EdgeSwitch® XP

Configuration Interface

Release Version: 1.4.1

USER GUIDE

Table of Contents

Chapter 1: Overview

Introduction

Thank you for purchasing the Ubiquiti® EdgeSwitch® XP, which is part of the EdgeSwitch series:

Name	Model	Description
EdgeSwitch 5XP	ES-5XP	5-port managed switch featuring 24V PoE
EdgeSwitch 8XP	ES-8XP	8-port managed switch featuring 24V/48V PoE
EdgeSwitch 16XP	ES-16XP	Two EdgeSwitch 8XP units mounted in a rack

The EdgeSwitch is a managed switch designed to deliver Power over Ethernet (PoE) on the 10/100/1000 ports you have configured for PoE. It also offers a variety of features, including port monitoring, system connection and management services, Virtual Local Area Network (VLAN) configuration, Spanning Tree Protocol (STP), *Ping Watchdog*, and alerts setup.

This User Guide is designed to provide details about how to set up and use the Configuration Interface. This intuitive interface allows you to conveniently manage your EdgeSwitch using your web browser.

You can also manage your device using the Ubiquiti Network Management System, UNMS™, which lets you configure, monitor, upgrade, and back up your devices using a single software application. To get started, go to: **unms.com**

Configuration Interface System Requirements

- Linux, Mac OS X, or Microsoft Windows
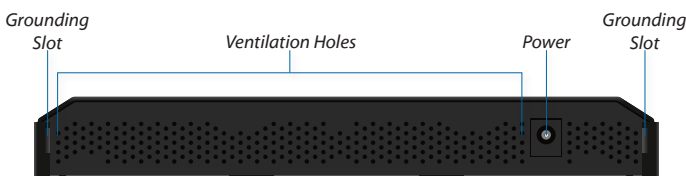- Web Browser: Mozilla Firefox, Apple Safari, Google Chrome, or Microsoft Internet Explorer

Hardware Overview

Proceed to the description for your EdgeSwitch model:

- EdgeSwitch 5XP (see below)
- **"EdgeSwitch 8XP" on page 2**
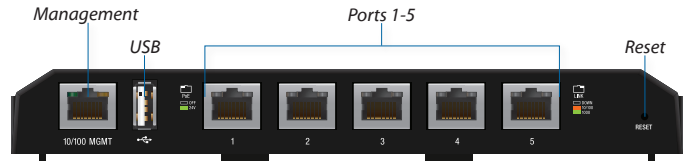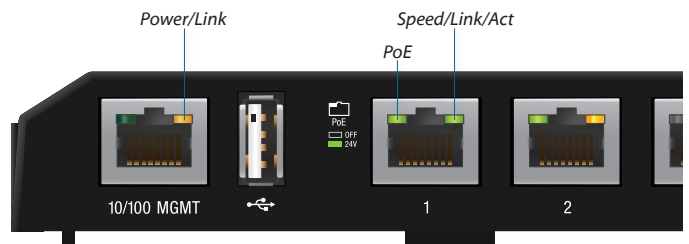- **"EdgeSwitch 16XP" on page 3**

EdgeSwitch 5XP

Back Panel

Note: There are additional ventilation holes on the top and sides of the EdgeSwitch.

Front Panel Ports

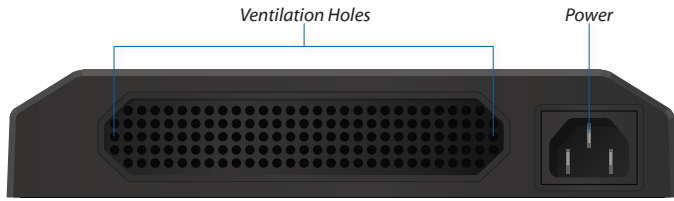| Interface	Description
Management	10/100 Mbps port used to access the EdgeSwitch Configuration Interface.
USB	Reserved for future use.
Ports 1-5	10/100/1000 Mbps ports for switching and PoE (also available for management by default).
Reset	To reset to factory defaults, press and hold the **Reset** button for more than 10 seconds while the unit is powered on.

Front Panel LEDs

	LED	State	Status
Management	Power/Link	Off	No Power/No Link
		Amber	After bootup, the LED indicates power. After an initial link is established, the LED indicates a 10/100 Mbps connection. If the link terminates, the LED turns off until a link is re-established. If the unit reboots, the LED will again indicate power until a link is established.
Ports 1-5	PoE	Off	No Power over Ethernet
		Green	24V Power over Ethernet
	Speed/Link/Act	Off	No link
		Amber	Link established at 10/100 Mbps
		Amber Flashing	Link activity at 10/100 Mbps
		Green	Link established at 1000 Mbps
		Green Flashing	Link activity at 1000 Mbps

EdgeSwitch 8XP

Back Panel

Ventilation Holes   *Power*

📋 Note: There are additional ventilation holes on the top and sides of the EdgeSwitch.

Front Panel Ports

Management   *Ports 1-8*
USB   *Reset*

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Management	10/100 Mbps port used to access the EdgeSwitch Configuration Interface.
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Front Panel LEDs

Power/Link   *Speed/Link/Act*
PoE

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		Green Flashing	Link activity at 1000 Mbps

EdgeSwitch 16XP

A and **B** designate the two EdgeSwitch 8XP devices housed in the rack. This may be useful for the *Location* setting on the *Device* tab in the Configuration Interface (for more information, go to **"Basic Settings" on page 13**).
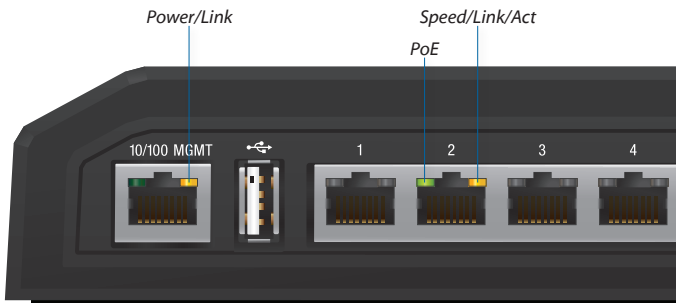
Back Panel
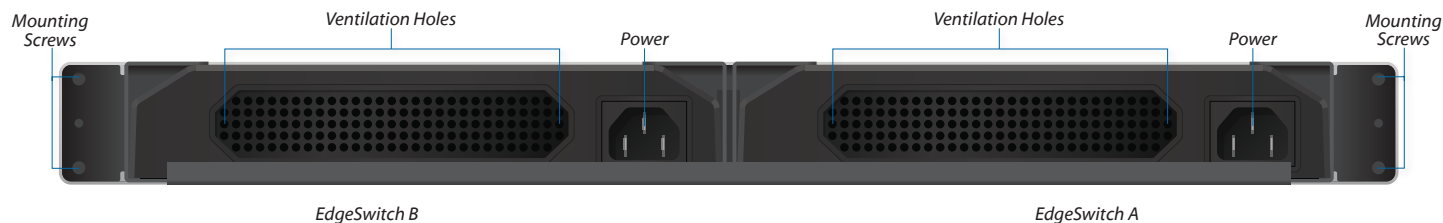
Mounting Screws   Ventilation Holes   Power   Ventilation Holes   Power   Mounting Screws

EdgeSwitch B   *EdgeSwitch A*

Note: There are additional ventilation holes on the top and sides of the EdgeSwitch.

Front Panel Ports

Management   USB   Ports 1-8   Reset   Management   USB   Ports 1-8   Reset

EdgeSwitch A   *EdgeSwitch B*
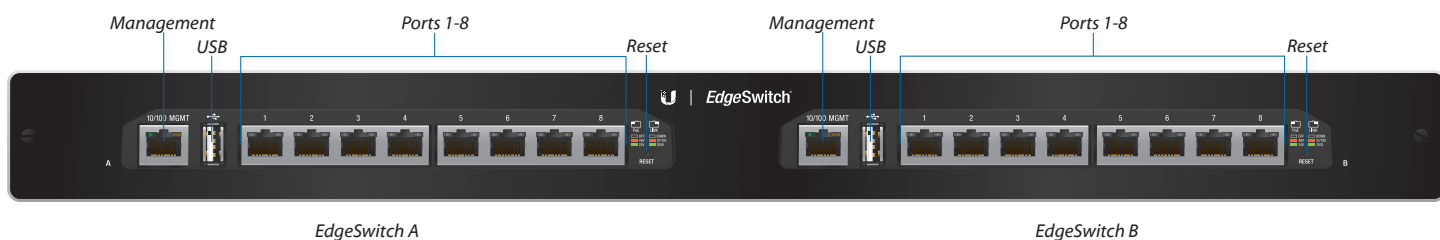
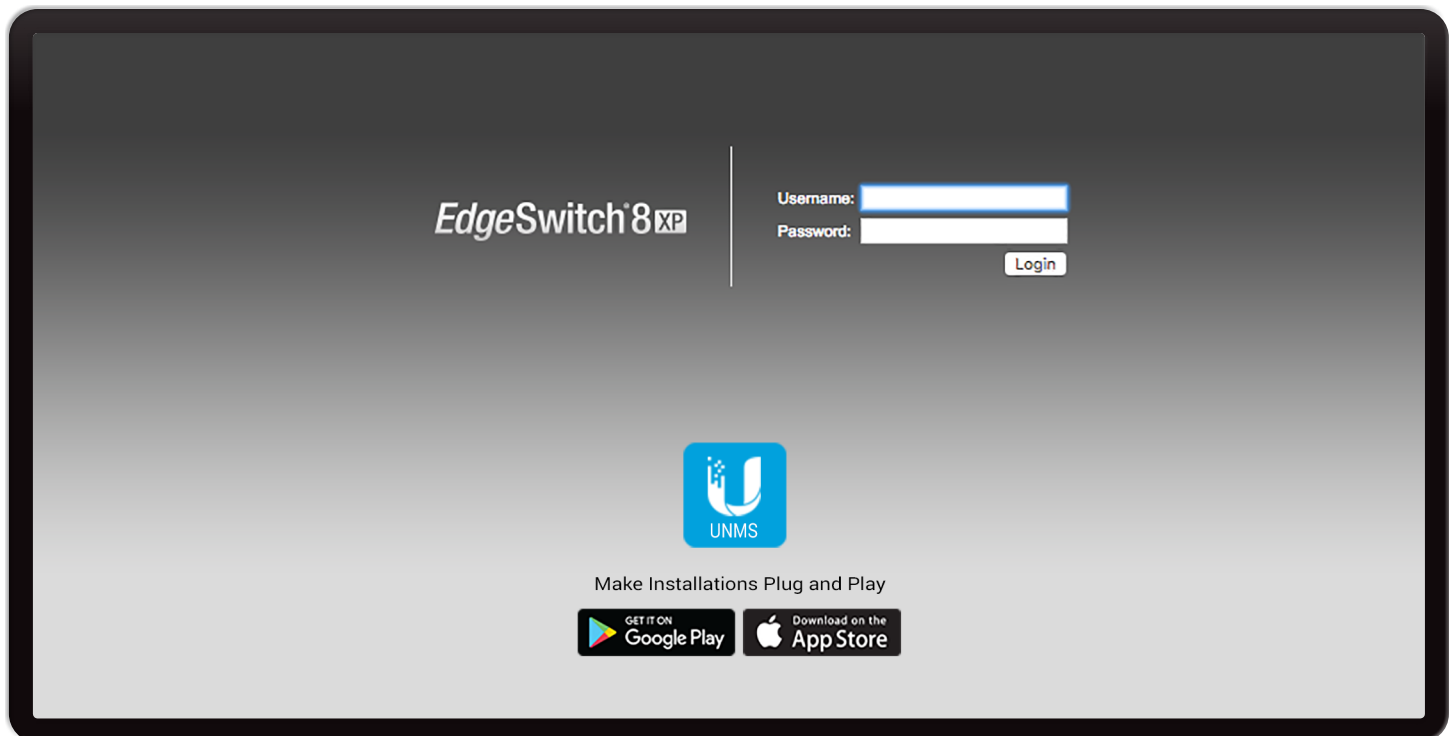| Interface	Description
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Front Panel LEDs

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		Amber Flashing	Link activity at 10/100 Mbps
		Green	Link established at 1000 Mbps
		Green Flashing	Link activity at 1000 Mbps

Chapter 2: Navigation

The Configuration Interface is an advanced operating system accessed through a simple and intuitive user interface. The EdgeSwitch uses the Configuration Interface for convenient configuration and management via a web browser.

If your EdgeSwitch model is the EdgeSwitch 5XP or EdgeSwitch 8XP, proceed to the next section, *Accessing the Configuration Interface*.

If your EdgeSwitch model is the EdgeSwitch 16XP, proceed to **"Configuring the EdgeSwitch 16XP" on page 6**.

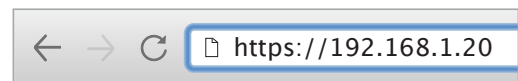## Accessing the Configuration Interface

Connect to the Configuration Interface by performing the following steps:

1. Ensure that your computer (or other host machine) is connected to the *Management* port on the EdgeSwitch.
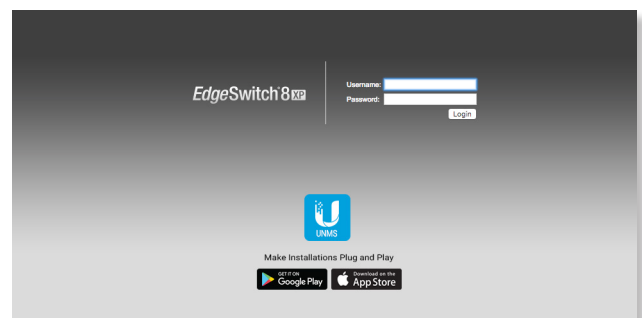
    Note: By default, you can configure the EdgeSwitch via any port; however, we recommend the *Management* port. (Access to the Configuration Interface can be limited to the *Management* port only. You can configure this setting on the *Device* tab; see **"Management Network Settings" on page 12**.)

2. Configure the Ethernet adapter on your host system with a static IP address on the 192.168.1.x subnet (for example, 192.168.1.100).

3. Launch your web browser. Type **https://192.168.1.20** in the address field. Press **enter** (PC) or **return** (Mac).

4. The login screen will appear. Enter **ubnt** in the *Username* and *Password* fields. Click **Login**.

5. The Configuration Interface will appear, allowing you to customize your settings as needed. You can enable PoE on the *Ports* tab; see **"Basic Settings for Port" on page 18**.

Configuring the EdgeSwitch 16XP

EdgeSwitch A and B have the same default IP address, *192.168.1.20*, so you will need to change the IP address of at least one EdgeSwitch. Follow the instructions in this section to configure one EdgeSwitch at a time, starting with EdgeSwitch A.

1. Ensure that your computer (or other host machine) is connected to the *Management* port on the EdgeSwitch.

   Note: By default, you can configure the EdgeSwitch via any port; however, we recommend the *Management* port. (Access to the Configuration Interface can be limited to the *Management* port only. You can configure this setting on the *Device* tab; see **"Management Network Settings" on page 12**.)

2. Configure the Ethernet adapter on your host system with a static IP address on the 192.168.1.x subnet (e.g., 192.168.1.100).

3. Launch your web browser. Type **https://192.168.1.20** in the address field. Press **enter** (PC) or **return** (Mac).
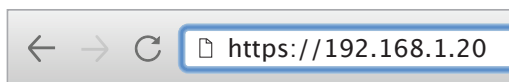
4. The login screen will appear. Enter **ubnt** in the *Username* and *Password* fields. Click **Login**.
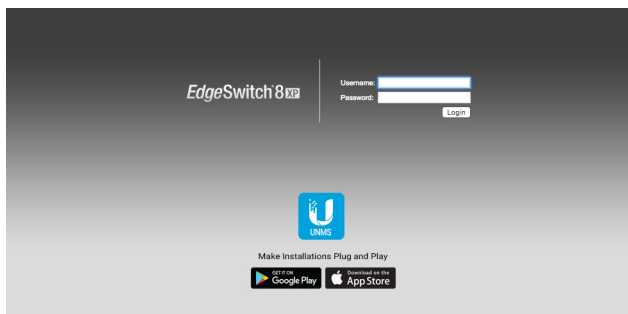
5. Change the *Static Management IP Address* to a unique IP address on the *Device* tab. Click **Save Changes**.

6. You can enable PoE on the *Ports* tab and customize additional settings as needed.

7. Disconnect the Ethernet cable from the *Management* port of EdgeSwitch A and connect it to the *Management* port of EdgeSwitch B. Then repeat steps 1-5 on EdgeSwitch B.

Product Verification

The Configuration Interface will verify whether a product is genuine or counterfeit.

For a genuine EdgeSwitch, the Configuration Interface will display a Genuine Product logo in the lower left corner of the screen.

For any product that is not an official Ubiquiti product, the Configuration Interface will display a counterfeit warning. Please contact Ubiquiti at **support@ubnt.com** regarding this product.

Interface Tabs

The Configuration Interface contains five main tabs, each of which provides a web-based management page to configure a specific aspect of the EdgeSwitch. This User Guide covers each tab with a chapter. For details on a specific tab, refer to the appropriate chapter.

- **Status** The **"Status Tab" on page 7** displays status information and statistics for each port.
- **Device** The **"Device Tab" on page 11** configures system settings and services for the EdgeSwitch.
- **Ports** The **"Ports Tab" on page 17** configures settings and services for each port.
- **VLANs** The **"VLANs Tab" on page 21** configures Virtual Local Area Networks (VLANs) for the various ports.
- **Alerts** The **"Alerts Tab" on page 23** displays alerts if alert logging is configured and system log messages if system logging is enabled.

Each page also contains a *Tools* drop-down menu to access network administration and monitoring tools:

- **"MAC Forwarding Table" on page 25**
- **"Ping" on page 25**
- **"Traceroute" on page 26**
- **"Discovery" on page 26**

Chapter 3: Status Tab

The *Status* tab displays a summary of the link status information, current values of the basic configuration settings, network settings and information, and traffic statistics.

The EdgeSwitch image displays the active LEDs and connections. Refer to **"Hardware Overview" on page 1** for more information.
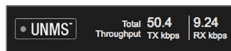
UNMS You can also manage your device using UNMS, which lets you configure, monitor, upgrade, and back up your devices using a single application. Click the **UNMS** button to visit: **unms.com**
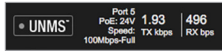
The color of the circular icon represents the status of the connection to UNMS.

Color	Status
🟢	Connected to UNMS
🟡	Connecting to UNMS
⚫	Disabled

Total Throughput Displays the current TX and RX data traffic values.

Port Status Place your mouse over a port to view its *PoE* status, *Speed* setting, duplex mode, and statistics for *TX* and *RX* throughput.

Status

Device Name Displays the customizable name or identifier of the device. The *Device Name* (also known as host name) is displayed in registration screens and discovery tools.

Device Location Displays the description of the device's location.

Firmware Displays the firmware version of the Configuration Interface.

Date Displays the current system date and time. The date and time are displayed in *yyyy-mm-dd hr:min:sec* format. The system date and time is retrieved from the internet using NTP (Network Time Protocol). The *NTP Client* is disabled by default on the *Device* tab. The device doesn't have an internal clock, and the date and time may be inaccurate if the *NTP Client* is disabled or the device isn't connected to the internet.

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

Device MAC Displays the Media Access Control (MAC) address of the device.

Port Status

Port Displays the number of the port.

Name Displays the name of the port.

Port Status Displays the activity status of the link connection.

Link Status Displays the speed and duplex mode of the port. If the port is inactive, *Down* is displayed.

PoE Displays the status and voltage of the *PoE* feature. *24V* is displayed in green. *48V** is displayed in orange (*available only on the EdgeSwitch 8XP).

STP State Displays the Spanning Tree Protocol (STP) state if *STP* is enabled on the *Device* tab. Displayed STP states include *Blocking*, *Learning*, and *Forwarding*. (See **"Spanning Tree Protocol" on page 15** for more information.)

MTU Displays the Maximum Transmission Unit (MTU), which is the maximum packet size (in bytes) that a network can transmit.

Alerts Displays whether alerts are set on this port.

Port Statistics

Raw/Formatted The statistics are available in two formats. Click the format you prefer.

- **Raw** Displays data totals as exact numbers of bytes. The *Raw* display option is therefore more accurate than the *Formatted* option, which displays data totals only to three decimal places.
  - **RX/TX Packets** For the EdgeSwitch 5XP only, you can hold your mouse over the statistic to display a popup with packet size details.

- **RX/TX Errors** If there are errors, you can hold your mouse over the statistic to display a popup with error details.

- **Formatted** Displays data in kilobytes (KB), megabytes (MB), gigabytes (GB), or terabytes (TB) – with an accuracy of up to three decimal places. For example, if *1 GB* is displayed, it will be followed by *1.001 GB* (1 GB + 1 MB).

Port Displays the number of the port.

Name Displays the name of the port.

RX Bytes/Data Displays the amount of data received. *RX Bytes* displays the amount in the *Raw* format (actual number of bytes). *RX Data* displays the amount in the *Formatted* format using one of these units of measurement: kilobytes (KB), megabytes (MB), gigabytes (GB), or terabytes (TB) – with an accuracy of up to three decimal places.

RX Packets Displays the number of packets received without errors.

RX Errors Displays the number of packets received with errors.

TX Bytes/Data Displays the amount of data transmitted. *TX Bytes* displays the amount in the *Raw* format (actual number of bytes). *TX Data* displays the amount in the *Formatted* format using one of these units of measurement: kilobytes (KB), megabytes (MB), gigabytes (GB), or terabytes (TB) – with an accuracy of up to three decimal places.

TX Packets Displays the number of packets transmitted without errors.

TX Errors Displays the number of packets transmitted with errors.

Reset Statistics Click this button to clear the displayed statistics and reset them to zero.

Total Throughput

By default, *Total Throughput* is displayed.
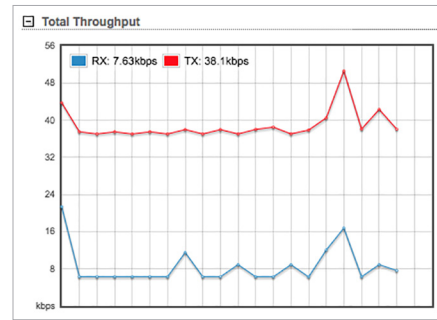
Total Throughput displays the current data traffic on the EdgeSwitch in both graphical and numerical form. The chart scale and throughput dimension (bps, kbps, Mbps) change dynamically depending on the mean throughput value. The statistics are updated automatically.

Data Distribution

By default, *Data Distribution* is displayed.
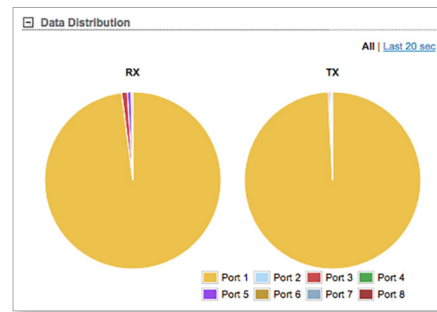
Two pie charts, *RX* and *TX*, display the data traffic allocated among the ports of the EdgeSwitch. The pie charts are updated automatically.

All/Last 20 sec By default, the pie charts are displayed in *All* format, which is cumulative over time. To display data distribution for the last 20 seconds, click **Last 20 sec**.

Details for Port

To display *Packet Distribution*, *Packet Rate*, and *Throughput* for a specific port, click the port on the image. The selected port is highlighted in blue.

To return to the default view displaying *Total Throughput* and *Data Distribution*, click **Show Device Details**.

> **Note:** The EdgeSwitch 8XP does not display *Packet Distribution*.

Packet Distribution
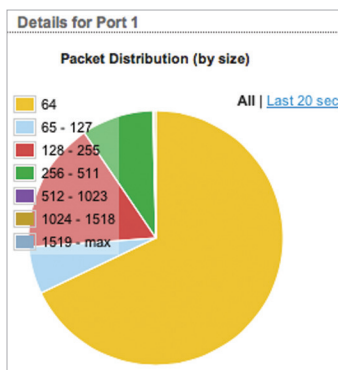
A pie chart, *Packet Distribution,* displays the current packet sizes going through the port. The pie chart is updated automatically.

> **Note:** The EdgeSwitch 8XP does not display *Packet Distribution*.

All/Last 20 sec By default, the pie chart is displayed in *All* format, which is cumulative over time. To display packet distribution for the last 20 seconds, click **Last 20 sec**.

Packet Rate
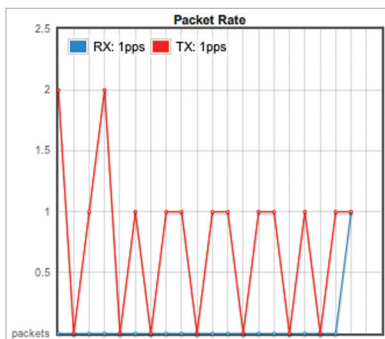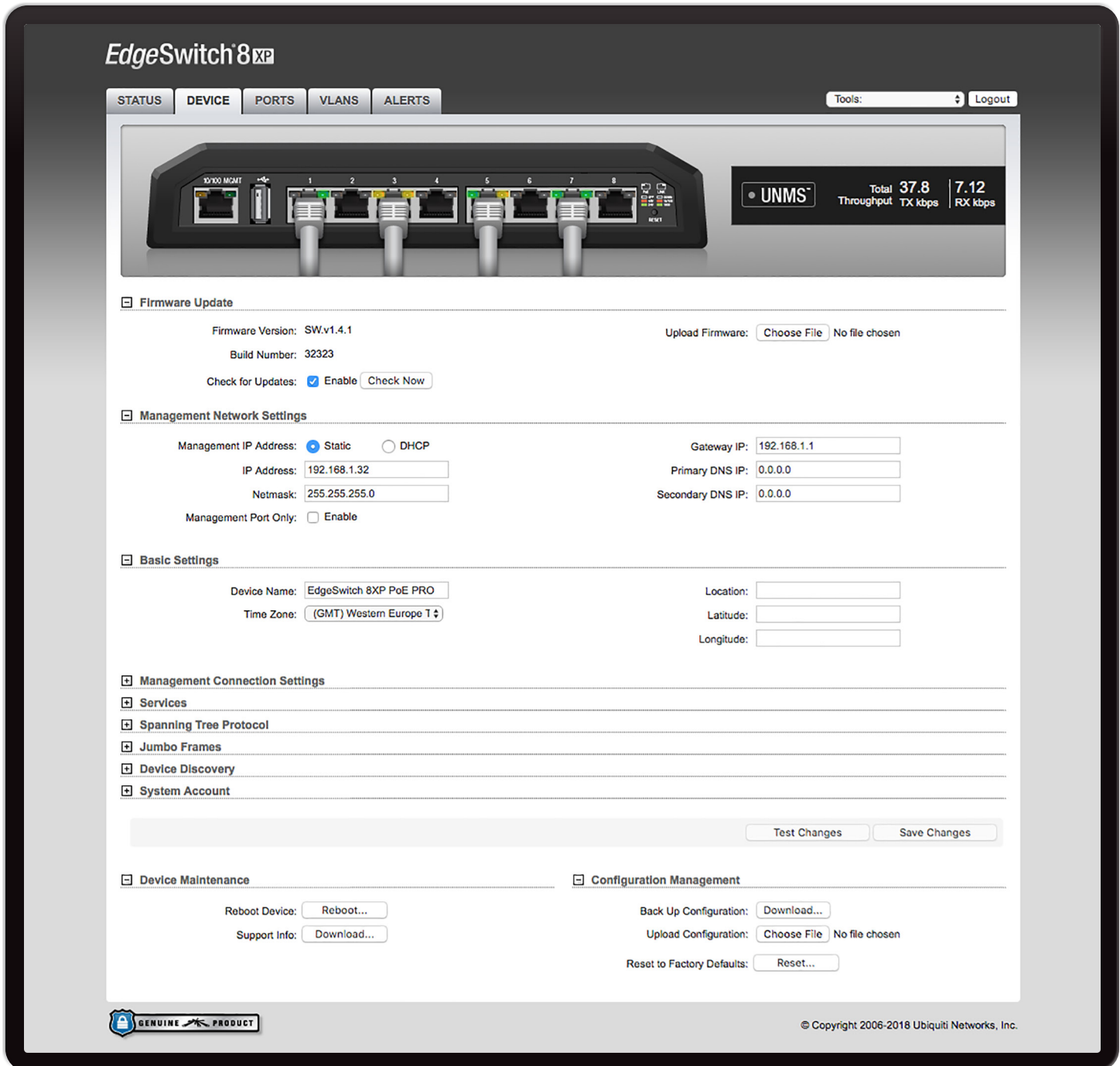
Packet Rate displays the current packets per second rate on the port in both graphical and numerical form. The chart scale and packet rate dimension change dynamically depending on the mean packet rate value. The statistics are updated automatically.

Throughput
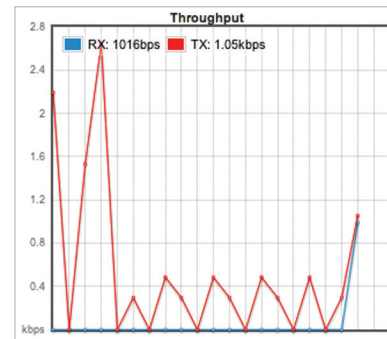
Throughput displays the current data traffic on the port in both graphical and numerical form. The chart scale and throughput dimension (bps, kbps, Mbps) change dynamically depending on the mean throughput value. The statistics are updated automatically.

Chapter 4: Device Tab

The *Device* tab allows you to configure and use the *Firmware Update*, *Management Network Settings*, *Basic Settings*, *Management Connection Settings*, *Services*, *Spanning Tree Protocol*, *Jumbo Frames*, *Device Discovery*, *System Account*, *Device Maintenance*, and *Configuration Management* options for the EdgeSwitch.

The EdgeSwitch image displays the active LEDs and connections. See **"Hardware Overview" on page 1** for more information.

UNMS You can also manage your device using UNMS, which lets you configure, monitor, upgrade, and back up your devices using a single application. Click the **UNMS** button to visit: **unms.com**

The color of the circular icon represents the status of the connection to UNMS.

Color	Status
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Total Throughput Displays the current TX and RX data traffic values.

Port Status Place your mouse over a port to view its *PoE* status, *Speed* setting, duplex mode, and statistics for *TX* and *RX* throughput.

Revert Changes To cancel your changes, click **Revert Changes**.

Test Changes To try the changes without saving them, click **Test Changes**. To keep the changes, click **Apply**. If you do not click *Apply* within 180 seconds (the countdown is displayed), the device times out and resumes its earlier configuration.

Save Changes To immediately save your changes, click **Save Changes**.

Firmware Update

This section manages the firmware maintenance.

Firmware Version Displays the current firmware version.

Build Number Displays the build number of the firmware version.

Check for Updates By default, the firmware automatically checks for updates. To manually check for an update, click **Check Now**.

Update Firmware The EdgeSwitch firmware update is compatible with all configuration settings. The system configuration is preserved while the EdgeSwitch is updated with a new firmware version. However, we recommend that you click **Download** in the *Configuration Management* section to back up your current system configuration before updating the firmware.

Updating the firmware is a three-step procedure:

1. Click **Choose File** to locate the new firmware file. Select the file and click **Open**.

2. Click **Upload** to upload the new firmware to the EdgeSwitch.

3. The *Uploaded Firmware Version* is displayed. Click **Update** to confirm.

If the firmware update is in process, you can close the firmware update window, but this does not cancel the firmware update. Please be patient, as the firmware update routine can take three to seven minutes. You cannot access the EdgeSwitch until the firmware update routine is completed.

⚠️ WARNING: Do not power off, do not reboot, and do not disconnect the EdgeSwitch from the power supply during the firmware update process as these actions will damage the EdgeSwitch!

Management Network Settings

The *Management Network Settings* configure the IP settings and management access of the EdgeSwitch.

The *IP Address* and *Netmask* are not mandatory for a Layer 2 device such as the EdgeSwitch; however, they must be configured if you want to manage the EdgeSwitch (and will not be using DHCP).

Management IP Address The EdgeSwitch can use a static IP address or obtain an IP address from its DHCP server.

• **Static** Assign static IP settings to the EdgeSwitch.

📋 Note: IP settings should be consistent with the address space of the EdgeSwitch's network segment.

- **IP Address** Specify the IP address of the EdgeSwitch. This IP will be used for device management purposes. The default is *192.168.1.20*.
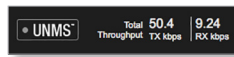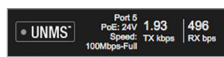
- **Netmask** When the netmask is expanded into its binary form, it provides a mapping to define which portions of the IP address range are used for the network devices and which portions are used for host devices. The netmask defines the address space of the EdgeSwitch's network segment. The default 255.255.255.0 (or "/24") netmask is commonly used on many Class C IP networks.

- **Management Port Only** By default, this option is disabled and you can manage the EdgeSwitch through any port. To restrict management access to only the *Management* port, check this box.

📋 Note: The *Management Port Only* option must be disabled if you want traffic to flow between the *Management* port and numbered ports. Traffic will be limited to 10/100 Mbps and, under heavy load, may cause performance degradation of the EdgeSwitch.

- **Gateway IP** Typically, this is the IP address of the host router, which provides the point of connection to the internet. This can be a DSL modem, cable modem, or WISP gateway router. The EdgeSwitch directs packets to the gateway if the destination host is not within the local network. The default is *192.168.1.1*.

- **Primary DNS IP** Specify the IP address of the primary DNS (Domain Name System) server.

- **Secondary DNS IP** Specify the IP address of the secondary DNS server. This entry is optional and used only if the primary DNS server is not responding.

• **DHCP** The local DHCP server assigns a dynamic IP address, netmask, gateway IP address, and DNS address to the EdgeSwitch.

> Note: We do not recommend the *DHCP* option. The IP address may change, and you will need to use the *Discovery* tool from another Ubiquiti device or computer to discover the IP address of the EdgeSwitch. You can also reset the EdgeSwitch to its factory default settings. (Press and hold the **Reset** button for more than 10 seconds.) Its default *IP Address* is reset to *192.168.1.20*.

- **DHCP Fallback IP** Specify the IP address the EdgeSwitch should use if a DHCP server is not found. The default is *192.168.1.20*.

- **DHCP Fallback Netmask** Specify the netmask the EdgeSwitch should use if a DHCP server is not found. The default is *255.255.255.0*.

- **Management Port Only** By default, this option is disabled and you can manage the EdgeSwitch through any port. To restrict management access to only the *Management* port, check this box.

> Note: The *Management Port Only* option must be disabled if you want traffic to flow between the *Management* port and numbered ports. Traffic will be limited to 10/100 Mbps and, under heavy load, may cause performance degradation of the EdgeSwitch.

Basic Settings

The *Basic Settings* configure the device, date, and location settings of the EdgeSwitch.

Device Name Specify the Device Name (host name), which is the system-wide device identifier. The SNMP agent reports it to authorized management stations. The *Device Name* will be used in popular router operating systems, registration screens, and discovery tools.

Time Zone Specify the time zone in relation to Greenwich Mean Time (GMT). The default is *(GMT) Western Europe*.

Location Enter a description of the device's location.

Latitude Enter the latitude of the device's location in decimal format. Use a minus sign (-) to indicate a latitude south of the equator.

Longitude Enter the latitude of the device's location in decimal format. Use a minus sign (-) to indicate a longitude west of the Prime Meridian.

Management Connection Settings

The *Management Connection Settings* section configures system connection services.

Ubiquiti Network Management System

The following *Ubiquiti Network Management System* parameters can be set:

UNMS This option activates UNMS access to the device.

• **UNMS URL** Displays the server IP address or hostname of the UNMS key entered on the *UNMS Key* screen.

• **Edit** Elick **Edit** to display the *UNMS Key* screen.

- **Key** Enter the UNMS key, which helps to secure communication between the device and UNMS. For more information, go to: **ubnt.link/UNMS-Key**

- **Save** Saves your changes.

- **Close** Discards your changes.

Telnet Server

The following *Telnet Server* parameters can be set:

Telnet Server This option activates Telnet access to the device.

• **Server Port** Specify the TCP/IP port of the Telnet server. The default is *23*.

Web Server

The following *Web Server* parameters can be set:

Secure Connection (HTTPS) By default, the web server uses secure HTTPS mode.

• **Secure Server Port** If secure HTTPS mode is used, specify the TCP/IP port of the web server. The default is *443*.

Server Port If HTTP mode is used, specify the TCP/IP port of the web server. The default is *80*.

Session Timeout Specify the maximum timeout before the session expires. Once a session expires, you must log in again using the username and password. The default is *15* minutes.

SSH Server

The following *SSH Server* parameters can be set:

SSH Server SSH access to the device is enabled by default.

• **Server Port** Specify the TCP/IP port of the SSH server. The default is *22*.

• **Password Authentication** By default, this option is enabled and you must authenticate using administrator credentials to grant SSH access to the device. If you disable this option, then an authorized key is required.

• **Authorized Keys** Click **Edit** to import a public key file for SSH access to the device instead of using an admin password.

- **Choose File** Click **Choose File** to locate the new key file. Select the file and click **Open**.

- **Import** Imports the file for SSH access.

- **Enabled** Enables the specific key. All the added keys are saved in the system configuration file; however, only the enabled keys are active on the device.

- **Type** Displays the type of key.

- **Key** Displays the key.

- **Comment** You can enter a brief description of the key.

- **Action** You have the following options:

  • **Add** Adds a public key file.

  • **Edit** Makes changes to a public key file. Click **Save** to save your changes.

  • **Del** Deletes a public key file.

- **Save** Saves your changes.

- **Close** Discards your changes.

Services

The *Services* section configures system management services.

SNMP Agent

Simple Network Monitor Protocol (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.

The device contains an SNMP agent, which does the following:

• Provides an interface for device monitoring using SNMP

• Communicates with SNMP management applications for network provisioning

• Allows network administrators to monitor network performance and troubleshoot network problems

For the purpose of equipment identification, configure the SNMP agent with contact and location information:

SNMP Agent Enables the SNMP agent.

• **SNMP Community** Specify the SNMP community string. It is required to authenticate access to Management Information Base (MIB) 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 *SNMP Community* is *public*.

• **Contact** Specify the contact who should be notified in case of emergency.

• **Location** Specify the physical location of the device.

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.

Dynamic DNS If enabled, the device allows communications with the DDNS server.

- **Host Name** Enter the host name of the DDNS server.
- **Username** Enter the username of the DDNS account.
- **Password** Enter the password of the DDNS account.
- **Show** Check the box to display the password characters.

System Log

If you enable the *System Log*, the messages display on the *Alerts* tab; see **"System Log" on page 24**.

System Log This option enables the registration routine of system log (syslog) messages. By default it is enabled.

- **Remote Log** Enables the syslog remote sending function. System log messages are sent to a remote server, which is specified in the following fields:
  - **Remote Log IP Address** The host IP address that receives syslog messages. Properly configure the remote host to receive syslog protocol messages.
  - **Remote Log Port** The TCP/IP port that receives syslog messages. *514* is the default port for the commonly used system message logging utilities.

Every logged message contains at least a system time and host name. Usually a specific service name that generates the system event is also specified within the message. Messages from different services have different contexts and different levels of detail. Usually error, warning, or informational system service messages are reported; however, more detailed debug level messages can also be reported. The more detailed the system messages reported, the greater the volume of log messages generated.

NTP Client

Network Time Protocol (NTP) is a protocol for synchronizing the clocks of computer systems over packet-switched, variable-latency data networks. You can use it to set the system time on the device. If the *System Log* option is enabled, then the system time is reported next to every log entry that registers a system event.

NTP Client If enabled, the device obtains the system time from a time server on the internet.

- **NTP Server** Specify the IP address or domain name of the NTP server. The default is *0.ubnt.pool.ntp.org*.

Spanning Tree Protocol

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.

Status Enabled by default, STP provides redundancy without network loops.

Version Select the version of STP to use. STP and Rapid STP (RSTP) display the following states: *Blocking*, *Learning*, and *Forwarding*. RSTP is recommended because ports can more quickly progress to the forwarding state. When STP is selected, the EdgeSwitch sends STP packets. The default is *RSTP*.

Max Age Specify how long the EdgeSwitch saves a configuration message received on a port. If the EdgeSwitch does not hear any new configuration messages after the *Max Age* time interval, then the EdgeSwitch adapts and starts to reconfigure. The default is *20* seconds.

Hello Time Specify the time interval between configuration messages transmitted by the EdgeSwitch to other switches. The default is *2* seconds.

Forward Delay Specify how long the listening and learning states last before the EdgeSwitch forwards traffic. The default is *15* seconds.

Priority STP uses priority values to select a switch as the root switch of the spanning tree. Specify the *Priority* value of the EdgeSwitch. The default is *32768*.

Jumbo Frames

The Maximum Transmission Unit (MTU) is the maximum packet size (in bytes) that a network interface can transmit. A jumbo frame is a frame that is larger than the standard Ethernet frame with an MTU of 1500. Jumbo frames are typically used for Gigabit Ethernet connections.
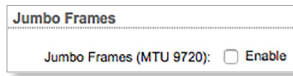
Jumbo Frames Disabled by default, the EdgeSwitch does not handle jumbo frames and drops them. If enabled, the EdgeSwitch handles jumbo frames and forwards them. The maximum *MTU* of the EdgeSwitch 5XP is *9216*, and the maximum *MTU* of the EdgeSwitch 8XP is *9720*.

Device Discovery
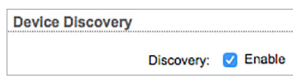
Discovery Enabled by default, so the device can be discovered by other Ubiquiti devices through the *Device Discovery* tool. See **"Discovery" on page 26** for details.

System Accounts

You can change the administrator password to protect your device from unauthorized changes. We recommend that you change the default administrator password during the very first system setup:
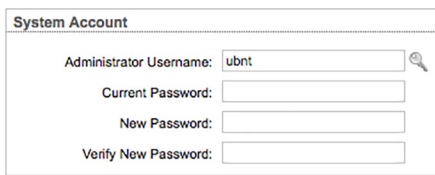
**Administrator Username** Enter the administrator name.

Key button Click this button 🔍 to change the password.

- **Current Password** Enter the current administrator password. It is required to change the *Password* or *Administrator Username*.

- **New Password** Enter the new password for the administrator account.

- **Verify New Password** Re-enter the new password.

  📋 Note: The password length is 63 characters maximum.

Device Maintenance

This section manages device reboot and support information reports.
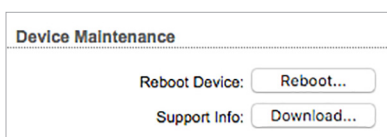
Reboot Device Initiates a full reboot cycle of the device. Reboot is the same as the hardware reboot, which is similar to the power-off and power-on cycle. The system configuration stays the same after the reboot cycle completes. Any changes that have not been applied are lost.

Support Info This generates a support information file that the Ubiquiti support engineers can use when providing customer support. This file only needs to be generated at their request.

Configuration Management

This section manages device configuration routines and the option to reset the device to factory default settings.

The device configuration is stored in a plain text file (.cfg). You can back up, restore, or update the system configuration file:
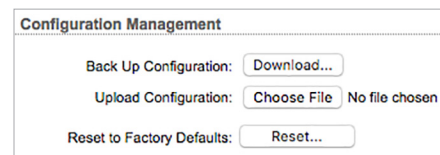
Back Up Configuration Click **Download** to download the current system configuration file.

📋 Note: We strongly recommend that you save the configuration file in a secure location. The configuration file includes confidential information, such as hashed passwords.

Upload Configuration Click **Choose File** to locate the new configuration file. Select the file and click **Open**. We recommend that you back up your current system configuration before uploading the new configuration.

The configuration file must match the device you are uploading to. Behavior may be unpredictable if you mix configuration files from different device models. For example, upload an ES-8XP configuration file to a ES-8XP; do NOT upload a ES-5XP configuration file to a ES-8XP.

📋 Note: The ES-16XP is comprised of two ES-8XP devices, so you can upload an ES-8XP configuration file to either of the devices that make up the ES-16XP.

- **Upload** Click this button to upload the new configuration file to the EdgeSwitch. Click **Apply** to confirm.

  After the EdgeSwitch reboots, the settings of the new configuration are displayed in the Configuration Interface.

Reset to Factory Defaults Resets the EdgeSwitch to the factory default settings. This option will reboot the EdgeSwitch, and all factory default settings will be restored. We recommend that you back up your current system configuration before resetting the EdgeSwitch to its defaults.
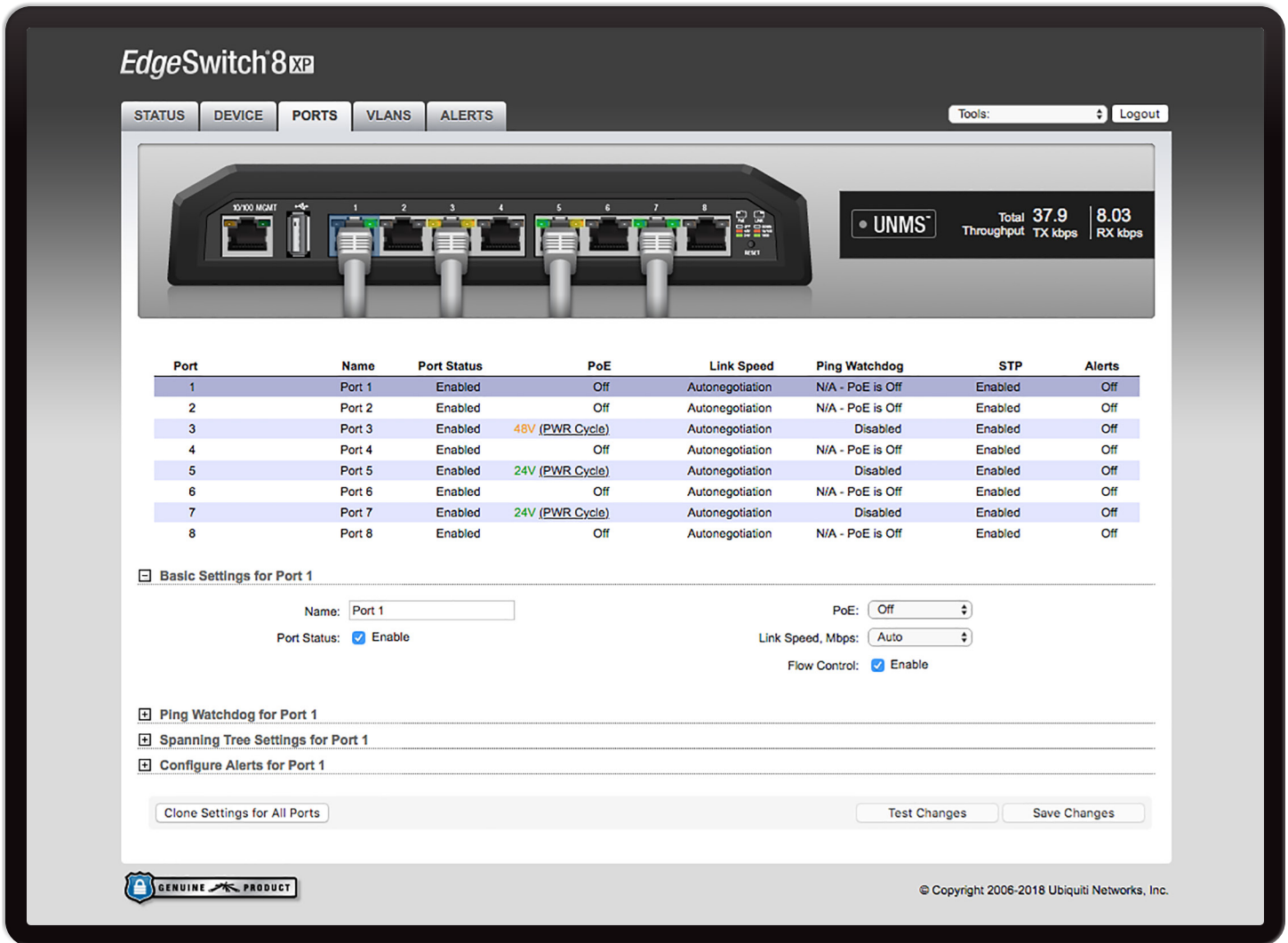
Chapter 5: Ports Tab

The *Ports* tab allows you to configure the *Basic Settings*, *Ping Watchdog* settings, *Spanning Tree Settings*, and alerts for each port of the EdgeSwitch.

The EdgeSwitch image displays the active LEDs and connections. See **"Hardware Overview" on page 1** for more information. To change a port's settings, click the port on the image. Then the port is highlighted in blue.

UNMS You can also manage your device using UNMS, which lets you configure, monitor, upgrade, and back up your devices using a single application. Click the **UNMS** button to visit: **unms.com**

The color of the circular icon represents the status of the connection to UNMS.

Color	Status
🟢	Connected to UNMS
🟡	Connecting to UNMS
⚪	Disabled

Total Throughput Displays the current TX and RX data traffic values.

Port Status Place your mouse over a port to view its *PoE* status, *Speed* setting, duplex mode, and statistics for *TX* and *RX* throughput.

For each port, the *Ports* tab displays its *Port* number, *Name*, *Port Status*, *PoE* status, *Link Speed*, *Ping Watchdog*, *STP* status (if enabled on the *Device* tab), and *Alerts* status.

To sort the ports in a specific order, click the appropriate column head.

Port	Name	Port Status	PoE	Link Speed	Ping Watchdog	STP	Alerts
1	Port 1	Enabled	Off	Autonegotiation	N/A - PoE is Off	Enabled	Off
2	Port 2	Enabled	Off	Autonegotiation	N/A - PoE is Off	Enabled	Off
3	Port 3	Enabled	48V (PWR Cycle)	Autonegotiation	Disabled	Enabled	Off
4	Port 4	Enabled	Off	Autonegotiation	N/A - PoE is Off	Enabled	Off
5	Port 5	Enabled	24V (PWR Cycle)	Autonegotiation	Disabled	Enabled	Off
6	Port 6	Enabled	Off	Autonegotiation	N/A - PoE is Off	Enabled	Off
7	Port 7	Enabled	24V (PWR Cycle)	Autonegotiation	Disabled	Enabled	Off
8	Port 8	Enabled	Off	Autonegotiation	N/A - PoE is Off	Enabled	Off

PWR Cycle To power off the connected PoE device for five seconds and then power it back on, click **PWR Cycle**.

Revert Changes To cancel your changes, click **Revert Changes**.

Test Changes To try the changes without saving them, click **Test Changes**. To keep the changes, click **Apply**. If you do not click *Apply* within 180 seconds (the countdown is displayed), the device times out and resumes its earlier configuration.

Save Changes To immediately save your changes, click **Save Changes**.

Clone Settings for All Ports After you have made changes for the selected port, click this button to apply the same changes to all ports. Then click **Save Changes**.

⚠️ WARNING: The *PoE* setting is also cloned. Ensure that the same *PoE* setting suits all ports before you clone the settings of the selected port.

Basic Settings for Port

Basic Settings for Port 3		
Name: Port 3		PoE: Off
Port Status: ☑ Enable		Link Speed, Mbps: Auto
		Flow Control: ☑ Enable

Name Enter a name for the port.

Port Status To use this port, check the box.

📝 Note: Enabling/disabling this option only affects datas traffic on a port. PoE functionality remains unaffected.

PoE PoE is disabled by default on all ports. To output PoE to the connected device, select **24V** or **48V** (*48V* available only on the EdgeSwitch 8XP). To disable PoE, select **Off**.

📝 Note: Before enabling PoE, check the specifications of your airMAX, UniFi, legacy, or third-party devices to ensure they support passive PoE and require the available amount of voltage. The EdgeSwitch 5XP offers 24V passive PoE, and the EdgeSwitch 8XP offers 24V or 48V passive PoE.

Link Speed, Mbps By default, *Auto* is enabled. The EdgeSwitch automatically negotiates transmission parameters, such as speed and duplex, with its counterpart. In this process, the networked devices first share their capabilities and then choose the fastest transmission mode they both support.

📝 Note: *Auto* applies only to speed and duplex, not PoE.

To manually specify the maximum transmission link speed and duplex mode, select **100Mbps-Full**, **100Mbps-Half**, **10Mbps-Full**, or **10Mbps-Half.** Full-duplex mode allows communication in both directions simultaneously. Half-duplex mode allows communication in one direction at a time, alternating between transmission and reception.

To achieve full performance with extra-long Ethernet cables, ensure that you use CAT6-qualified cables and interconnects.

Flow Control Enabled by default. *Flow Control* allows the port to manage data rates in case the sending and receiving devices use different data transmission rates.

Ping Watchdog for Port

Ping Watchdog is only for PoE-enabled ports. It configures the device to continuously ping a user-defined IP address (it can be the Internet gateway, for example). If it is unable to ping under the user-defined constraints, then the device will automatically turn off PoE on the port, and then turn it back on. This option creates a kind of "fail-proof" mechanism.

Ping Watchdog is dedicated to continuous monitoring of the specific connection to the remote host using the *Ping* tool. The *Ping* tool works by sending ICMP echo request packets to the target host and listening for ICMP echo response replies. If the specified number of replies is not received, the tool reboots the device.

Ping Watchdog for Port 3		
Port Ping Watchdog: ☐ Enable		Startup Delay: 300 seconds
IP Address to Ping:		Failure Count: 3
Ping Interval: 15 seconds		Cut Power for: 5 seconds

Port Ping Watchdog Enables use of Ping Watchdog.

- **IP Address to Ping** Specify the IP address of the target host to be monitored by *Ping Watchdog*.

- **Ping Interval** Specify the time interval (in seconds) between the ICMP echo requests that are sent by *Ping Watchdog*. The default value is *15* seconds.

- **Startup Delay** Specify the initial time delay (in seconds) until the first ICMP echo requests are sent by *Ping Watchdog*. The default value is *300* seconds.

  The *Startup Delay* value should be at least 60 seconds as the network interface and wireless connection initialization takes a considerable amount of time if the device is rebooted.

- **Failure Count** Specify the number of ICMP echo response replies. If the specified number of ICMP echo response packets is not received continuously, *Ping Watchdog* will reboot the device. The default value is *3*.

- **Cut Power for** Specify the number of seconds this port should pause PoE (if applicable). The default value is *5* seconds.

⚠️ WARNING: Cutting power during a firmware upgrade can damage your device. Ensure that you specify a safe *Ping Interval*.

Spanning Tree Settings for Port

STP settings are available per port if STP is enabled on the *Device* tab (see **"Spanning Tree Protocol" on page 15**).

Spanning Tree Settings for Port 1

Edge Port: ☐ Enable   Path Cost: 0   Priority: 128

Edge Port If enabled, designates this port as a port that connects to only a host device. The host device must not be connected to another switch or router. The *Edge Port* is always in the forwarding state and never undergoes the learning or blocking state.

> Note: Ensure that the *Edge Port* is connected to only a host device. If the *Edge Port* is connected to a switch or router (even indirectly through a host device), then this may cause a network loop.

Path Cost STP uses *Path Cost* to determine the best path between devices. The lower the value, the higher the ranking. In most cases, specify lower values for ports with higher bandwidths, such as gigabit speeds, and specify higher values for ports with lower bandwidth. You can also specify lower values for ports you prefer to use. (*Path Cost* has precedence over *Priority*.) The default is *0*.

Priority STP uses *Priority* as a tiebreaker when multiple ports have the same *Path Cost* value. The lower the value, the higher the priority. If the *Path Cost* of multiple ports are the same, then STP chooses the port with the highest *Priority* (lowest value) as the active port (the others are blocked). If STP detects a network loop, then a port with higher *Priority* is less likely to be blocked. If multiple ports share the highest *Priority*, then STP enables the port with the lowest port ID. The *Priority* range is 0 (highest priority) to 255 (lowest priority).The default is *128*.

Configure Alerts for Port

If you configure alerts, the alerts display on the *Alerts* tab; see **"Alert Log" on page 23**.

Configure Alerts for Port 1

Link Goes Up/Down: ☐
RX Bandwidth Goes Above: ☐ [   ] Mbps   TX Bandwidth Goes Above: ☐ [   ] Mbps
RX Bandwidth Goes Below: ☐ [   ] Mbps   TX Bandwidth Goes Below: ☐ [   ] Mbps

For each port, you can configure the following alerts:

Link Goes Up/Down Generates an alert when the link goes up or down.

RX Bandwidth Goes Above Generates an alert when the RX bandwidth exceeds the specified maximum. Enter the maximum in Mbps.

RX Bandwidth Goes Below Generates an alert when the RX bandwidth drops below the specified minimum. Enter the minimum in Mbps.

TX Bandwidth Goes Above Generates an alert when the TX bandwidth exceeds the specified maximum. Enter the maximum in Mbps.

TX Bandwidth Goes Below Generates an alert when the TX bandwidth drops below the specified minimum. Enter the minimum in Mbps.
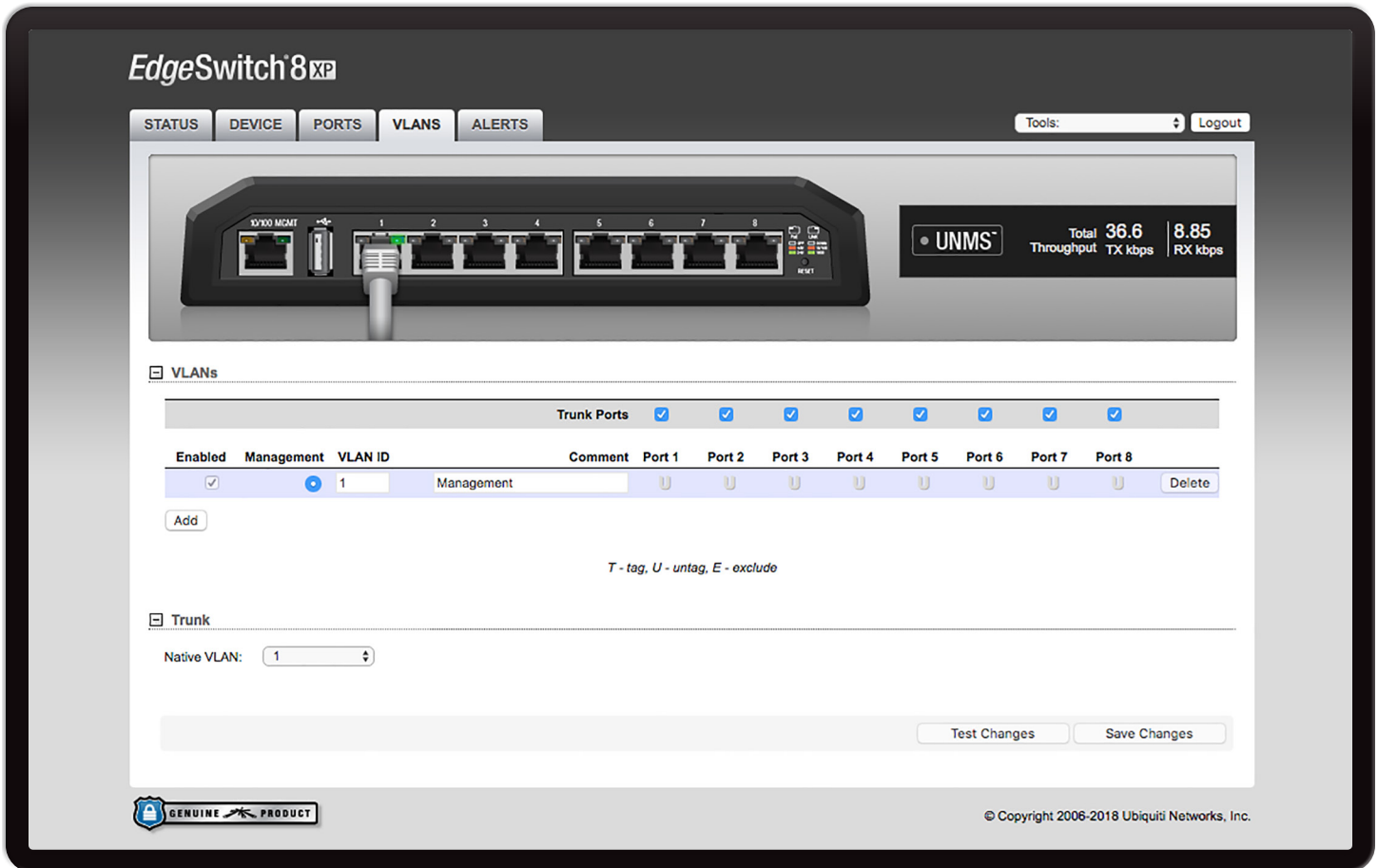
Chapter 6: VLANs Tab

The *VLANs* tab configures Virtual Local Area Networks (VLANs) and trunk ports.

The EdgeSwitch image displays the active LEDs and connections. See **"Hardware Overview" on page 1** for more information.
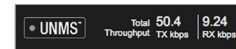

UNMS You can also manage your device using UNMS, which lets you configure, monitor, upgrade, and back up your devices using a single application. Click the **UNMS** button to visit: **unms.com**

The color of the circular icon represents the status of the connection to UNMS.

Color	Status
🟢	Connected to UNMS
🟡	Connecting to UNMS
⚪	Disabled

Total Throughput Displays the current TX and RX data traffic values.

Port Status Place your mouse over a port to view its *PoE* status, *Speed* setting, duplex mode, and statistics for *TX* and *RX* throughput.


Revert Changes To cancel your changes, click **Revert Changes**.

Test Changes To try the changes without saving them, click **Test Changes**. To keep the changes, click **Apply**. If you do not click *Apply* within 180 seconds (the countdown is displayed), the device times out and resumes its earlier configuration.

Save Changes To immediately save your changes, click **Save Changes**.

VLANs

All ports belong to VLAN1, which is enabled as a management VLAN by default. A port can belong to more than one VLAN.
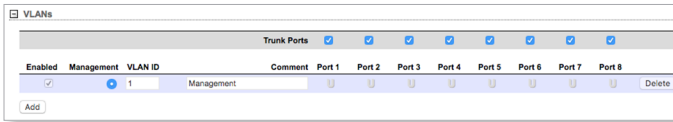
Trunk Ports Trunk mode is enabled by default. Trunk ports carry both untagged and tagged traffic from multiple VLANs.

Add Create a new Virtual Local Area Network (VLAN).

- **Enabled** Check the box to enable the VLAN.
- **Management** Create the VLAN before you select this option. Ensure that you have access via the new VLAN before you choose to manage through this VLAN.

  📋 Note: If you configure a new VLAN as *Management*, then VLAN 1 is no longer the management VLAN. If you cannot access the new management VLAN, then you are locked out of the Configuration Interface. (If you are locked out, you can reset the EdgeSwitch to its factory defaults.)

- **VLAN ID** Enter a unique VLAN ID from 2 to 4095.
- **Comment** Enter a description of this VLAN.
- **Port** *n* For each port, assign its membership status as a tagged or untagged member of this VLAN. You can also exclude a port from this VLAN.
  - **T (tag)** The port belongs to this VLAN, and VLAN tags are included on outgoing frames. Click the letter until it becomes a "T".
  - **U (untag)** The port belongs to this VLAN, and VLAN tags are excluded from outgoing frames. Click the letter until it becomes a "U".
  - **E (exclude)** The port does not belong to this VLAN. Click the letter until it becomes an "E".
- **Delete** Permanently removes the VLAN. If you want to temporarily disable the VLAN, remove the check from the *Enabled* box.
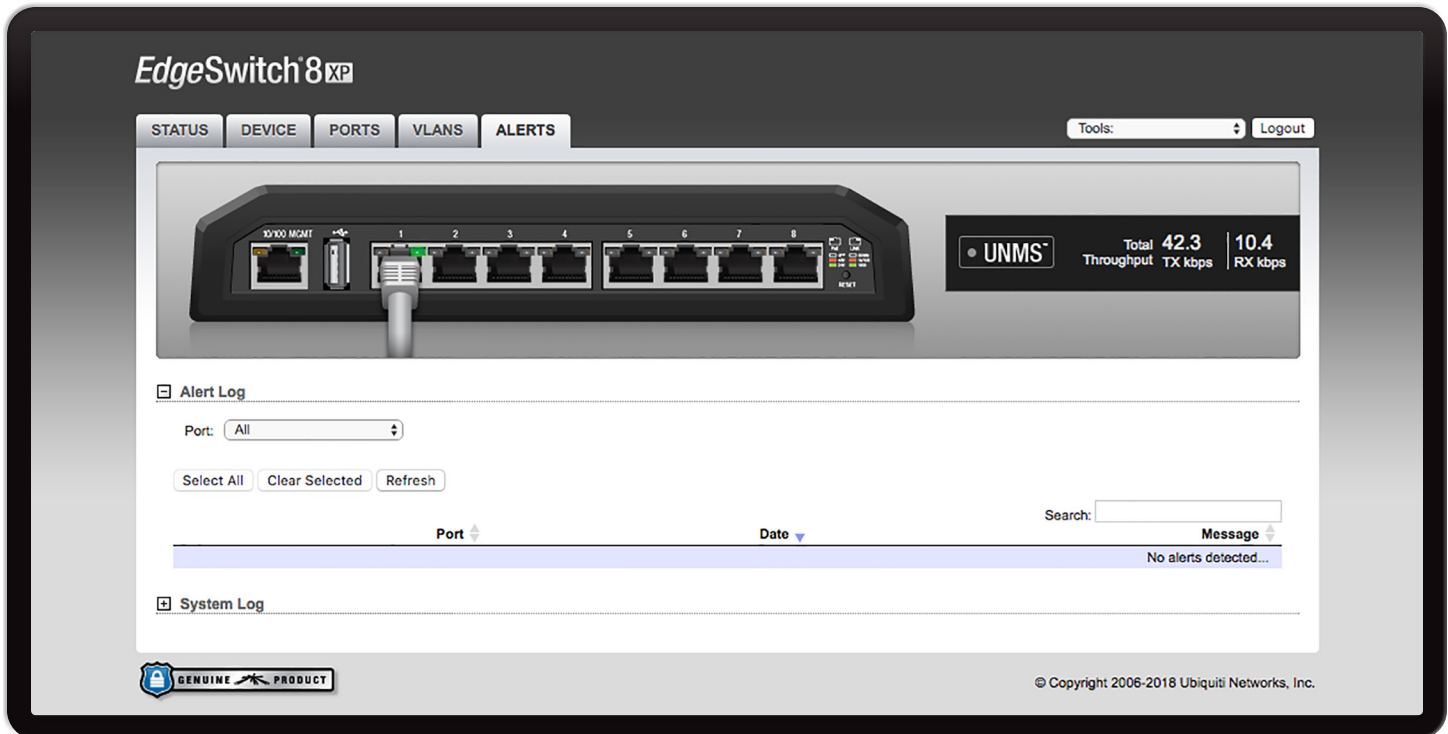
Trunk

You can specify an existing VLAN to be the native VLAN for all trunk ports. Untagged frames received on trunk ports become members of the native VLAN.

Native VLAN By default, the *Native VLAN* is *1*. To specify a different *Native VLAN*, select it from the drop-down list.

📋 Note: Both ends of the trunk must use the same *Native VLAN*.

Chapter 7: Alerts Tab

The *Alerts* tab displays logs registering alerts or system events.

The EdgeSwitch image displays the active LEDs and connections. See **"Hardware Overview" on page 1** for more information.
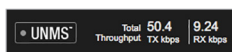

UNMS You can also manage your device using UNMS, which lets you configure, monitor, upgrade, and back up your devices using a single application. Click the **UNMS** button to visit: **unms.com**

The color of the circular icon represents the status of the connection to UNMS.

Color	Status
🟢	Connected to UNMS
🟡	Connecting to UNMS
⚪	Disabled

Total Throughput Displays the current TX and RX data traffic values.

Port Status Place your mouse over a port to view its *PoE* status, *Speed* setting, duplex mode, and statistics for *TX* and *RX* throughput.

Alert Log

When alerts logging is configured on the *Ports* tab (see **"Configure Alerts for Port" on page 19**), the *Alert Log* lists all alerts. By default, alert logging is disabled.

Port To display entries for all ports, select **All**. To display entries for a specific port, select the port number from the drop-down list.

When alerts logging is enabled, the *Select All* and *Clear Selected* buttons are available:

Select All To select all entries in the *Alert Log*, click **Select All**.

Clear Selected To delete specific entries in the *Alert Log*, select those entries and then click **Clear**.

Refresh To update the log content, click **Refresh**.

Search Allows you to search for specific text. Begin typing; there is no need to press **enter**. The results are filtered in real time as soon as you type two or more characters.

Entries in the *Alert Log* include the *Port* number, *Date*, and *Message*.

System Log

When system logging is enabled on the *Device* tab (see **"System Log" on page 15**), the *System Log* lists all system events. By default, system logging is enabled.
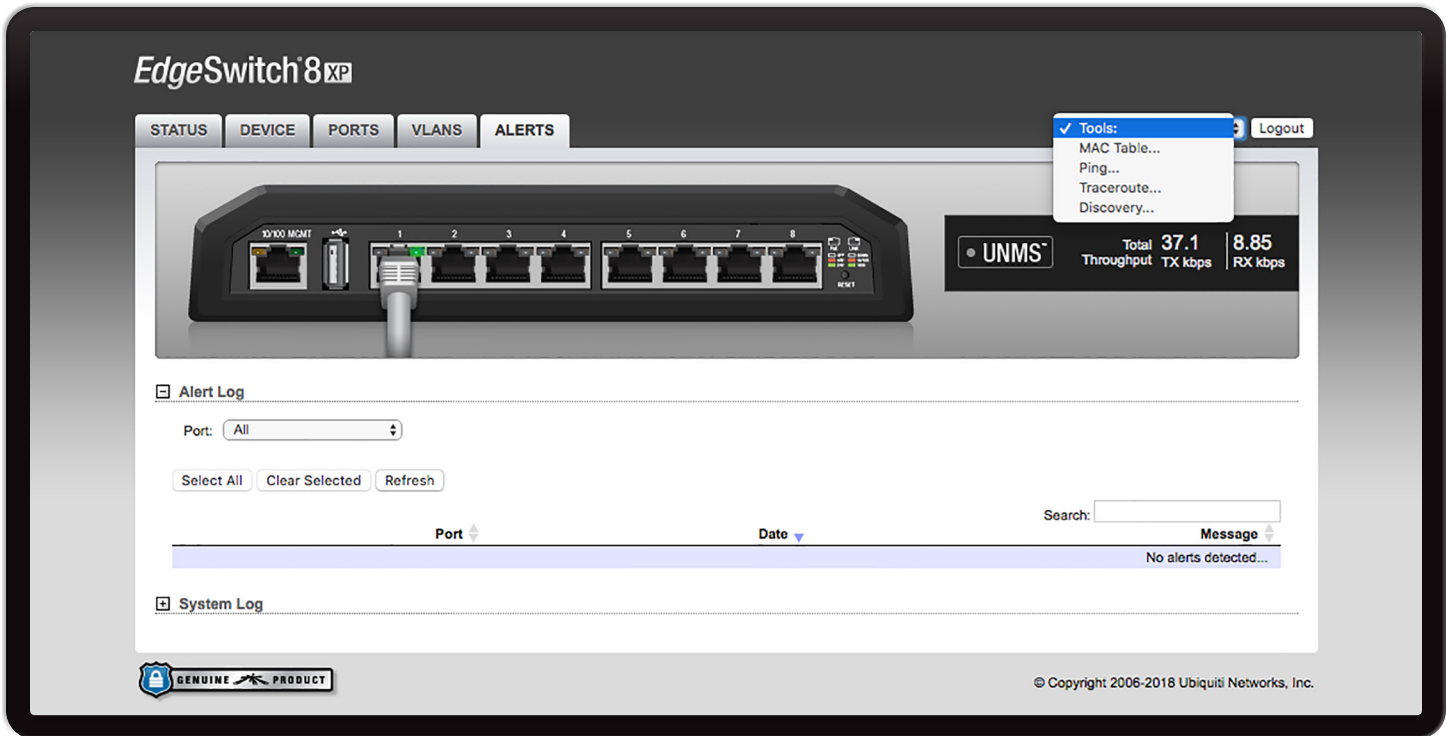

When system logging is enabled, there are two buttons available:

Clear To delete all entries in the *System Log*, click **Clear**.

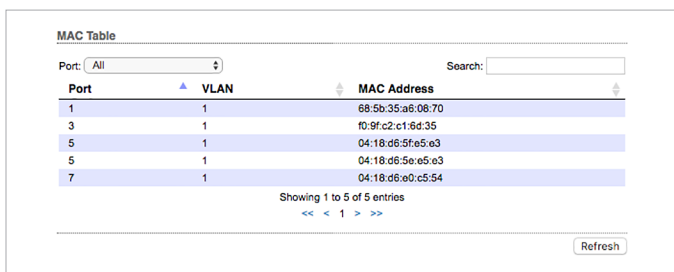**Refresh** To update the log content, click **Refresh**.

Chapter 8: Tools

Each tab of the Configuration Interface contains network administration and monitoring tools. Click the **Tools** drop-down list at the top right corner of the page.

MAC Forwarding Table

The *MAC Forwarding Table* displays the MAC addresses of the hardware devices using the EdgeSwitch.

MAC Table

Port *All* is the default. To view the MAC addresses of the hardware devices using a specific port, select the port from the drop-down list.

Search The *Search* field automatically filters port numbers, VLAN IDs, and MAC addresses containing specified numbers or letters as you enter them.

The *MAC Forwarding Table* reports the *Port* number, *VLAN* ID, and *MAC Address* for each hardware device. To refresh the window, click **Refresh**.

Ping

You can ping other devices on the network directly from the EdgeSwitch. The *Ping* tool uses ICMP packets to check the preliminary link quality and packet latency estimation between two network devices.
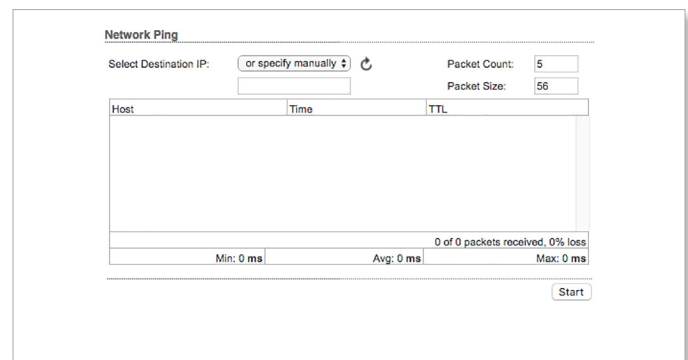
Network Ping

Select Destination IP You have two options:

- Select a remote system IP from the drop-down list, which is generated automatically.
- Select **or specify manually** and enter the IP address in the field displayed below.

Packet Count Specify the number of packets to send for the ping test. The default is *5*.

Packet Size Specify the size of the packet in bytes. The default is *56*.

Start Click this button to start the test.

Packet loss statistics and latency time evaluation are displayed after the test is completed.

Traceroute

The *Traceroute* tool traces the hops from the EdgeSwitch to a specified outgoing IP address. Use this tool to find the route taken by ICMP packets across the network to the destination host.

Destination Host Enter the IP address of the destination host.

Resolve IP Addresses Select this option to resolve the IP addresses symbolically rather than numerically.

Start Click this button to start the test.

Responses are displayed after the test is completed.

Discovery

The *Device Discovery* tool searches for all Ubiquiti devices on your network, specifically the subnet that the EdgeSwitch belongs to. The *Search* field automatically filters devices containing specified names or numbers as you enter them.

Search The *Search* field automatically filters devices containing specified names or numbers as you enter them.

The *Device Discovery* tool reports the *MAC Address*, *Device Name*, wireless *Mode* (if applicable), *SSID*, *Product* type, *Firmware* version, and *IP Address* for each Ubiquiti device. To access a device configuration through its web management interface, click the device's IP address.

To refresh the window, click **Scan**.

Appendix A: 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.
685 Third Avenue, 27th Floor
New York, NY 10017 USA
www.ubnt.com

Online Resources

Support: **ubnt.link/EdgeMAX-Support**

Community: **community.ubnt.com/edgemax**

Downloads: **downloads.ubnt.com/edgemax**

JL060818

www.ubnt.com