known as the host name.

Save Click Save to apply your change.

Cancel Click Cancel to discard changes.

### Networks/VLANs



Create Click CRATE to add a new entry. Go to the "Create New Network/VLAN" on page 90 section below.

Name Displays the name of the network/VLAN.

**Config** Displays the configuration: *Native* (\_\_\_\_\_) or *Customized*. (Networks may be created in <u>"Settings > Networks" on page 23</u>.)

**Actions** Click a button to perform the desired action:

- View Click to view the default network.
- Edit Click / to edit the network/VLAN entry. (Not available for the default network.)
- Delete Click to delete the network/VLAN entry. (Not available for the default network.)

#### Create New Network/VLAN



- Name Enter a name to identify this network/VLAN.
- Native Network A native network has a Port VLAN Identifier (PVID), which identifies the default VLAN. A switch assigned to a native network participates in the VLAN of that native network.

The Switch accepts tagged and untagged packets in the ingress direction, and the untagged packets are assigned to the VLAN of the native network. For example, if the PVID is VLAN 30, then all untagged packets are assigned to VLAN 30. In the egress direction, the native network packets are stripped of the VLAN 30 header and exit as untagged packets.

This table lists how the packets are handled:

Packet Type	Ingress	Action	Egress
Tagged	Accepted	Remains tagged	Sent out as tagged
Untagged	Accepted	Assigned to VLAN of native network	VLAN header removed and sent out as untagged

Each physical port can have multiple networks attached; however, only one of them can be native (untagged).

Select the appropriate native network. (Additional networks may be created in <u>"Settings > Networks" on page 23</u>.)

- Tagged Networks For a Switch belonging to a tagged network, the packets will be tagged in both ingress and egress directions. For example, the native network is LAN with VLAN 1 as the PVID. The switch is connected to an AP with two tagged networks:
  - VLAN 20: corporate
  - VLAN 30: guest

This table lists how the packets are handled:

Packet Type	Ingress	Action	Egress
Untagged	Accepted	Assigned to VLAN 1	VLAN header removed and sent out as untagged
Tagged as VLAN 20	Accepted	Remains tagged	Sent out tagged as VLAN 20
Tagged as VLAN 30	Accepted	Remains tagged	Sent out tagged as VLAN 30

The proper use of VLANs isolates the traffic of each VLAN. The guest traffic on VLAN 30 will be kept separate from the traffic on the corporate network.

Select the appropriate tagged network. (Use <u>"Settings > Networks" on page 23</u> to create more networks.)

- Apply Click Apply to save changes.
- Cancel Click Cancel to discard changes.

#### Services



**MGMT VLAN** A network group defines the management VLAN for the Switch. Select the appropriate network group.

**Enable Jumbo Frame** Disabled by default. The Maximum Transmission Unit (MTU) is the maximum packet size (in bytes) that a network interface can transmit. A jumbo frame is larger than the standard Ethernet frame with an MTU of 1500. Jumbo frames are typically used for Gigabit Ethernet connections. If you enable this option, then this port handles jumbo frames and forwards them.

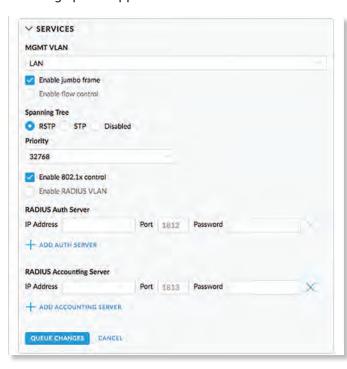
**Enable Flow Control** Disabled by default. *Flow Control* allows the port to manage data rates in case the sending and receiving devices use different data transmission rates.

**Spanning Tree** For optimal performance, there should be a single active path between two networking devices in an Ethernet network. Spanning Tree Protocol (STP) provides redundant paths and prevents network loops that can create excessive traffic and slow down performance. STP calculates the best path for network traffic; if the best path fails, STP recalculates and finds the next best path.

Select the appropriate option: **RSTP** (Rapid Spanning Tree Protocol), **STP** (Spanning Tree Protocol), or **Disabled**. RSTP is recommended because ports can more quickly progress to the forwarding state. When STP is selected, the Switch sends STP packets. The default is *RSTP*.

**Priority** STP uses priority values to select a switch as the root switch of the spanning tree. Specify the *Priority* value of the Switch. The default is 32768.

**Enable 802.1x control** Select this option to use a RADIUS server for user authentication on a wireless network. The following options appear.



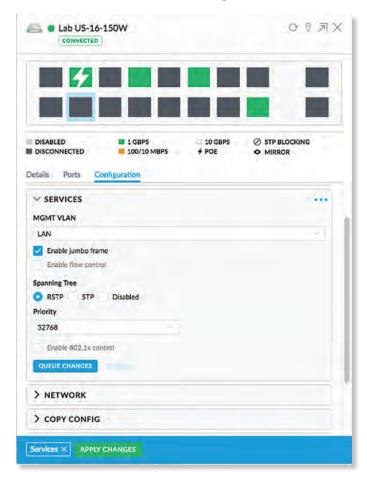
- Enable RADIUS VLAN Allows the RADIUS server to dynamically assign a VLAN to a wired client.
- RADIUS Auth Server Provide the following information about the RADIUS authentication server:
  - IP Address Enter the IP address.
  - Port Enter the port number. The default is 1812.
  - Password Enter the password.
  - Delete Click the delete X icon to remove this accounting server.

- Add Auth Server If you have another authentication server, click this option and complete the IP Address, Port, and Password fields.
- RADIUS Accounting Server Provide the following information about the RADIUS server:
  - IP Address Enter the IP address.
  - Port Enter the port number. The default is 1813.
  - Password Enter the password.
  - Delete Click the delete X icon to remove this accounting server.
  - Add Accounting Server If you have another accounting server, click this option and complete the IP Address, Port, and Password fields.

Queue Changes Click Queue Changes to line up the changes to take effect. This allows you to make multiple changes to the device and then apply them all at once so that the device doesn't have to re-provision over and over again when you change different sections of the configuration. Each section with pending changes is highlighted by an ellipsis.

When you are done with your changes, click **Apply Changes** at the bottom of the screen. (You can cancel the changes of any section by clicking *X* of the appropriate section.)

Cancel Click Cancel to discard changes.



**Pending Changes** If you want queue changes for multiple devices and then apply them later, the *Pending Changes* option appears in the **Properties** panel. Click v to display the devices.



- Apply Click 

  APPLY to save changes.
- **Discard** Click × DISCARD to cancel changes.

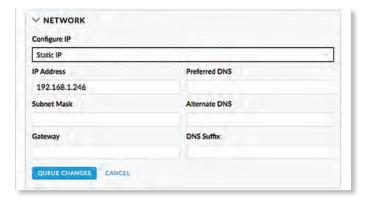
#### Network

**Configure IP** Select the Internet connection type for your service, **Using DHCP** or **Static IP**.

 Using DHCP The use of the Dynamic Host Configuration Protocol (DHCP) is the default. The Switch automatically acquires network settings from the network's DHCP server.



- Static IP Assign fixed network settings to the Switch.
   Enter the following information:
  - IP Address Enter the IP address for the Switch.
  - Subnet Mask Enter the subnet mask of the Switch.
  - Gateway Enter the IP address of the gateway (for example, the UniFi Security Gateway).
  - Preferred DNS Enter the IP address of the primary DNS server
  - Alternate DNS Enter the IP address of the secondary DNS server.
  - **DNS Suffix** Enter the Fully Qualified Domain Name (FQDN) without the hostname.



Queue Changes Click Queue Changes to line up the changes to take effect. This allows you to make multiple changes to the device and then apply them all at once so that the device doesn't have to re-provision over and over again when you change different sections of the configuration. Each section with pending changes is highlighted by an ellipsis.

When you are done with your changes, click **Apply Changes** at the bottom of the screen, or click *Cancel* to discard changes. (You can cancel the changes of any section by clicking *X* of the appropriate section.)

Cancel Click Cancel to discard changes.

**Pending Changes** If you want queue changes for multiple devices and then apply them later, the *Pending Changes* option appears in the **Properties** panel. Click v to display the devices.

- Apply Click 

  APPLY to save changes.
- **Discard** Click × DISCARD to cancel changes.

# **Copy Config**

If you have settings that you want to apply to multiple Switches, use this option to copy the configuration.



**Copy from** Select the appropriate Switch whose configuration will be copied to this Switch. Then click **Confirm** to overwrite its current configuration with the configuration of the selected Switch.

# **Custom Upgrade**

For firmware upgrades, the UniFi devices retrieve the latest firmware from the Ubiquiti website. To specify firmware saved in a custom location, select this option.



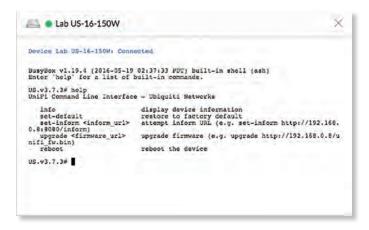
(**location URL**) Enter the UL of the firmware's location. **Custom Upgrade** Click CUSTOM UPGRADE to upgrade the firmware from the location you entered.

# **Debug Terminal**

This option uses a WebRTC connection as transport layer. To use a command-line interface, click **Open Terminal**.



**Open Terminal** Click **Open Terminal** to connect directly to this Switch. A new window will appear.



 help Enter help at the command line for a list of built-in commands.

# **Forget This Switch**



**Forget** Click **Forget** to remove the Switch from management by the UniFi Controller software and reset it to factory default settings.



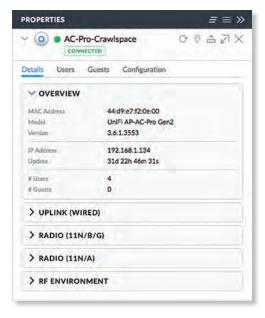
Note: Use caution when clicking *Forget*. This will restore the Switch to factory default settings when it is in a *Connected* state.

# Chapter 12: UniFi Access Point Details

A UniFi AP hyperlink opens the UniFi AP's *Details* window either in the *Properties* panel or as a separate popup window. You can always dock this window in the *Properties* panel or detach it as a separate window.

# **Properties**

The *Properties* panel appears on the right side of the screen. Information about each selected device appears as a popup within this panel.



Remove All Click = to close the *Properties* panel.

Collapse All Click = to collapse all of the popups to rows.



The top of the popup remains and displays the following:

- **Display** Click > to display the device information.
- (icon) Displays the icon of the device (the icon will vary depending on the model).
- (status) Displays to indicate the device status.
  - Pending Approval A solid orange circle indicates the default state, available for adoption.
  - Connected A solid green circle indicates a managed connection.
  - Managed by Other A solid gray circle indicates that the device is not in the default state but not controlled by the current UniFi Controller.

- Disconnected or Isolated A red warning icon indicates no connection. To establish a connection to the UniFi Controller, perform one of the following actions:
  - · Reconnect the AP to the gateway or router.
  - Connect an Ethernet cable from the Secondary
     Ethernet Port (if available) of the isolated AP to the
     Secondary Ethernet Port (if available) of another UniFi
     AP that is connected to the gateway or router.
  - Establish a wireless uplink to a wired AP.
- Name/MAC Address Displays the device name or MAC address of the device.
- Restart Click © to restart the selected device.
- Locate Click <sup>®</sup> to flash the LED on the device and the device icon on the *Map* tab so you can locate it. The LED will flash until the *Locate* button is clicked again. (The icon on the *Map* tab will flash three times and stop.)
- Upgrade Click to upgrade the device. (This icon does not appear if an upgrade is not available or there are pending changes.)
- Undock from Properties Panel Click <sup>17</sup> to display the same information in a separate popup screen that can be moved anywhere within the browser screen.
- Close Properties Click  $\times$  to close the device popup.

**Hide Property Panel** Click \* to hide the *Properties* panel but allow the device popups to remain accessible from this panel. Click the *properties* cicon to re-open it.

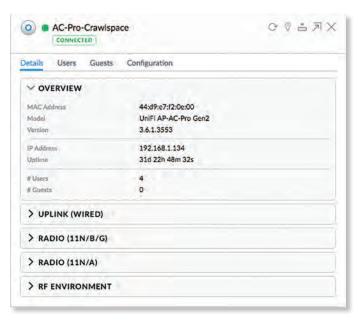
There are four clickable tabs:

- "UniFi Access Point Details" on page 96
- "UniFi Access Point Users" on page 99
- "UniFi Access Point Guests" on page 100
- "UniFi Access Point Configuration" on page 100

## **UniFi Access Point – Details**

Click **Overview** to display the device specifics, connection details, uptime, and user statistics.

## **Overview**



**MAC Address** Displays the MAC address or unique hardware identifier of the AP.

**Model** Displays the model name of the AP.

**Version** Displays the version number of the AP's firmware.

**IP Address** Displays the IP address of the AP.

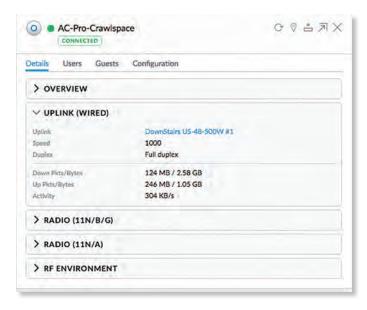
**Uptime** Displays the duration of time the AP has been running without interruption.

**# Users** Displays the number of users connected to the primary network.

**# Guests** Displays the number of users connected to the guest network.

# **Uplink (Wired)**

If your AP has a wired uplink connection, click **Uplink** (**Wired**) to display details about the wired uplink.



**Uplink** Displays the name, alias, or MAC address of the switch or other uplink device being used by the AP. You can click the name to get additional details on the device.

**Speed** Displays the connection speed in Mbps.

**Duplex** Displays the mode, Full Duplex or Half Duplex.

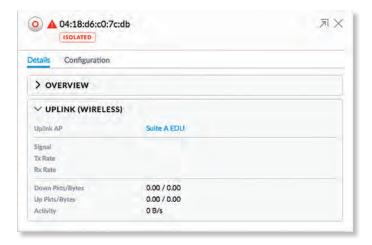
**Down Pkts/Bytes** Displays the amount of data downloaded as packets and bytes.

**Up Pkts/Bytes** Displays the amount of data uploaded as packets and bytes.

**Activity** Displays the level of activity in Bytes per second.

# **Uplink (Wireless)**

If your AP has a wireless uplink connection, click **Uplink** (**Wireless**) to display details about the wireless uplink.



**Uplink AP** Displays the name, alias, or MAC address of the uplink AP. You can click the name to get additional details on the uplink AP.

**Signal** Displays the percentage of signal strength between the two APs.

TX Rate Displays the transmit rate.

**RX Rate** Displays the receive rate.

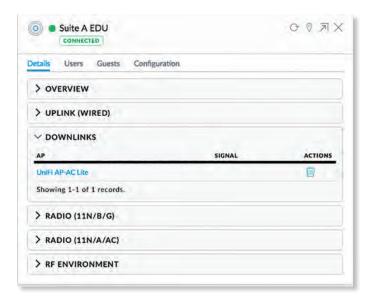
**Down Pkts/Bytes** Displays the amount of data downloaded as packets and bytes.

**Up Pkts/Bytes** Displays the amount of data uploaded as packets and bytes.

**Activity** Displays the level of activity in Bytes per second.

## **Downlink**

The wireless APs currently connected to the wired AP are displayed.





Note: *Downlinks* will only be visible under the *Details* tab when a wireless AP is connected.

AP Displays the name, alias, or MAC address of the downlink AP. You can click the name to get additional details on the device.

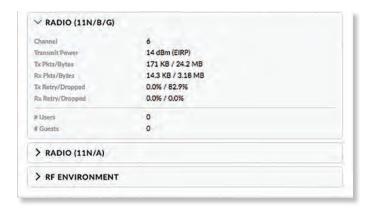
**Signal** Displays the percentage of signal strength between the two APs.

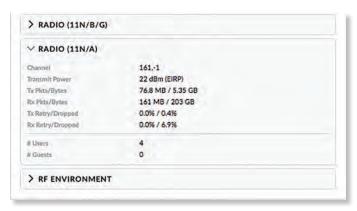
**Actions** Click a button to perform the desired action:

 Remove Click Remove the wireless AP from the wired AP.

# Radio (11N/B/G) or Radio (11N/A/AC)

Click Radio (11N/B/G) or Radio (11N/A/AC) to display the channel and transmit/receive statistics.





**Channel** Displays the channel being used.

Transmit Power Displays the EIRP in dBm.

**TX Pkts/Bytes** Displays the amount of data transmitted as packets and bytes.

**RX Pkts/Bytes** Displays the amount of data received as packets and bytes.

**TX Retry/Dropped** Displays the percentage of transmit packets that needed to be re-sent and the percentage of packets that were dropped.

**RX Retry/Dropped** Displays the percentage of receive packets that needed to be re-sent and the percentage of packets that were dropped.

**# Users** Displays the number of users connected to the primary network.

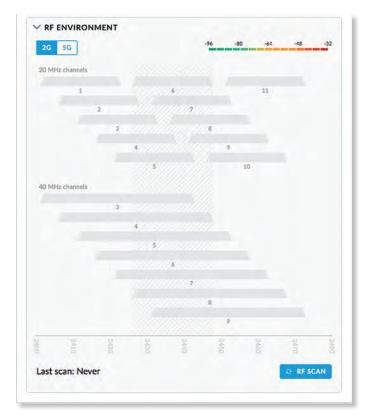
**# Guests** Displays the number of guests connected to the guest network.

## **RF Environment**



Note: Only the UAP-AC-LITE, UAP-AC-LR, UAP-AC-PRO, and UAP-AC-EDU support spectral analysis.

Click **RF Environment** for spectral analysis to help in channel selection and planning.

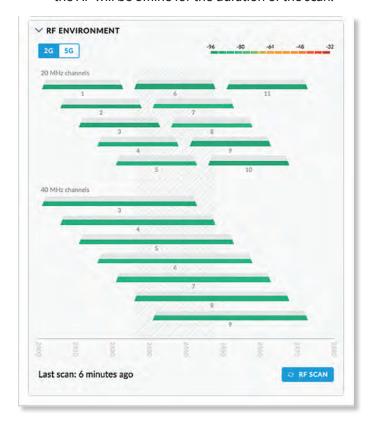


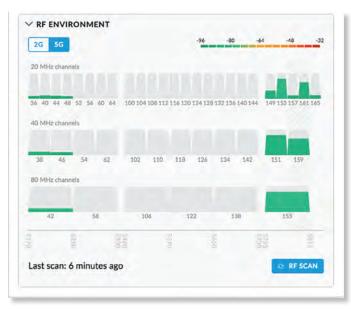


**2G/5G** Select the frequency band you want to analyze. **RF Scan** Click **PRF SCAN** to scan the RF environment and then click **Confirm** to continue.



Note: The RF scan may take more than five minutes. All clients using this AP will be disconnected, and the AP will be offline for the duration of the scan.





Each bar graph represent a channel option and its color-coded level of interference (from green at -96 dBm to red at -32 dBm).

\_\_MHz The 2.4 GHz results are displayed in channel widths of 20 and 40 MHz. The 5 GHz results are displayed in channel widths of 20, 40, and 80 MHz.

\_\_ Displays the corresponding channel number for each channel width option.

(outlined) The current channel is outlined.

Place your cursor over a channel option to view the following:

#### Overview

- · Radio Displays the radio being used.
- Channel Width Displays the width of the channel.
- Frequency Range Displays the range of frequencies.

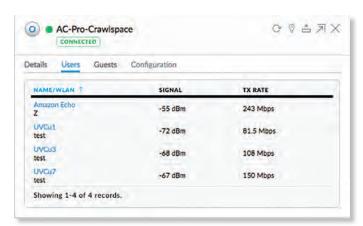
## **RF Scan Details**

- **Utilization** Displays the percentage of the frequency range already in use.
- Interference Displays the level of interference.
- Interference Types Displays the type of interference being detected.



**Last scan** Displays the duration of time since the last scan.

# **UniFi Access Point – Users**



**(sort)** You can click any column to sort the displayed list. The selected column displays ↑ or ↓ to indicate ascending or descending order.

Name Displays the hostname, alias, or MAC address of the connected client and the name or SSID of the wireless network in use. You can click the name to get additional details; see <u>"Client Details" on page 109</u> for more information.

**Signal** Displays the signal strength between the user and AP.

**TX Rate** Displays the transmit rate.

## **UniFi Access Point – Guests**



**(sort)** You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

Name/WLAN Displays the hostname, alias, or MAC address of the connected guest and the name or SSID of the wireless network in use. You can click the guest name to get additional details; see <u>"Client Details" on page</u> 109 for more information.

**Signal** Displays the signal strength between the guest and AP.

TX Rate Displays the transmit rate.

# **UniFi Access Point - Configuration**

Change device configuration settings.

#### General

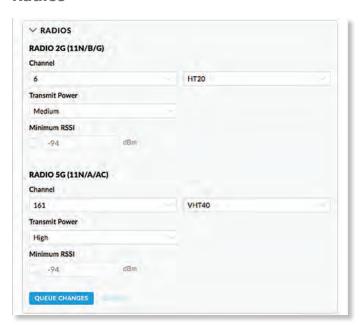


**Alias** Enter or edit the customizable name or identifier of the AP. The *Alias* is also known as the host name.

Save Click Save to apply the change.

Cancel Click Cancel to discard changes.

## **Radios**



**Channel** Select the appropriate settings:

- Auto/(channel number) Select a channel number or keep the default, Auto.
- HT20/HT40/HT80 (Available for 2.4 GHz only.) Select
   HT20 for 20 MHz operation, HT40 for 40 MHz operation, or HT80 for 80 MHz operation in the 5 GHz band.



Note: If the AP is part of a Zero Handoff WLAN Group, then the *Channel* settings cannot be changed.

VHT20/VHT40/VHT80 (Available for 5 GHz only.)
 Select VHT20 for 20 MHz operation, VHT40 for 40 MHz operation, or VHT80 for 80 MHz operation in the 5 GHz band.



Note: If the AP is part of a Zero Handoff WLAN Group, then the *Channel* settings cannot be changed.

**Transmit Power** By default the transmit power is set to *Auto*. You can also manually select the following:

- High The highest TX power available.
- Medium Halfway between High and Low.
- Low The lowest TX power available.
- **Custom** Custom setting that you specify in the field provided.
- Antenna Gain (Only available for Outdoor models)
   Specify the antenna gain.

Minimum RSSI Disabled by default. Select this option and enter a minimum threshold (we recommend a value in this range: -70 to -90 dBm). For UniFi, RSSI is synonymous with SNR. If the client signal falls below the specified threshold, then the AP kicks out the client, allowing it to reconnect with a more suitable AP.

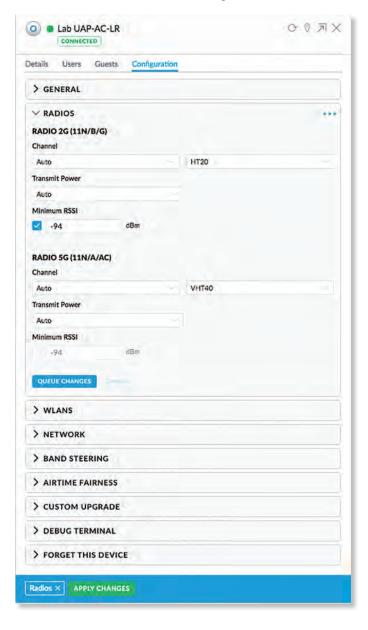


Note: If the AP is part of a Zero Handoff WLAN Group, the *Minimum RSSI* setting cannot be changed.

Queue Changes Click Queue Changes to line up the changes to take effect. This allows you to make multiple changes to the device and then apply them all at once so that the device doesn't have to re-provision over and over again when you change different sections of the configuration. Each section with pending changes is highlighted by an ellipsis.

When you are done with your changes, click **Apply Changes** at the bottom of the screen. (You can cancel the changes of any section by clicking *X* of the appropriate section.)

Cancel Click Cancel to discard changes.



**Pending Changes** If you want queue changes for multiple devices and then apply them later, the *Pending Changes* option appears in the **Properties** panel. Click v to display the devices.



- Apply Click < APPLY to save changes.
- **Discard** Click × DISCARD to cancel changes.

#### **WLANs**

You can deploy multiple wireless networks organized into WLAN groups on different APs.



**WLAN Group** Select the appropriate group.

Name Displays the network name or SSID of the available wireless network.

**Overrides** Displays the SSID override information applied to the wireless network.

**Actions** Click a button to perform the desired action:

 Edit Click / to enable a VLAN (Virtual Local Area Network), set the VLAN ID, and enter the SSID override name to apply to the wireless network.



Note: The *Override* option is not available for a Zero Handoff WLAN Group.

**Queue Changes** Click **Queue Changes** to save changes. **Cancel** Click *Cancel* to discard changes.

#### **Override**



**Enabled on this AP** Select the checkbox to enable the WLAN for use.

Use VLAN Select the checkbox to enable the VLAN.

 with VLAN ID The VLAN ID is a unique value assigned to each VLAN on a single device. Enter a value between 2 and 4095. For example, in a large deployment where there are multiple buildings, you can use a different VLAN ID for each building while all of the VLANs remain on the same corporate network.

**SSID** Enter the SSID override name to apply to the wireless network.

**Security Key** If the WPA-Personal security option has been applied to the WLAN under *Settings > Wireless Networks*, then the Pre-Shared Key (PSK) for the SSID specified will automatically appear in this field.

**Actions** Click a button to perform the desired action:

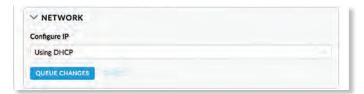
- Save Click Save to apply changes.
- Reset to Defaults Click Reset to Defaults to remove any overrides that were applied to the selected wireless network.
- Cancel Click Cancel to discard changes.

#### Network

**Configure IP** Select the Internet connection type for your service, **Using DHCP** or **Static IP**. Proceed to the appropriate instructions.

#### Using DHCP

 Using DHCP The use of the Dynamic Host Configuration Protocol (DHCP) is the default. The AP automatically acquires network settings from the network's DHCP server.



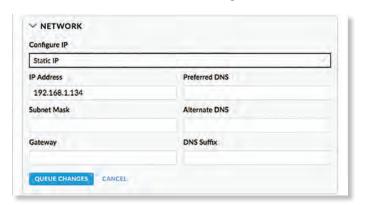
 Queue Changes Click Queue Changes to line up the changes to take effect. This allows you to make multiple changes to the device and then apply them all at once so that the device doesn't have to re-provision over and over again when you change different sections of the configuration. Each section with pending changes is highlighted by an ellipsis.

When you are done with your changes, click **Apply Changes** at the bottom of the screen. (You can cancel the changes of any section by clicking *X* of the appropriate section.)

- Cancel Click Cancel to discard changes.
- Pending Changes If you want queue changes for multiple devices and then apply them later, the Pending Changes option appears in the Properties panel. Click
   to display the devices.
  - Apply Click < APPLY to save changes.
  - **Discard** Click × DISCARD to cancel changes.

#### Static IP

- Static IP Assign fixed network settings to the AP. Enter the following information:
  - IP Address Enter the IP address for the AP.
  - Subnet Mask Enter the subnet mask of the AP.
  - **Gateway** Enter the IP address of the gateway (for example, the UniFi Security Gateway).
  - Preferred DNS Enter the IP address of the primary DNS server.
  - Alternate DNS Enter the IP address of the secondary DNS server.
  - DNS Suffix Enter the Fully Qualified Domain Name (FQDN) without the hostname.
- Queue Changes Click Queue Changes to save changes.
- Cancel Click Cancel to discard changes.



- Static IP Assign fixed network settings to the AP. Enter the following information:
  - IP Address Enter the IP address for the AP.
  - Subnet Mask Enter the subnet mask of the AP.
  - Gateway Enter the IP address of the gateway (for example, the UniFi Security Gateway).

- Preferred DNS Enter the IP address of the primary DNS server.
- Alternate DNS Enter the IP address of the secondary DNS server.
- **DNS Suffix** Enter the Fully Qualified Domain Name (FQDN) without the hostname.
- Queue Changes Click Queue Changes to line up the changes to take effect. This allows you to make multiple changes to the device and then apply them all at once so that the device doesn't have to re-provision over and over again when you change different sections of the configuration. Each section with pending changes is highlighted by an ellipsis.

When you are done with your changes, click **Apply Changes** at the bottom of the screen. (You can cancel the changes of any section by clicking *X* of the appropriate section.)

- Cancel Click Cancel to discard changes.
- Pending Changes If you want queue changes for multiple devices and then apply them later, the Pending Changes option appears in the Properties panel. Click
   to display the devices.
  - **Apply** Click  $\checkmark$  APPLY to save changes.
  - **Discard** Click × DISCARD to cancel changes.

## **Band Steering**

2.4 GHz networks are typically more congested due to support of legacy clients and multiple sources of 2.4 GHz interference, including Bluetooth devices. Band steering can help distribute the load on 2.4 GHz and 5 GHz networks by steering dual-band clients to the 5 GHz band when appropriate.

Some dual-band clients are band-steering unfriendly for various reasons and are marked as such by the AP. Such clients are not steered to any band even when conditions would justify it.



Note: Only the UAP-PRO, UAP-AC-LITE, UAP-AC-LR, UAP-AC-PRO, and UAP-AC-EDU models support band steering.

If enabled, the UniFi band steering policy takes two criteria into account:

- · channel utilization metrics
- signal quality measurements, including RSSI

The AP steers the client to the optimal band during association (not after association). If both bands or neither band is overloaded, the AP does not perform band steering; instead, the client chooses a band.

If the 2.4 GHz band is overloaded, and the RSSI of the client is above the threshold for association on the 5 GHz band, then the AP will steer the client to the 5 GHz band by withholding probe responses.

If the client still attempts to associate on the 2.4 GHz band, the AP will send auth failure frames in response to auth requests from the client.

If the 5 GHz band is overloaded and the 2.4 GHz band is not, then clients are steered to the 2.4 GHz band (RSSI is not a factor). The RSSI thresholds are 30 dBm or better for the 5 GHz band. For example, if the 2.4 GHz network has low utilization, then the *Steer to 5G* option does not steer all clients to 5 GHz.

All APs must use the same SSID for the 2.4 GHz and 5 GHz bands. For example, if you have multiple WLANs in your default WLAN group, you cannot override the 5 GHz SSID name in one of the WLANs and still use band steering on the other two WLANs. All APs must use band steering – or none of them do.



**Prefer 5G** Select this option to steer clients to the 5 GHz band at a lower channel utilization threshold than the *Balanced* option. The threshold is not a single value; instead it is a function of two values: the 2.4 GHz channel utilization and 5 GHz channel utilization.

**Balanced** (Not available for the UAP-PRO.) Select this option to steer clients to the 5 GHz band channel at a higher channel utilization threshold than the *Steer to 5G* option.

**Off** Keep the default, *Off*, if you do not want to use band steering.

Queue Changes Click Queue Changes to line up the changes to take effect. This allows you to make multiple changes to the device and then apply them all at once so that the device doesn't have to re-provision over and over again when you change different sections of the configuration. Each section with pending changes is highlighted by an ellipsis.

When you are done with your changes, click **Apply Changes** at the bottom of the screen. (You can cancel the changes of any section by clicking *X* of the appropriate section.)

Cancel Click Cancel to discard changes.

**Pending Changes** If you want queue changes for multiple devices and then apply them later, the *Pending Changes* option appears in the **Properties** panel. Click  $\,^{\vee}$  to display the devices.

- Apply Click 
   APPLY to save changes.
- **Discard** Click × DISCARD to cancel changes.

#### **Airtime Fairness**



Note: Only the UAP-AC-LITE, UAP-AC-LR, UAP-AC-PRO, and UAP-AC-EDU models support airtime fairness.

The Airtime Fairness option helps multiple users to share the bandwidth of a single AP.



**On/Off** Disabled by default. Select **On** to enable this option.

Queue Changes Click Queue Changes to line up the changes to take effect. This allows you to make multiple changes to the device and then apply them all at once so that the device doesn't have to re-provision over and over again when you change different sections of the configuration. Each section with pending changes is highlighted by an ellipsis.

When you are done with your changes, click **Apply Changes** at the bottom of the screen. (You can cancel the changes of any section by clicking *X* of the appropriate section.)

**Cancel** Click *Cancel* to discard changes.

**Pending Changes** If you want queue changes for multiple devices and then apply them later, the *Pending Changes* option appears in the **Properties** panel. Click to display the devices.

- Apply Click 

  APPLY to save changes.
- **Discard** Click × DISCARD to cancel changes.

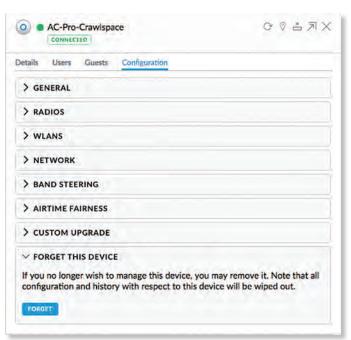
## **Custom Upgrade**

For firmware upgrades, the UniFi devices retrieve the latest firmware from the Ubiquiti website. To specify firmware saved in a custom location, select this option.



(**location URL**) Enter the UL of the firmware's location. **Custom Upgrade** Click CUSTOM UPGRADE to upgrade the firmware from the location you entered.

# **Forget This AP**



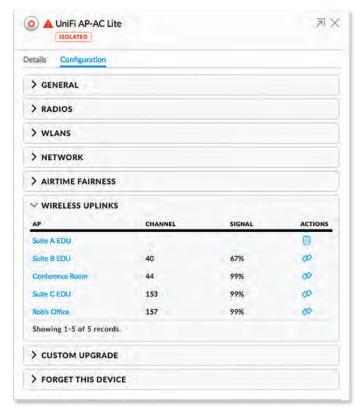
**Forget** Click **Forget** to remove the AP from management by the UniFi Controller software and reset it to factory default settings.



Note: Use caution when clicking *Forget*. This will restore the AP to factory default settings when it is in a *Connected* state. Do not use the *Forget* option when the AP is in an *Isolated* or *Disconnected* state. If you do, the only way to make the AP accessible from the UniFi Controller is to take it down and connect by wire.

## **Wireless Uplinks**

When an AP is not connected by a wire, the *Wireless Uplinks* section lists potential uplink APs that can be selected to establish a wireless connection.



AP Displays the hostname, alias, or MAC address of the potential Uplink AP. You can click the name to get additional details.

**Channel** Displays the channel in use for wireless communication.

Signal Displays the percentage of signal strength.

**Actions** Click a button to perform the desired action:

- Remove Click to disconnect the wireless AP from the wired AP.



Note: An AP can only uplink to another AP using the same radio band. For example, the UAP-Outdoor 5G can only uplink to another UniFi AP using the 5 GHz radio band.

#### Access Point - Isolated/Disconnected

When an AP is in an *Isolated* or *Disconnected* state, you can re-establish a connection to the UniFi Controller software using one of three methods:

- · Reconnect the AP to the gateway/router.
- Connect an Ethernet cable from the Secondary Ethernet Port (if available) of the isolated AP to the Secondary Ethernet Port (if available) of another UniFi AP that is connected to the gateway/router.
- Establish a wireless uplink to a wired AP. See the Wireless Uplinks section to find, select, and connect to a wired AP.



In an *Isolated* or *Disconnected* state, the *Map* tab displays the AP icon with a red/orange LED and *disconnected* con.

The LED on the actual device will be steady green or blue with occasional flashing. This AP doesn't provide any wireless service.



Note: Do not use the *Forget this AP* option when the AP is in an *Isolated* or *Disconnected* state. If you do, then the only way to make the AP accessible from the UniFi Controller is to take it down and connect it by wire.

#### **Overview**

MAC Address Displays the MAC address of the AP.

Model Displays the model number.

**Version** Displays the version of software used on the AP. **Last Seen** Displays the amount of time that has passed since the Access Point was last seen.

### **Access Point - Managed by Other**

The *Managed by Other* state indicates that the AP is not in the default state but it is not controlled by the UniFi Controller.

#### Overview



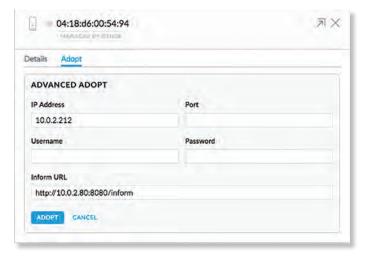
MAC Address Displays the MAC address of the AP.

Model Displays the model number.

**Version** Displays the version of software used on the AP.

**Last Seen** Displays the amount of time that has passed since the Access Point was last seen.

#### **Adopt**



IP Address Displays the IP address of the AP.

Port Displays SSH port of the AP.

**Username** Enter the SSH Username for management access. This is the *Device Username* you configured in **"Settings > Site" on page 20**.

**Password** Enter the SSH Password for management access. This is the *Device Password* you configured in <u>"Settings > Site" on page 20</u>.

**Inform URL** This tells the AP where to look for the UniFi Controller. The URL will be automatically displayed but you may need to verify its accuracy as the system may have multiple interfaces.

**Adopt** Click **Adopt** to adopt the AP so you can manage it using the UniFi Controller software.

Cancel Click Cancel to discard changes.

### **Access Point - Pending Approval**

The *Pending Approval* state indicates that the Access Point is in the default state and is available for adoption.



**MAC Address** Displays the MAC address of the AP. **Model** Displays the model number.

**Version** Displays the version of software used on the AP. **Last Seen** Displays the amount of time that has passed since the AP was last seen.

If you want to manage this AP using the UniFi Controller software, then click **Adopt** on the *Devices* screen.

# Chapter 13: UniFi VoIP Phone Details

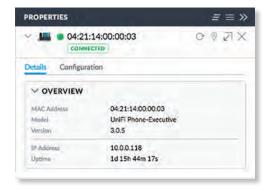
A UniFi VoIP Phone hyperlink opens the UniFi VoIP Phone's *Details* window either in the *Properties* panel or as a separate popup window. You can always dock this window in the *Properties* panel or detach it as a separate window.



Important: For management of the UniFi VoIP Phones, please download the UniFi VoIP Controller here: downloads.ubnt.com/unifi

# **Properties**

The *Properties* panel appears on the right side of the screen. Information about each selected device appears as a popup within this panel.



Remove All Click = to close the *Properties* panel.

Collapse All Click = to collapse all of the popups to rows.



The top of the popup remains and displays the following:

- **Display** Click > to display the device information.
- (icon) Displays the icon of the device (the icon will vary depending on the model).
- (status) Displays to indicate the device status.
  - Pending Approval A solid orange circle indicates the default state, available for adoption.
  - Connected A solid green circle indicates a managed connection.
  - Managed by Other A solid gray circle indicates that the device is not in the default state but not controlled by the current UniFi Controller.
  - Disconnected A red warning icon ▲ indicates no connection.
- Name/MAC Address Displays the device name or MAC address of the device.

- Restart Click © to restart the selected device.
- Locate Click <sup>(9)</sup> to ring the Phone and flash the Phone's icon on the *Map* tab so you can locate it. The Phone will ring until you click *Locate* again. (The icon on the *Map* tab will flash three times and stop.)
- Upgrade Click to upgrade the device. (This icon does not appear if an upgrade is not available or there are pending changes.)
- **Undock from Properties Panel** Click ☑ to display the same information in a separate popup screen that can be moved anywhere within the browser screen.
- Close Properties Click  $\times$  to close the device popup.

**Hide Property Panel** Click \* to hide the *Properties* panel but allow the device popups to remain accessible from this panel. Click the *properties* • icon to re-open it.

There are two clickable tabs:

- Details
- <u>"UniFi VoIP Phone Configuration" on page 108</u>

## **UniFi VoIP Phone – Details**

The Overview displays the device specifics and uptime.

#### **Overview**



**MAC Address** Displays the MAC address or unique hardware identifier of the Phone.

**Model** Displays the model name of the Phone.

**Version** Displays the version number of the Phone's firmware.

**IP Address** Displays the IP address of the Phone.

**Uptime** Displays the duration of time the Phone has been running without interruption.

# **UniFi VoIP Phone - Configuration**

Click **Configuration** to reset the Phone to its factory default settings.

# **Forget This Phone**



**Forget** Click **Forget** to remove the Phone from management by the UniFi Controller software and reset it to factory default settings.



Note: Use caution when clicking *Forget*. This will restore the Phone to factory default settings when it is in a *Connected* state.

# **Chapter 14: Client Details**

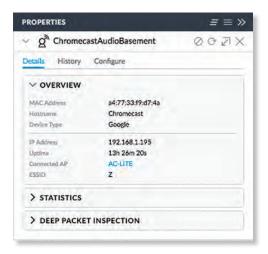
A client hyperlink opens the client's *Details* window either in the *Properties* panel or as a separate popup window. You can always dock this window in the *Properties* panel or detach it as a separate window.

The top of the window displays the device icon and name (or MAC address).

# **Properties**

The *Properties* panel appears on the right side of the screen. Information about each selected device appears as a popup within this panel. The information varies depending on whether the client is wired or wireless:

- · Wireless Client Details
- <u>"Wired Client Details" on page 111</u>



Remove All Click = to close the *Properties* panel.

Collapse All Click = to collapse all of the popups to rows.



The top of the popup remains and displays the following:

- **Display** Click > to display the device information.
- (icon) Displays the icon of a wireless or wired device.
- Name/MAC Address Displays the hostname, alias, or MAC address of the device.
- Block Click to block this client from accessing the network.
- Reconnect Click to reconnect a wireless client. You can click to kick out a client, which usually reconnects back quickly; this is useful for troubleshooting or resolving a problematic wireless connection.
- Unauthorize/Authorize (Available for Guests only.)

Click  $\odot$  to remove authorization of guest access and disconnect the guest, or click  $\odot$  for guests pending authorization.

- Undock from Properties Panel Click [7] to display the same information in a separate popup screen that can be moved anywhere within the browser screen.
- Close Properties Click  $\times$  to close the device popup.

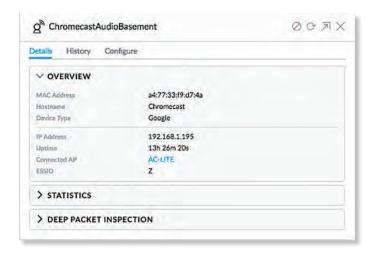
**Hide** Click to hide the *Properties* tab but allow the client popups to remain accessible from this tab.

**Hide Property Panel** Click \* to hide the *Properties* panel but allow the device popups to remain accessible from this panel. Click the *properties* cicon to re-open it.

There are four clickable tabs:

- Details
- Statistics
- History
- Configuration

## Wireless Client - Details



**MAC Address** Displays the MAC address or unique hardware identifier of the client.

**Hostname** Displays the customizable name or identifier of the client.

**Device Type** Displays the type of device.

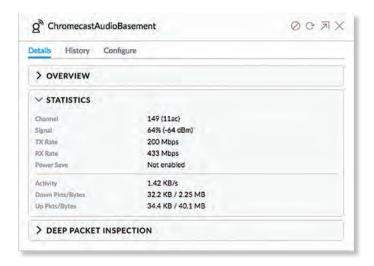
**IP Address** Displays the IP address of the client.

**Uptime** Displays the duration of time the client has been connected.

**Connected AP** Displays the hostname, alias, or MAC address of the UniFi AP. You can click the name to get additional details; see <u>"UniFi Access Point Details" on page 95</u> for more information.

**ESSID** Displays the name of the wireless network.

# Wireless Client – Statistics Overview



**Channel** Displays the channel being used.

**Signal** Displays the percentage of signal strength between the AP and client.

TX Rate Displays the transmit rate.

**RX Rate** Displays the receive rate.

Power Save Displays the status of the power save mode.

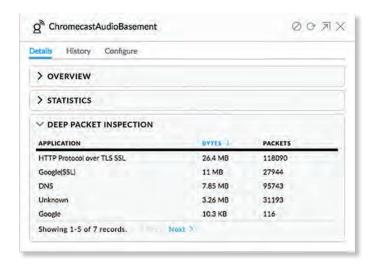
**Activity** Displays the level of activity in Bytes per second.

**Down Pkts/Bytes** Displays the amount of data downloaded as packets and bytes.

**Up Pkts/Bytes** Displays the amount of data uploaded as packets and bytes.

## **Deep Packet Inspection**

The *Deep Packet Inspection* information is available if the DPI feature is enabled (refer to <u>"Settings > Site" on page 20</u> for more information).



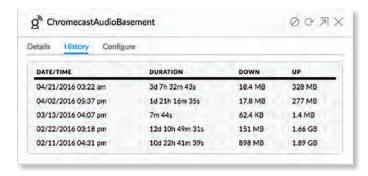
**(sort)** You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

**Application** Displays the name of the application.

**Bytes** Displays the amount of data uploaded and downloaded as bytes.

**Packets** Displays the amount of data uploaded and downloaded as packets.

# **Wireless Client - History**



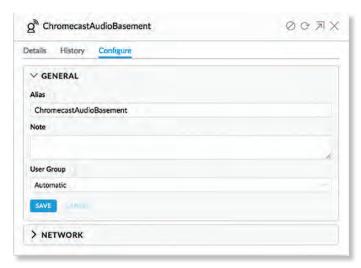
**Date/Time** Displays the date and time of the connection.

**Duration** Displays the duration of the connection.

**Down** Displays the total amount of data downloaded by the client.

**Up** Displays the total amount of data uploaded by the client.

# Wireless Client – Configuration Config



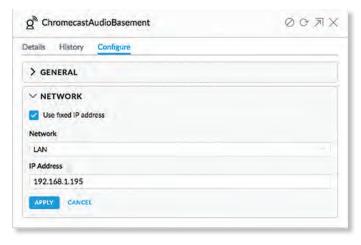
Alias Allows you to change the hostname of the client.

**Note** Allows you to enter comments about the client. Once saved, the client will be designated as a "Noted" client on the *Insights > Known Clients* tab.

**User Group** Allows you to assign the client to a User Group. User Groups are set up under the *Settings* tab > *User Groups* option (see <u>"Settings > User Groups" on page 34</u> for more information). The default *User Group* is *Automatic*.

Save Click Save to apply changes.

# **IP Config**

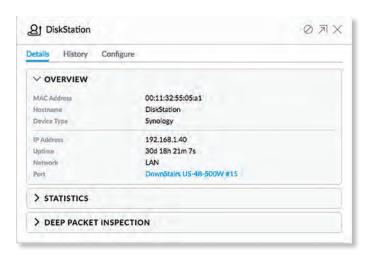


**Fixed IP** Select this option to assign a static IP address to the client, and configure the settings below. If you want the local DHCP server to assign an IP address to the client, remove the checkmark.

- Network Select the appropriate network from the drop-down list.
- IP Address Enter the local IP address.

Apply Click Apply to save changes.

# **Wired Client - Details**



**MAC Address** Displays the MAC address or unique hardware identifier of the client.

**Hostname** Displays the customizable name or identifier of the client.

**Device Type** Displays the type of device.

**IP Address** Displays the local IP address of the client.

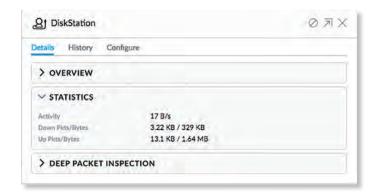
**Uptime** Displays the duration of time the client has been connected.

**Network** Displays the network used by the client.

**Port** Displays the name and port of the UniFi device being used by the client. You can click the name to get additional details on the UniFi device.

# Wired Client - Statistics

#### **Overview**



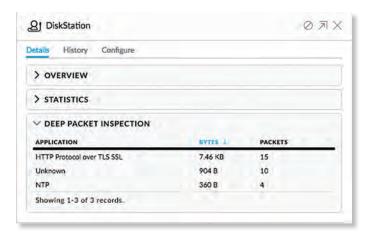
**Activity** Displays the level of activity in Bytes per second.

**Down Pkts/Bytes** Displays the amount of data downloaded as packets and bytes.

**Up Pkts/Bytes** Displays the amount of data uploaded as packets and bytes.

## **Deep Packet Inspection**

The *Deep Packet Inspection* information is available if the DPI feature is enabled (refer to <u>"Settings > Site" on page</u> **20** for more information).



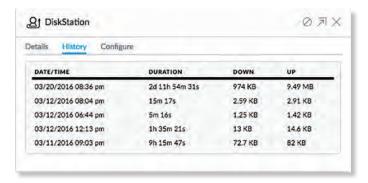
**(sort)** You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

**Application** Displays the name of the application.

**Packets** Displays the amount of data uploaded and downloaded as packets.

**Bytes** Displays the amount of data uploaded and downloaded as bytes.

# Wired Client - History



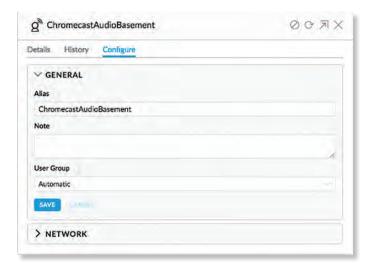
**Date/Time** Displays the date and time of the connection.

**Duration** Displays the duration of the connection.

**Down** Displays the total amount of data downloaded by the client.

**Up** Displays the total amount of data uploaded by the client.

# Wired Client – Configuration Config



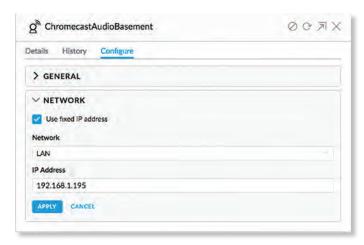
Alias Allows you to change the hostname of the client.

**Note** Allows you to enter comments about the client. Once saved, the client will be designated as a "Noted" client on the *Insights > Known Clients* tab.

**User Group** Allows you to assign the client to a User Group. User Groups are set up under the *Settings* tab > *User Groups* option (see <u>"Settings > User Groups" on page 34</u> for more information). The default *User Group* is *Automatic*.

Save Click Save to apply changes.

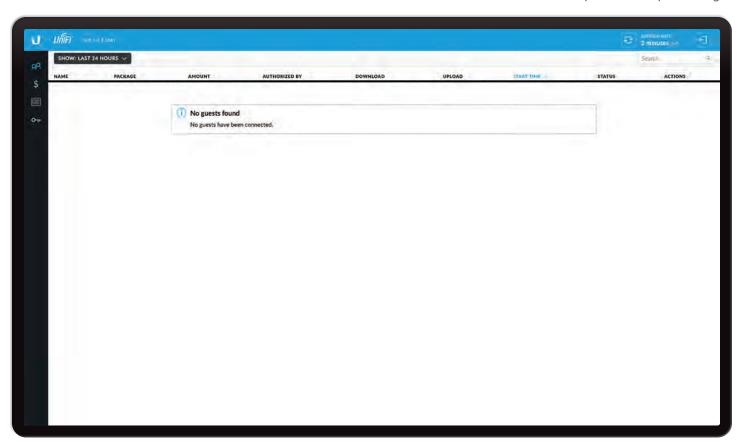
# **IP Config**



**Fixed IP** Select this option to assign a static IP address to the client, and configure the settings below. If you want the local DHCP server to assign an IP address to the client, remove the checkmark.

- Network Select the appropriate network from the drop-down list.
- IP Address Enter the local IP address.

**Apply** Click **Apply** to save changes.



# **Chapter 15: Hotspot Manager**

The Hotspot Manager includes four main tabs when accessed by the UniFi Controller super admin account. For details on a specific tab, refer to the appropriate section.

- Guests
- "Vouchers" on page 114
- om <u>"Operator Accounts" on page 115</u>

Only admins with read/write access to the UniFi Controller can create operator accounts for the Hotspot Manager. Operator accounts are designed for use by hotels or other businesses to service guests and have no access to other UniFi administrative features. Operator accounts will have access to three tabs after login: *Guests, Payments*, and *Vouchers*.

**Items per page** Select how many results are displayed per page: **10**, **50**, **100**, or **200**.

On any sub-tab, you can click any of the column headers to change the list order.

If there is more than one page of entries to display, click the navigation controls or page numbers at the bottom right of the screen to display different pages.

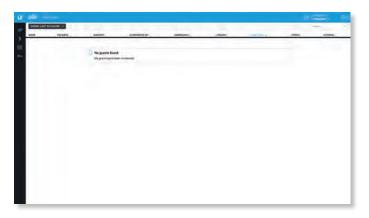
To access the Hotspot Manager, go to **Settings** > **Guest Control**, and click **Go to Hotspot Manager**. See <u>"Hotspot" on page 30</u> for more information.

If you create a bookmark for the Hotspot Manager, ensure that you include the site name in the URL, which should be in this format:

https://unifi.yourdomain.com:8443/hotspot/s/site\_name

#### Guests

The Hotspot's active guests are displayed.



**Show** Filter by time duration: **last 24 hours, 3 days, 7 days, 2 weeks, 30 days**, and **120 days**.

**Search** Search Enter keywords in the Search field to find a specific guest based on Name/MAC Address, Package, Amount, Authorized By, or Status value.

(sort) You can click any column to sort the displayed list. The selected column displays  $\uparrow$  or  $\downarrow$  to indicate ascending or descending order.

Name Displays the guest's device name or MAC address.

**Package** Displays the description of the package that was purchased (if applicable).

**Amount** Displays the amount paid for access (if applicable).

**Authorized By** Displays the authorization method. If there is no authorization, then *None* is displayed.

**Download** Displays the total amount of data downloaded.

**Upload** Displays the total amount of data uploaded.

**Start Time** Displays the start time of the guest access.

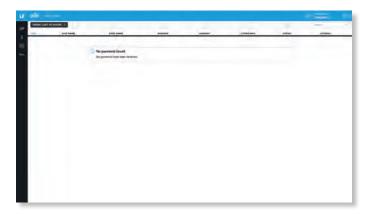
**Status** Displays the remaining session time for the guest. Displays *Expired* if there is no remaining session time.

**Actions** Click a button to perform the desired action:

- Disconnect Immediately disconnect the selected guest.
- Extend Extend a guest's session for an additional 24 hours. For example, if you click it three times, you will extend guest access for three more days.

# **Payments and Transactions**

The Hotspot's payments and transactions are displayed.



**Show** Filter by time duration: **last 24 hours, 3 days, 7 days, 2 weeks, 30 days**, and **120 days**.

Search Search Search Search Search Search Search Search Search field to find a specific voucher based on *Time, Name, Package, Amount, Extra Info*, or *Status* value.

(sort) You can click any column to sort the displayed list. The selected column displays ↑ or ↓ to indicate ascending or descending order.

**Time** Displays the date and time of the transaction.

**Last Name** Displays the user's last name.

First Name Displays the user's first name.

Package Displays the description of the package.

**Amount** Displays the amount of the transaction.

**Extra Info** If the user paid by credit card, the *Extra Info* field will display the type of credit card and the last four digits of the credit card used. If the user paid by an alternative method such as PayPal, the *Extra Info* field may display information such as the email address associated with the PayPal account.

Status Displays the status of the transaction.

**Actions** Click a button to perform the desired action:

• Refund Refund the selected customer if necessary.

### **Vouchers**

Create vouchers that include distributable codes, duration values, and use restrictions.



**Create Vouchers** To create a batch of vouchers, click ?? + CREATE VOUCHERS and complete the following:

- **Create** \_\_ Enter the number of vouchers to create.
- One time/Multi-use Select how often the voucher can be used: One time or for Multi-use.
- Expiration Time Select how long the voucher is valid: 8 hours, 24 hours, 2 days, 3 days, 4 days, 7 days, or User-defined. If you select *User-defined*, enter a number and specify day, minute, or hour.
- Bandwidth Limit (Download) Select to limit the download bandwidth. Enter the maximum in Kbps.
- **Bandwidth Limit (Upload)** Select to limit the upload bandwidth. Enter the maximum in Kbps.
- Byte Quota Select to limit the amount of data transfer allowed per session. Enter the maximum in megabytes.
- Notes Enter any notes specific to this batch of vouchers.
- Save Click Save to create the vouchers as specified.
- Cancel Click Cancel to discard changes.



**Search** Search Search

(sort) You can click any column to sort the displayed list. The selected column displays  $^{\uparrow}$  or  $^{\downarrow}$  to indicate ascending or descending order.

**Print all Unused Vouchers** Click PRINT ALL UNUSED VOUCHERS to send a page to your printer with the codes and durations of unused vouchers.

Print Batch A batch is a group of vouchers created at the same time. Click PRINT BATCH > to display a list of dates with times. Select the date with time of the batch you want to retrieve. A tab will open with the vouchers ready for printing.

**Code** Displays each active voucher code.

**Create Time** Displays the date and time a voucher was created.

**Down** Displays the maximum download bandwidth allowed.

Up Displays the maximum upload bandwidth allowed.

**Byte Quota** Displays the maximum amount of data transfer allowed per session.

**Notes** Displays any notes that were added using the *Notes* option during voucher creation.

**Duration** Displays the duration of minutes, hours, or days that the voucher enables the user to access the Internet.

**Status** Indicates whether the voucher is valid for a single use or multiple uses. Displays *Expired* if the voucher is no longer valid. Displays the number of times used and time until expiration for multi-use vouchers.

**Actions** Click a button to perform the desired action:

- Print Click FRINT to print an individual voucher.
- Revoke Click REVOKE to immediately deactivate the selected voucher.

# **Operator Accounts**

(Only available for admins with read/write access to the UniFi Controller). Create *Operator Accounts* that can log in to *Hotspot Manager* to manage guests, payments or transactions, and vouchers.



**Create New Operator** To create a new operator account, click + CREATE NEW OPERATOR and complete the following:

- Account Name Enter a name for the operator. The Account Name should use A-Z, a-z, or 0-9. Spaces and symbols are allowed but not recommended.
- Password Enter a password for the operator. The Password has to start with A-Z, a-z, or 0-9. The other characters can only be printable ASCII characters.
- Notes (Optional) Enter a note to identify or describe the operator.
- Save Click Save to create the new operator account.
- Cancel Click Cancel to discard changes.



**Open Operator Login** Click OPEN OPERATOR LOGIN to test the operator credentials.

If you create a bookmark for the Hotspot Manager, ensure that you include the site name in the URL, which should be in this format:

https://unifi.yourdomain.com:8443/hotspot/s/site\_name

The UniFi Hotspot Manager login screen will appear. Enter the username and password in the appropriate fields and click **Sign In**.



Only the Guests, Payments, and Vouchers tabs will appear.

**Search** Search Search Search Search Search field to find a specific operator account based on *Name*, *Password*, or *Notes* value.

**(sort)** You can click any column to sort the displayed list. The selected column displays  $^{\uparrow}$  or  $^{\downarrow}$  to indicate ascending or descending order.

Name Displays the name of the operator.

Password Displays the password.

Notes Displays any descriptive notes.

**Actions** Click a button to perform the desired action:

Delete Click DELETE to remove an operator account.

# Appendix A: Portal Customization with Legacy JSP

# **Before You Begin**

Starting with UniFi v5, you have two options for portal customization: AngularJS and Legacy JSP.

## **AngularJS**

AngularJS is the new option for client-side rendering. We recommend AngularJS unless you are using old templates.



Note: AngularJS is not compatible with old templates because the old templates were designed to work with JSP (Java Server Pages).

The UniFi Controller offers a built-in editor to customize AngularJS; however, it is not fully customizable at this time.

AngularJS is a single-page app, so it should work more quickly. However, AngularJS uses JS (JavaScript), which may not work with some really old web browsers or newer browsers with JS support disabled.

AngularJS uses responsive design, so it will adapt to the size of a mobile device, such as a tablet or smartphone.

Appendix A: Portal Customization with Legacy JSP is for Legacy JSP implementation only. See <u>"Settings > Guest Control" on page 27</u> for more information about the built-in editor for AngularJS.

# **Legacy JSP**

Legacy JSP is the pre-existing option for server-side rendering. Legacy JSP is fully customizable and uses old HTML, so it should work with any web browser. You can customize Legacy JSP only by overriding files. Legacy JSP works more slowly and is not responsive by default.

## **Overview**

With Legacy JSP, the UniFi Controller software allows complete branding of a portal implementation, allowing you to "white label" your wireless Internet service as if you had developed it yourself.

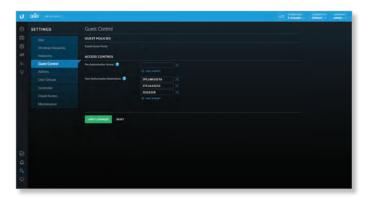
In order to provide the maximum flexibility in your branding effort, the UniFi Controller software provides total access to the portal directory on the system in which it is installed.

This open architecture allows you to include unlimited content while keeping development simple through the use of plain .html (hand code or use any editor of your choice). Testing is simple and immediate; simply reload changes from any browser.

# **Configuring Portal Customization**

To enable the guest portal with custom Legacy JSP branding, perform the following steps:

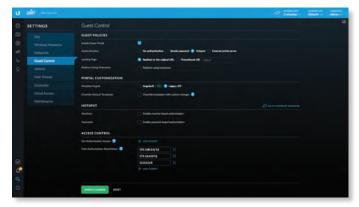
1. Go to **Settings** and click **Guest Control**.



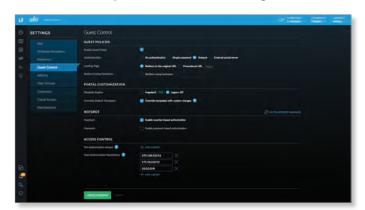
2. Select **Enable Guest Portal** to enable it, and then select an authentication method.



Note: See <u>"Settings > Guest Control" on page</u> **27** for more information on enabling the *Guest Portal* for the following authentication and landing page options: *No authentication, Simple Password,* and *Hotspot*.



- 3. For the *Template Engine* setting, keep the default, *Legacy JSP*.
- 4. For the *Override Default Templates* setting, select **Override templates with custom changes**.



5. Click Apply Changes.

# **Viewing the Default Portal**

Once Guest Portal and Override Default Templates are enabled, connect to the Guest Network SSID as shown below, depending on your platform.

#### **Windows**

- Go to Connect to Network.
  - Windows 8 Go to the Settings menu and click the Network icon.
  - Windows 10/7 Right-click the Network 🖫 icon.
- 2. Select the Guest Network SSID and click Connect.
- Depending on the security type applied to the network, enter the security key or password. Click **OK** or **Connect**.
- Launch your web browser and you will be directed to the default portal page for the authentication type configured on the *Guest Portal* (see <u>"Settings > Guest</u> <u>Control" on page 27</u> for screenshots of default portal pages by authentication method).

#### Mac

- 1. Click the *AirPort* icon in the menu bar (top right side of the screen).
- 2. Select the Guest Network SSID and click Connect.
- 3. Depending on the security type applied to the network, enter the security key or password. Click **OK**.
- 4. Once connected, the *AirPort*  $\widehat{\Rightarrow}$  icon will change from gray to solid black. The number of black lines indicates the signal strength.
- Launch your web browser and you will be directed to the default portal page for the authentication type configured on the *Guest Portal* (see <u>"Settings > Guest Control" on page 27</u> for screenshots of default portal pages by authentication method).

# Setup

The html and css files are located on the system that the UniFi Controller software has been installed on. The files are in the following locations:

# **UniFi Cloud Key**

/srv/unifi/data/sites/<site\_name>/portal

#### Mac

/Applications/UniFi.app/Contents/Resources/data/sites/<site\_name>/portal

#### Windows

<Drive\_Letter>:\Users\<Username>\Ubiquiti UniFi\data\
sites\<site\_name>\portal

For specific instructions on accessing the files, refer to the specific operating system:

- Mac
- <u>"Windows" on page 120</u>

#### Mac

1. Navigate to **Go** > **Applications**.



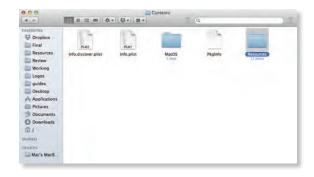
Control-click the UniFi application and then click Show Package Contents.



3. Double-click the **Contents** folder to open it.



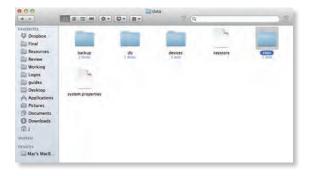
4. Double-click the **Resources** folder to open it.



5. Double-click the data folder to open it.



6. Double-click the sites folder to open it.



7. Double-click the folder whose name matches the site ID (for example: /manage/s/<site\_ID>/dashboard).



8. Double-click the **portal** folder to open it.



9. You have several files that you can customize in the portal folder (these are described in the *Customizable Default Files* section).



10. To customize the voucher, double-click the **bundle** folder to open it.



11. You can customize voucher.css and voucher.html to fit your needs.



#### Windows

The Windows files are located in the following location: <Drive\_Letter>:\Users\<Username>\Ubiquiti UniFi\ data\sites\<site\_name>\portal

#### **Customizable Default Files**

The following default customizable html and css files are located in the *portal* folder:

- index.html Main landing page that displays pricing to the guest.
- payment.html Used to submit credit card information. It requires https and also serves as an example of an additional .html page.
- fail.html Displayed when there is an error handling a guest login.
- reset-min.css Standardizes the rendering of HTML elements across browsers.
- **styles.css** Controls the style of HTML elements.

The following default files are located in the bundle folder:

- · voucher.html Page for vouchers.
- voucher.css Standardizes the rendering of HTML elements across browsers.
- messages.properties You can edit this file using a text editor such as TextEdit. This file defines package costs, duration of access, duration of a free trial period, package titles, and how the charge will appear on a customer's credit card account. Error messages are also defined by this file.

```
of scales:

** a recut is in US Gellars
package.i.mountd.yi
package.i.charge.g.semintg.g.g.g
package.i.charge.g.semintg.g.g
package.i.charge.g.semintg.g.g
package.i.charge.g.semintg.g.g
package.i.charge.g.semintg.g.g
package.i.charge.g.semintg.g
package.i.ligi.getticl
package.g.i.charge.getticl
package.g.i.charge.getticl
package.g.i.charge.getticl
package.j.i.charge.getticl
package.getticl
pack
```

Additional details on portal customization can be found in our community site at:

http://ubnt.link/UniFi-Portal-Customization

# Appendix B: UniFi Discovery Utility

## **Overview**

The Ubiquiti UniFi Discovery Utility includes tools that allow the discovery and management of UniFi APs. It is installed automatically as part of the UniFi Controller software installation process. See <u>"Software Installation"</u> on page 1 for more information.

# Launching the UniFi Discovery Utility

#### **Mac Users**

From the Finder, click **Go** > **Applications** and double-click the *UniFi-Discover.app* icon.



#### **PC Users**

For most versions of Windows, go to **Start** > **All Programs** > **Ubiquiti UniFi** and double-click the *UniFi-Discover* icon.

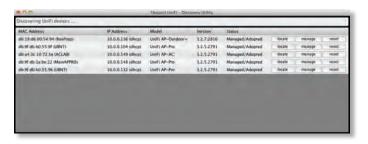


For Windows 8, go to the *Start* menu and double-click the *UniFi-Discover* icon.



# **UniFi Discovery Utility Interface**

Upon launch, the UniFi Discovery Utility listens to Layer-2 broadcast/multicast beacons from UniFi APs in both a factory default state and an unmanaged state (adopted but unable to contact the UniFi Controller software).



MAC Address Displays the MAC address and alias of the AP. The alias is displayed in parentheses if it has been specified; see <u>"UniFi Access Point - Configuration" on page 100</u> for details.

**IP Address** Displays the IP address of the AP and the method used by the AP to obtain an IP address. The method is displayed as *DHCP* or *Static* in parentheses.

Model Displays the model name of the AP.

Version Displays the firmware version installed on the AP.

**Status** Displays the current status of the AP: *Pending, Managed/Adopted, Login Failed, or IP Unreachable.* 

There are three buttons available:

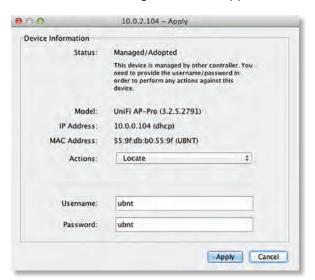
- "Locate" on page 122
- "Manage" on page 122
- "Reset" on page 123



Note: To reboot the AP, click one of the buttons listed above and proceed to <u>"Reboot" on page 123</u>.

#### Locate

Locate the AP. The following window will appear:



**Actions** If you clicked the *Locate* button, then *Locate* is automatically selected.

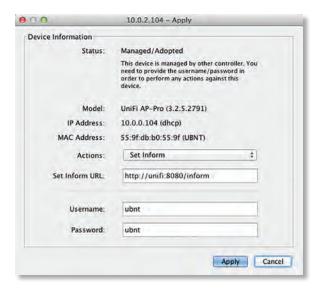
**Username** If required, enter the device username.

Password If required, enter the device password.

**Apply** Click **Apply** to locate the AP. The LED on the AP will flash so that it can be differentiated from the other APs.

## Manage

Set the inform URL, allowing the AP to be managed by the UniFi Controller software running in a NOC or in the cloud. (See "Network Topology Requirements" on page 1 for a visual representation of this configuration.) The following window will appear:



**Actions** If you clicked the *Manage* button, then *Manage* is automatically selected.

**Set Inform URL** Enter the URL, port, and path to the UniFi Controller software.

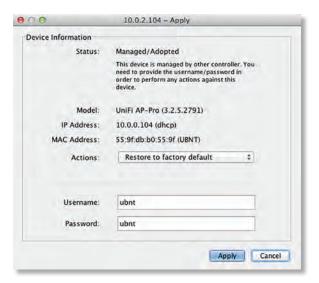
**Username** If required, enter the device username.

**Password** If required, enter the device password.

Apply Click Apply to save the inform URL.

#### Reset

Reset the AP to factory default settings. The following window will appear:



**Actions** If you clicked the *Reset* button, then *Restore to factory default* is automatically selected.

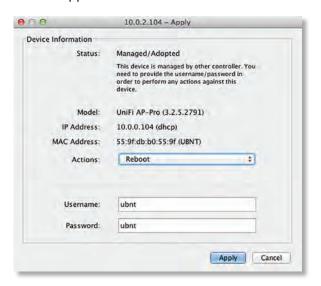
**Username** If required, enter the device username.

Password If required, enter the device password.

**Apply** Click **Apply** to reset the AP to factory default settings.

#### Reboot

To reboot the AP, click any of the buttons (*Locate, Manage*, or *Reset*) on the *UniFi Discovery Utility* screen. The following window will appear:



Actions Select Reboot from the drop-down menu.

Username If required, enter the device username.

Password If required, enter the device password.

Apply Click Apply to reboot the AP.

# **Appendix C: UniFi Mobile App**

## **Overview**

The UniFi app has two general functions:

- You can use a mobile device to provision a UniFi AP for basic functionality without configuring a UniFi Controller. Go to the Basic Setup section below.
- You can use a mobile device to access the UniFi Controller. Go to <u>"Controller Mode" on page 128</u>.

# **Basic Setup**

You can set up any UniFi AP.

## Requirements

- An Ethernet connection from the UniFi AP to the LAN with DHCP
- Firmware version 3.4.4.3231 or higher
- · A compatible Android or iOS device

The following instructions describe the iOS version of the app; however, the Android version is similar.

 Download the UniFi App from the App Store (iOS) or Google Play™ (Android).



- 2. Select the functionality you want to use:
  - Controller mode Use the app to access the UniFi Controller. Go to "Controller Mode" on page 128.
  - I don't have a controller Use the app to manually provision a UniFi device for basic functionality without configuring a UniFi Controller. Go to step 3.



- 3. Launch the app, and use one of the following options:
  - Log In Enter the Username and Password of your Ubiquiti Single Sign-On (SSO) account. Tap Log In.
  - Register To register for an SSO account, tap Register.
  - Continue If you do not want to back up or restore configurations, you can skip the login and tap Continue.



4. The app will search for new devices. Tap the UniFi AP on the device list and go to step 8.



- 5. If a new device is not detected, tap +.
- 6. Tap Scan QR Code.



7. Scan the QR code on the back of the UniFi AP, or tap **Enter ID Manually** to type the case-sensitive MAC address.



Note: For Android, the mobile device automatically connects to the helper SSID. For iOS, manually copy and paste the helper SSID and password.



8. You may be prompted to upgrade the UniFi AP to the latest firmware. Please proceed with the upgrade.

Go to the Device section below to set up the UniFi AP.

#### **Device**

The Device screen displays basic status information:

**Configure** To manage the device, go to the *Configure* section in the next column.

#### Radio 2G

**Channel** Displays the channel used.

Transmit Power Displays the level of transmit power.

**Connected Clients** Displays the number of clients connected to this UniFi AP.

**SSID** Displays the wireless network name.

**Encryption** Displays *Encrypted*.

**Traffic In/Out** Displays the amount of upload and download traffic.



#### Clients

**Connected Clients** Displays the number of clients connected to this UniFi AP. Tap to display additional details.

**Blocked Clients** Displays the number of blocked clients. Tap to display additional details.

### Configure

Select your country Select the appropriate country from the list.



Configure the following settings for each radio:

#### Radio 2G (11n/b/g)

#### **Radio Settings**

- Channel Select a channel number or keep the default, Auto.
- (channel width) Select the appropriate channel width.
- TX Power The default is Auto. Select High, Medium, or Low.



#### **WLAN Settings**

- Name/SSID Enter the name of the wireless network.
- **Enabled** Enable or disable wireless functionality.
- Security Select the security method you want to use.
- Security Key Enter the passphrase.



### Radio 5G (11n/ac)

#### **Radio Settings**

- Channel Select a channel number or keep the default,

  Auto
- (channel width) Select the appropriate channel width.
- TX Power The default is Auto. Select High, Medium, or Low.



#### **WLAN Settings**

- Same as 2G? Tap to use the same settings as the 2.4 GHz configuration.
- Name/SSID Enter the name of the wireless network.
- Enabled Enable or disable wireless functionality.
- Security Select the security method you want to use.
- Security Key Enter the passphrase.
- Apply Settings Tap to save your changes.



# **Settings**

The Settings screen offers the following options:

- Secure Shell (SSH) Login Username Change the username of the device login.
- **SSH Login Password** Change the password of the device login.
- Country Code Change the country selection.
- Single Sign-On (SSO) Username Change the username of the SSO account.
- SSO Password Change the password of the SSO account.



Scroll down the *Settings* screen to view additional settings.

- Automatic Configuration Backup Enable or disable automatic backup of the current configuration.
- Back Up Now Back up the current configuration.
- Restore Restore the previously saved configuration.
- Change mode Select this option if you want to change to Controller mode. Go to the Controller Mode section in the next column.





Note: For advanced configuration, switch to Controller mode.

## **Controller Mode**

You can access the UniFi Controller through the UniFi mobile app.

### Requirements

- An Ethernet connection from the UniFi device to the LAN with DHCP
- Firmware version 3.4.4.3231 or higher
- · A compatible Android or iOS device
- Download the UniFi App from the App Store (iOS) or Google Play (Android).



- 2. Select the functionality you want to use:
  - Controller mode Use the app to access the UniFi Controller. Go to step 3.
  - I don't have a controller Use the app to manually provision a UniFi AP for basic functionality without configuring a UniFi Controller. Go to <u>"Basic Setup"</u> on page 125.



- 3. Enter the following information:
  - (IP address) Enter the IP address of the UniFi Controller.
  - (port) Enter the appropriate port number, which is typically 8443.



Note: If you do not know the IP address, you can tap *Find* to detect a UniFi Controller and then select it.

- (username) Enter your username for the UniFi Controller.
- (password) Enter your password for the UniFi Controller.
- Remember username and password Tap this option if you want the app to remember your username and password.

#### Tap Connect.



4. You may be prompted to enter a descriptive name for the Controller if it is currently using an IP address. You can change it now and then tap **OK**, or you can tap *Not Now* to skip this step.



The UniFi app includes five tabs:

- "Dashboard" on page 129
- "Devices" on page 130
- "Clients" on page 133
- "Settings" on page 134

#### **Dashboard**

The *Dashboard* screen provides an overview of your network's status.



#### WAN

(status) Displays one of the following:

- OK The node is active.
- Unknown There is no UniFi Security Gateway.
- Warning There is a warning; please investigate further.
- Error There is an error; please investigate further.

**Inactive** Displays the number of Gateway devices adopted but not active.

**Pending** Displays the number of Gateway devices pending adoption.

#### LAN

(status) Displays one of the following:

- **OK** The node is active.
- Unknown There is no UniFi Switch.

- Warning There is a warning; please investigate further.
- Error There is an error; please investigate further.

**Inactive** Displays the number of wired devices adopted but not active.

**Pending** Displays the number of wired devices pending adoption.

#### **WLAN**

(status) Displays one of the following:

- OK The node is active.
- Unknown There is no UniFi AP.
- Warning There is a warning; please investigate further.
- Error There is an error; please investigate further.

**Inactive** Displays the number of APs adopted but not active.

**Pending** Displays the number of APs pending adoption.

#### **Devices**

**Devices** Displays the total number of devices.

**WLAN** Displays the number of wireless devices.

WAN Displays the number of Gateway devices.

LAN Displays the number of wired devices.

Scroll down the *Dashboard* screen to view additional status information.



#### Clients

**Clients** Displays the total number of clients.

**Users** Displays the number of connected users.

**Guests** Displays the number of connected guests.

### **Latency and Throughput**



Note: The *Latency* and *Throughput* values require a UniFi Security Gateway.

**Latency** Displays the amount of time it takes a packet to travel from the UniFi Security Gateway to the service provider's gateway. *Unknown* is displayed if there is no UniFi Security Gateway.

**Throughput Down** Displays the amount of current download traffic. *Unknown* is displayed if there is no UniFi Security Gateway.

**Throughput Up** Displays the amount of current upload traffic. *Unknown* is displayed if there is no UniFi Security Gateway.

#### **Devices**

The *Devices* screen displays a list of UniFi devices discovered by the UniFi Controller. Details include the model number, hostname, status, and connection duration. Tap a device for configuration or details.

All Displays all device types.

**GW/Switch** Displays Gateway and Switch devices only.

APs Displays UniFi APs only.

Phones Displays UniFi VoIP Phones only.



#### Overview

- Configure To manage the device, go to <u>"Configure" on page 131</u>.
- IP Address Displays the IP address of the device.
- MAC Address Displays the MAC address or unique hardware identifier of the device.
- Firmware Version Displays the version number of the device's firmware.
- **Uptime** Displays the duration of time the device has been running without interruption.



 RF Environment (Available only for UAP-AC-LITE, UAP-AC-LR, UAP-AC-PRO, and UAP-AC-EDU.) Tap this option for spectral analysis to help in channel selection and planning.



- 2G/5G Select the frequency band you want to analyze.
- Scan Tap Scan to trigger an RF scan and then tap
   Scan again to continue.



Note: The RF scan may take more than five minutes. All clients using this AP will be disconnected, and the AP will be offline for the duration of the scan.



#### **Connected Clients**

 Users Displays a list of connected users, including SSID (wireless network name), Activity level, and connection duration. Tap a user for details; go to "Clients" on page 133 for more information.



 Guests Displays a list of connected guests, including SSID (wireless network name), Activity level, and connection duration. Tap a guest for details; go to "Clients" on page 133 for more information.



#### **Actions**

You can locate or restart the device.



- Locate Tap to flash the LED on the device. The LED will flash until Locate is tapped again.
- Restart Tap to restart the selected device.

#### **Configure**



- Alias Also known as the host name. Enter or edit the customizable name or identifier of the device.
- Radios These settings are available only for APs.



- **Channel** Select the appropriate channel number and channel width.



Note: If the AP is part of a Zero Handoff WLAN Group, then the *Channel* setting cannot be changed.

- TX Power Select the appropriate transmit power value. The default is Auto.
- Min. RSSI Disabled by default. Select this option and enter a minimum threshold (we recommend a value in this range: -70 to -90 dBm). For UniFi, RSSI is synonymous with SNR. If the client signal falls below the specified threshold, then the AP kicks out the client, allowing it to reconnect with a more suitable AP.



Note: If the AP is part of a Zero Handoff WLAN Group, the *Minimum RSSI* setting cannot be changed.

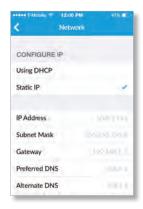
WLAN These settings are available only for APs.



- WLAN Group Select the appropriate group.
- (SSID) Tap to override settings. The WLAN Override screen appears.



- Enabled on This AP Tap to enable the WLAN for use.
- Use VLAN Tap to enable the VLAN. Then enter the VLAN ID. The VLAN ID is a unique value assigned to each VLAN on a single device. Enter a value between 2 and 4095. For example, in a large deployment where there are multiple buildings, you can use a different VLAN ID for each building while all of the VLANs remain on the same corporate network.
- SSID Enter the SSID override name to apply to the wireless network.
- Security Key If the WPA-Personal security option has been applied to the WLAN under Settings > Wireless Networks, then the Pre-Shared Key (PSK) for the SSID specified will automatically appear in this field.
- Network Select the appropriate option:
  - Using DHCP The use of the Dynamic Host Configuration Protocol (DHCP) is the default. The AP automatically acquires network settings from the network's DHCP server.
  - Static IP Assign fixed network settings to the AP.
     Enter the following information:
    - IP Address Enter the IP address for the AP.
    - Subnet Mask Enter the subnet mask of the AP.
    - Gateway Enter the IP address of the gateway (for example, the UniFi Security Gateway).
    - Preferred DNS Enter the IP address of the primary DNS server.
    - Alternate DNS Enter the IP address of the secondary DNS server.
    - DNS Suffix Enter the Fully Qualified Domain Name (FQDN) without the hostname.



 Band Steering (This setting is available only for the UAP-PRO, UAP-AC-LITE, UAP-AC-LR, UAP-AC-PRO, and UAP-AC-EDU.) 2.4 GHz networks are typically more congested due to support of legacy clients and multiple sources of 2.4 GHz interference, including Bluetooth devices. Band steering can help distribute the load on 2.4 GHz and 5 GHz networks by steering dual-band clients to the 5 GHz band when appropriate.



- **Off** Keep the default, *Off*, if you do not want to use band steering.
- Prefer 5G Select this option to steer clients to the 5 GHz band at a lower channel utilization threshold than the *Balanced* option. The threshold is not a single value; instead it is a function of two values: the 2.4 GHz channel utilization and 5 GHz channel utilization.
- Balanced (Not available for the UAP-PRO.) Select this option to steer clients to the 5 GHz band channel at a higher channel utilization threshold than the Steer to 5G option.

 Airtime Fairness (This setting is available only for the UAP-AC-LITE, UAP-AC-LR, UAP-AC-PRO, and UAP-AC-EDU.) This helps multiple users to share the bandwidth of a single AP. Tap to enable this option.



 Forget Tap Forget to remove the AP from management by the UniFi Controller software and reset it to factory default settings.



Note: Use caution when tapping Forget. This will restore the AP to factory default settings when it is in a Connected state. Do not use the Forget option when the AP is in an Isolated or Disconnected state. If you do, the only way to make the AP accessible from the UniFi Controller is to take it down and connect by wire.

#### Clients

The *Clients* screen displays a list of network clients. Details include the hostname, SSID (wireless network name), *Activity* level, and connection duration. Tap a client for details.

You can filter by connection type:

All Displays all connection types.

Wireless Displays wireless clients only.

Wired Displays wired clients only.



#### **Overview**

- IP Address Displays the IP address of the client.
- MAC Address Displays the MAC address or unique hardware identifier of the client.

- Connection Displays the hostname, alias, or MAC address of the UniFi device the client is connected to.
- **Uptime** Displays the duration of time the client has been connected without interruption.



Scroll down the *Client* screen to view additional status information.

• Statistics Displays additional client information:



- ESSID (Available for wireless clients.) Displays the name of the wireless network.
- Connection Displays the hostname, alias, or MAC address of the UniFi device the client is connected to.
- Channel (Available for wireless clients.) Displays the channel being used.
- Signal (Available for wireless clients.) Displays the percentage of signal strength between the AP and client.
- TX Rate Displays the transmit rate.
- RX Rate Displays the receive rate.

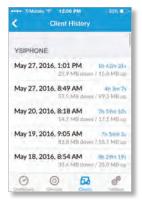


Scroll down the *Client Statistics* screen to view additional status information.

- Activity Displays the level of activity in Bytes per second.
- Power Save Displays the status of the power save mode.
- Packets Down Displays the amount of data downloaded as packets.
- Packets Up Displays the amount of data uploaded as packets.
- **Bytes Down** Displays the amount of data downloaded as bytes.
- **Bytes Up** Displays the amount of data uploaded as bytes.



History Displays the historical usage of a client.



(date/time) Displays the date and time of the connection.(duration) Displays the duration of the connection.(down/up) Displays the total amount of data downloaded and uploaded by the client.

#### **Actions**

You can block or unblock a client device.



- Block Tap to block this client from accessing the network.
- **Unblock** Tap to reconnect a blocked client.



Note: Use caution if you block a client and then exit the *Client* screen. The blocked client will disappear from the client list and then you cannot unblock the client from the UniFi mobile app. Instead, you must access the browser-based UniFi Controller and then unblock the client on the *Insights* screen.

## **Settings**

The current site is displayed on this screen.



**Site** To change a site, tap the current site and then select a different site.



**Log Out** To exit the UniFi app or change its mode, tap **Log out**.

# Appendix D: UniFi EDU Mobile App

## **Overview**

You can use the UAP-AC-EDU to broadcast announcements with clarity from your mobile device.

Use the UniFi EDU app to broadcast announcements from the UAP-AC-EDU.

## Requirements

- · UniFi Controller software v4.9.5 or higher
- UAP-AC-EDU firmware v3.4.18 or higher
- A compatible Android or iOS device located on the same Layer-2 network as the UniFi Controller and UniFi APs

The following instructions describe the iOS version of the app; however, the Android version is similar.

1. Download the UniFi EDU app from the App Store (iOS) or Google Play (Android).



- 2. Launch the app.
- 3. Enter the following information:
  - (IP address) Enter the IP address of the UniFi Controller.
  - (port) Enter the appropriate port number, which is typically 8443.



Note: If you do not know the IP address, you can click *Find* to detect a UniFi Controller and then select it.

- (username) Enter your username for the UniFi Controller.
- (password) Enter your password for the UniFi Controller.
- Remember username and password Tap this option if you want the app to remember your username and password.

Tap Connect.



The UniFi EDU app includes five tabs:

- Broadcast (see below)
- "Schedule" on page 137
- · "Recordings" on page 138
- "Volume" on page 139
- "Settings" on page 139

### **Broadcast**

You can organize the UniFi AC EDU APs into multiple broadcast groups.



To create a broadcast group, follow these instructions:

- 1. Click +.
- 2. Enter a descriptive name in the *Group Name* field.



3. Tap the appropriate UniFi AC EDU APs.



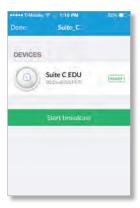
4. Tap **Save** to apply your changes, or tap *Cancel* to discard your changes.

To begin a broadcast, follow these instructions:

1. Tap the broadcast group you want to use.



2. Tap **Start Broadcast** to start the announcement.



3. Tap **Stop Broadcasting** to end the announcement.



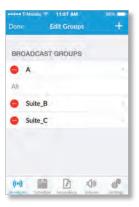
The speakers will automatically be muted when you stop broadcasting.

To edit a broadcast group, follow these instructions:

1. Tap Edit.



2. To change the name or members of the group, tap the broadcast group.



3. Make your changes.



4. Tap **Save** to apply your changes, or tap *Cancel* to discard your changes.

To delete a broadcast group, follow these instructions:

1. Tap **Edit**.



2. To remove a broadcast group, tap =.



## 3. Tap Done.

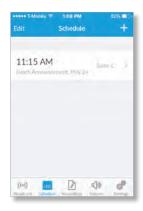
## **Schedule**

You can schedule an announcement.



To schedule an announcement, follow these instructions:

1. Tap +.



- 2. Configure the following:
  - (Date and time) Select the appropriate date and time
  - Repeat Select this option to specify how often the announcement should recur. Then select Never, Every Day, Every Weekday, or Custom.

If you selected *Custom*, select the *Frequency*, **Weekly** or **Monthly**, and then select the appropriate weekday or date.

- Recording/Sample Select the appropriate recording or sample.
- Broadcast Group Select the appropriate group.



3. Tap **Save** to apply your changes, or tap *Cancel* to discard your changes.

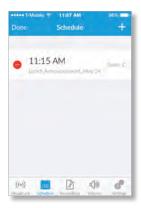
To delete an announcement, follow these instructions:

1. Click Edit.



2. To remove an announcement, tap 

.



3. Tap Done.

# Recordings

You can create a recording.



To create a recording, follow these instructions:

1. Tap +.



2. Tap to start recording. Tap to stop recording. Tap to play back the recording.



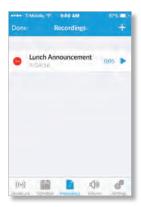
3. Tap **Save** to apply your changes, or tap *Cancel* to discard your changes.

To delete a recording, follow these instructions:

1. Click Edit.



## 2. To remove a recording, tap =.



## 3. Tap Done.

## **Volume**

You can select a test sound or adjust the volume of any speaker.



**Test Sound** Tap **Test Sound** to select a specific sound for testing. Then tap any sound to select it.



(slider) Use the slider control to adjust the volume for each speaker.

**Test** To test the sound of any speaker, tap **Test**.

# **Settings**

The current site is displayed on this screen.



**Site** To change a site, tap the current site and then select a different site.



**Log Out** To exit the UniFi app or change its mode, tap **Log out**.



# Appendix E: Controller Scenarios

## **Overview**

The UniFi Controller is a software program that sets up, manages, and monitors UniFi devices, which do not have individual configuration interfaces (except for the UniFi Cloud Key); instead, you use the UniFi Controller as a network management system to configure settings.

For very small installation that don't require a guest portal or advanced features, you can set up UniFi APs in stand-alone mode. Refer to <u>"UniFi Mobile App" on page</u> 125 for details.

# **Hosting Controller Software**

The UniFi Controller can be hosted on any of the following:

- a local UniFi Cloud Key (a low-power dedicated network device)
- a local server running Linux, Mac OS X, or Microsoft Windows 7/8/10
- a remote server running Linux, Mac OS X, or Microsoft Windows 7/8/10



Note: The remote controller option requires Layer-3 adoption and management.

Only one instance of the UniFi Controller is required. For example, use either the UniFi Cloud Key or a local server, not both.

A UniFi Cloud Key can be used as a remote controller. For example, if you have a campus-wide UniFi network and each building has its own router, then Layer-3 adoption is required.

# **Deployment Options**

There are different scenarios for the deployment of the UniFi Controller. This chapter describes three examples of typical deployments:

- Local (see below)
- · "Layer-3 Deployment" on page 142
- "Hybrid Deployment" on page 143

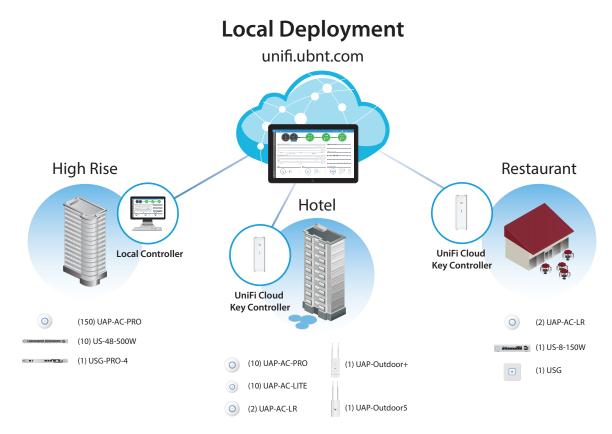
## **Local Deployment**

The application diagram below shows an example of a deployment using local controllers. Each site has a local instance of the UniFi Controller:

- High rise The UniFi Controller is running on a computer.
- Hotel The UniFi Controller is running on a UniFi Cloud Key.
- Restaurant The UniFi Controller is running on a UniFi Cloud Key.

#### **Remote Access**

Cloud access is enabled on the UniFi Controllers, so you can use <u>unifi.ubnt.com</u> to remotely monitor and access multiple controllers. Each controller, in turn, can manage multiple sites.



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# **Layer-3 Deployment**

The application diagram below shows an example of a deployment using a remote controller.

The UniFi Controller is running in the cloud or your NOC (Network Operating Center).

- **High rise** The UniFi Controller is off-site. Use Layer-3 adoption to manage this site.
- Hotel The UniFi Controller is off-site. Use Layer-3 adoption to manage this site.
- **Restaurant** The UniFi Controller is off-site. Use Layer-3 adoption to manage this site.

There are multiple methods to carry out Layer-3 adoption.

Here is an overview of a typical example:

- 1. Create a remote controller.
- 2. At the customer site, open a browser to the remote controller.
- 3. Use one of the following methods to configure all local APs so they inform back to the UniFi Controller:
  - <u>"UniFi Mobile App" on page 125</u>
  - <u>"DNS" on page 145</u>
  - "DHCP Option 43" on page 145
  - <u>"SSH" on page 146</u>

For details about Layer-3 adoption, go to <u>"Layer-3"</u> **Adoption" on page 144**.

# **Layer-3 Deployment** Central Controller **High Rise** Restaurant L3 L3 L3 Hotel L3 Adoption with App\* (150) UAP-AC-PRO (2) UAP-AC-LR (10) US-48-500W (1) US-8-150W (1) USG-PRO-4 (10) UAP-AC-PRO (1) USG (1) UAP-Outdoor+ (10) UAP-AC-LITE (2) UAP-AC-LR (1) UAP-Outdoor5

\* Refer to <u>"Layer-3 Adoption" on page 144</u> for other methods that can be used.

## **Hybrid Deployment**

The application diagram below shows an example of a deployment using local and remote controllers.

Your sites use a mixture of controller types. Some sites have local instances of the UniFi Controller, while other sites have a remote UniFi Controller.

 Sites 1, 2, and 3 The UniFi Controller is off-site. Use Layer-3 adoption to manage these sites.



Note: For details about Layer-3 adoption, go to "Layer-3 Adoption" on page 144.

- Hotel The UniFi Controller is running on a UniFi Cloud Key.
- Restaurant The UniFi Controller is running on a UniFi Cloud Key.

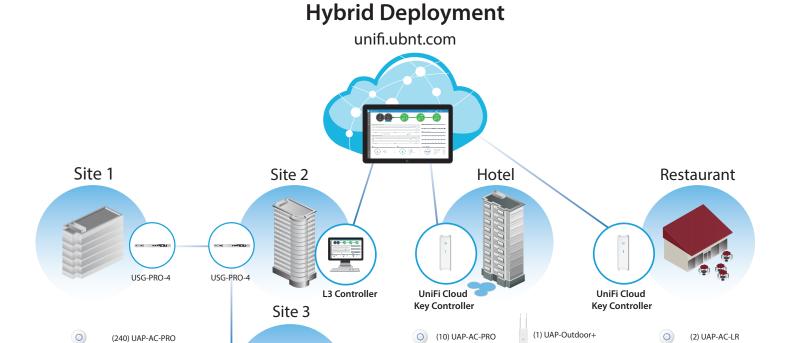
#### **Remote Access**

Cloud access is enabled on the UniFi Controllers, so you can use <u>unifi.ubnt.com</u> to remotely monitor and access multiple controllers. Each controller, in turn, can manage multiple sites.

For example, in the application diagram below, you can use **unifi.ubnt.com** to access three controllers:

- remote controller
- · UniFi Cloud Key controller for the hotel
- UniFi Cloud Key controller for the restaurant
   In turn, the remote controller manages three sites:
- Site 1
- · Site 2
- Site 3





(10) UAP-AC-LITE

(2) UAP-AC-LR

(1) UAP-Outdoor5

(20) US-48-500W

USG-PRO-4

(1) US-8-150W

(1) USG

# **Layer-3 Adoption**

Here is an overview of a typical example:

- 1. Create your controller.
- At the customer site, open a browser to the UniFi Controller.
- 3. Every UniFi AP has a default inform URL: http://unifi:8080/inform

Use one of the following methods to configure all local APs so they inform back to the UniFi Controller:

- UniFi EasySetup App (see below)
- · UniFi Discovery Utility (see the next column)
- "DNS" on page 145
- "DHCP Option 43" on page 145
- "SSH" on page 146

## **UniFi EasySetup App**

 Launch the UniFi EasySetup App from your mobile device.



2. Tap **Settings**. If *Settings* is not displayed, then tap the *overflow* **B** icon in the upper-right corner, and then tap **Settings**.



- 3. Scroll down the *Setting* screen to view the *UniFi Controller* settings:
  - Controller mode Enable use of the UniFi EasySetup App with a UniFi Controller.
  - Address Enter the IP address of the UniFi Controller.
  - Port Enter the port number of the UniFi Controller.



For more information about the UniFi EasySetup App, refer to <u>"UniFi Mobile App" on page 125</u>.

## **UniFi Discovery Utility**

The UniFi Discovery Utility listens to the multicast and broadcast packets from UniFi APs and allows you to tell the UniFi AP to inform any URL you want. (Only APs in the default state or not in contact with any controller will be displayed).

The UniFi Discovery Utility is installed alongside your UniFi Controller. Follow the instructions for the operating system you are using:

**Mac Users** From the Finder, click **Go** > **Applications** and double-click the *UniFi-Discover.app* icon.



**PC Users** For most versions of Windows, go to **Start** > **All Programs** > **Ubiquiti UniFi** and double-click the *UniFi-Discover* icon.



For other versions, including Windows 8, go to the *Start* menu and double-click the *UniFi-Discover* icon.

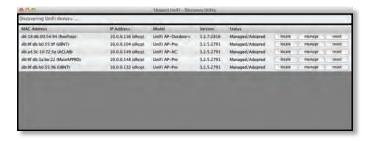


**Linux Users** Run the following command:

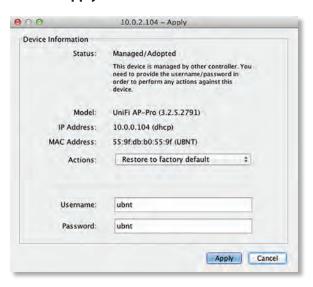
java -jar <unifi\_base>/lib/ace.jar discover

To perform Layer-3 adoption with the UniFi Discovery Utility:

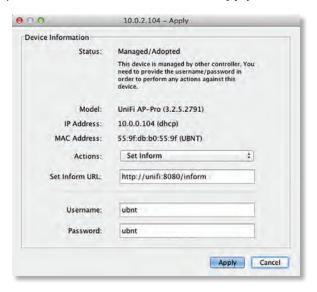
1. Wait for the UniFi AP to be displayed.



If the UniFi AP is not in the factory default state, then click reset. Enter the SSH username and password, and then click Apply.



- 3. Click manage.
- 4. Change the inform URL. The SSH username and password should be *ubnt/ubnt*. Click **Apply**.



- 5. Open a browser to the remote UniFi Controller. The UniFi AP should be displayed as *Pending Approval*.
- 6. Click **approve**. The UniFi AP will change to an *Adopting* state. Eventually it will change to an *Adoption Failed* or *Disconnected* state.
- 7. Perform step 3 again.

The UniFi AP is now managed by the UniFi Controller. Once adopted, the UniFi Controller will upgrade these APs automatically.

For more information about the UniFi Discovery Utility, refer to <u>"UniFi Discovery Utility" on page 121</u>.

#### DNS

You have a couple of options:

**DNS resolution** Configure your DNS server to resolve *unifi* to the IP address of the UniFi Controller.

Ensure that the UniFi AP can resolve the domain name of the UniFi Controller. For example, if you have configured <a href="http://<XYZ>:8080/inform">http://<XYZ>:8080/inform</a>, then ping the UniFi Controller from the UniFi AP to determine if <a href="http://xyz">XYZ</a> can be resolved or reached.

**FQDN** Use FQDN for the inform URL of the UniFi Controller: http://FQDN:8080/inform

If the UniFi AP (using a static IP address) fails to connect to the remote UniFi Controller, then ensure that you have properly configured the IP address of the DNS server when you changed the UniFi AP from DHCP to static in the UniFi Controller UI. If not properly configured, then the UniFi AP cannot contact the DNS server to resolve the domain name of the UniFi Controller.

If the UniFi AP has been reset to its factory defaults, then ensure that you have informed the UniFi AP twice (using the UniFi Discovery Utility) about the location of the UniFi Controller.

## **DHCP Option 43**

Instructions vary depending on the router you are using.

**EdgeMAX** If you are using a Ubiquiti® EdgeMAX® or EdgePoint™ router, then follow these instructions:

- 1. Access the user interface of the EdgeMAX router.
- 2. Click the Services tab.
- Go to Actions > View Details for the appropriate DHCP server.



4. In the *UniFi Controller* field, enter the IP address of the UniFi Controller. Then click **Save**.



The DHCP server will return the IP address of the UniFi Controller to its DHCP clients, so if a client is a UniFi AP, it will know how to contact the UniFi Controller.

Linux ISC DHCP Server Configure the dhcpd.conf file:

```
option space ubnt;
option ubnt.unifi-address code 1 = ip-address;
class "ubnt" {
   match if substring (option vendor-class-identifier,
   0, 4) = "ubnt";
   option vendor-class-identifier "ubnt";
   vendor-option-space ubnt;
subnet 10.10.10.0 netmask 255.255.255.0 {
   range 10.10.10.100 10.10.10.160;
   option ubnt.unifi-address 201.10.7.31; ### UniFi
   Controller IP ###
   option routers 10.10.10.2;
   option broadcast-address 10.10.10.255;
   option domain-name-servers 168.95.1.1, 8.8.8.8;
   # ...
}
```



Note: You can also use the IP address of the UniFi Controller instead of the domain name in the inform URL.

Instructions for other DHCP servers are available at: <a href="http://ubnt.link/UniFi-Layer3-Adoption">http://ubnt.link/UniFi-Layer3-Adoption</a>

#### SSH

If you can SSH into the UniFi AP, then you can perform the layer-3 adoption via CLI command:

- Use the UniFi Discovery Utility to ensure that the UniFi AP is running the same firmware as the UniFi Controller. If it is not, then follow the instructions at: <a href="http://ubnt.link/UniFi-SSH-Firmware-Upgrade">http://ubnt.link/UniFi-SSH-Firmware-Upgrade</a>
- 2. Use the UniFi Discovery Utility to ensure that the UniFi AP is in the factory default state. If it is not, then SSH into the UniFi AP and run:

```
syswrapper.sh restore-default
```

3. SSH into the UniFi AP and enter:

```
mca-cli
set-inform http://<ip-of-controller>:8080/inform
```

# **Appendix F: 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: <a href="mailto:ubnt.link/UniFi-Support">ubnt.link/UniFi-Support</a>

Community: community.ubnt.com/unifi Downloads: downloads.ubnt.com/unifi



