ZYXEL
Your Networking Ally

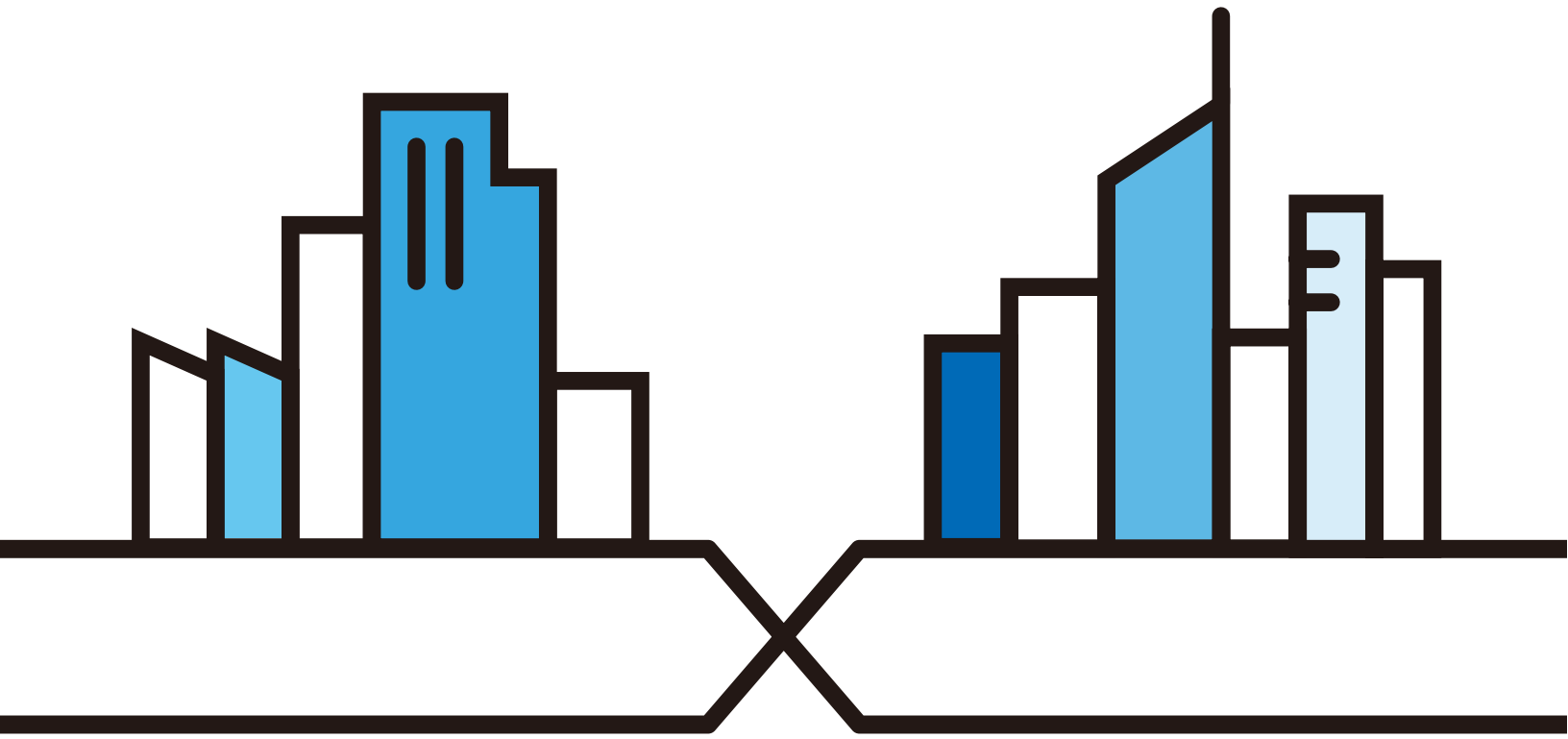
# User's Guide

# LTE7460-M608

## 4G LTE-A Outdoor CPE

| Default Login Details | |
|---|---|
| LAN IP Address | https://192.168.1.1 |
| User Name | admin |
| Password | 1234 |

Version 1.00 Edition 1, 10/2016



**IMPORTANT!**

**READ CAREFULLY BEFORE USE.**

**KEEP THIS GUIDE FOR FUTURE REFERENCE.**

This is a User's Guide for a series of products. Not all products support all firmware features. Screenshots and graphics in this book may differ slightly from your product due to differences in your product firmware or your computer operating system. Every effort has been made to ensure that the information in this manual is accurate.

## Related Documentation

- Quick Start Guide

  The Quick Start Guide shows how to connect the LTE and access the Web Configurator.

- Web Configurator Online Help

  Click the help icon in any screen for help in configuring that screen and supplementary information.

- More Information

  Go to **support.zyxel.com** to find other information on the LTE7460-M608.

# Contents Overview

# Table of Contents

# PART I
# User's Guide

# CHAPTER 1
# Introduction

## 1.1 Overview

The LTE7460-M608 is an outdoors LTE (Long Term Evolution) router that supports a Gigabit Ethernet connection. For better network integration, Zyxel embeds both bridge mode and router mode into the LTE7460-M608. With these two built-in modes the LTE7460-M608 can be easily integrated with any of your existing or preferred devices. The LTE7460-M608 also includes a robust firewall that uses Stateful Packet Inspection (SPI) technology and protects against Denial of Service (DoS) attacks.

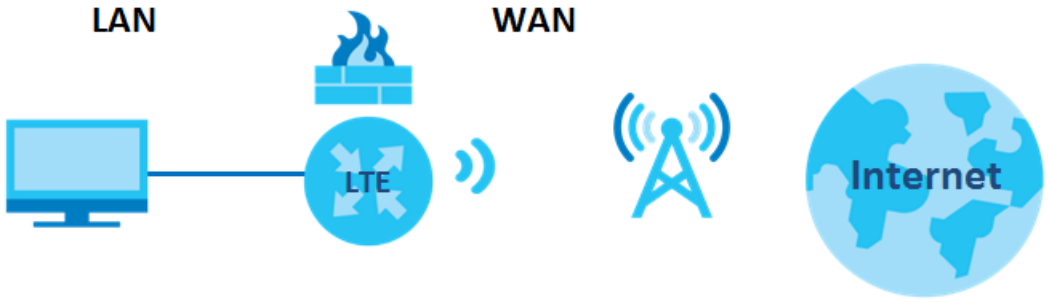
## 1.2 Applications for the LTE7460-M608

Here are some example uses for which the LTE7460-M608 is well suited.

### 1.2.1 Internet Access

Your LTE7460-M608 provides shared Internet access by connecting to an LTE network. Computers can connect to the LTE7460-M608's PoE injector.

**Figure 1** LTE7460-M608's Internet Access Application




## 1.3 Ways to Manage the LTE7460-M608

Use the following method to manage the LTE7460-M608.

- Web Configurator. This is recommended for everyday management of the LTE7460-M608 using a (supported) web browser.

# 1.4 Good Habits for Managing the LTE7460-M608

Do the following things regularly to make the LTE7460-M608 more secure and to manage the LTE7460-M608 more effectively.

- Change the password. Use a password that's not easy to guess and that consists of different types of characters, such as numbers and letters.
- Write down the password and put it in a safe place.
- Back up the configuration (and make sure you know how to restore it). Restoring an earlier working configuration may be useful if the device becomes unstable or even crashes. If you forget your password to access the Web Configurator, you will have to reset the LTE7460-M608 to its factory default settings. If you backed up an earlier configuration file, you would not have to totally re-configure the LTE7460-M608. You could simply restore your last configuration. Write down any information your ISP provides you.

# 1.5 LEDs (Lights)

The LED color in your LTE7460-M608 indicates the signal quality. The following table describes the LEDs in your LTE7460-M608.

Note: In the following the table the LED status **On, Off, Flashing** and **Blinking** are shown. **Flashing** describes a LED that turns on and off every second, whereas **Blinking** describes a LED that turns on and off every .4 seconds.

Table 1 LED Descriptions

| LED 1 | LED 2 | LED 3 | COLOR | DESCRIPTION |
|---|---|---|---|---|
| Off | Off | Off | Green | The LTE7460-M608's power is off. |
| Flashing | Flashing | Flashing | Green | The LTE7460-M608 is restoring to factory default when all three are blinking. |
| Blinking | Off | Off | Green | The LTE7460-M608's power is on but there is no Internet connectivity. |
| Off | Blinking | Off | Green | The LTE7460-M608 is upgrading its firmware. |
| On | On | On | Green | The RSSI/RSRP(2G/3G/4G) is greater or equal to -80dBm. The LTE7460-M608 has the best signal strength, but there is no Internet connectivity. |
| On | On | Blinking | Green | The RSSI/RSRP(2G/3G/4G) is greater or equal to -80dBm. The LTE7460-M608 has the best signal strength, and it has Internet connectivity. |
| On | On | Off | Green | The RSSI/RSRP (2G/3G/4G) is between -100dBm and -80dBm. The LTE7460-M608 has a medium signal strength, but there is no Internet connectivity. |
| On | On | Flashing | Green | The RSSI/RSRP (2G/3G/4G) is between -100dBm and -80dBm. The LTE7460-M608 has a medium signal strength, and it has Internet connectivity. |
| On | Off | Off | Green | The LTE7460-M608 has the lowest signal strength. The RSSI/ RSRP(2G/3G/4G) lower than -100 dBm, but there is no Internet connectivity. |
| On | Off | Flashing | Green | The LTE7460-M608 has the lowest signal strength. The RSSI/ RSRP(2G/3G/4G) lower than -100 dBm, and it has Internet connectivity. |

# CHAPTER 2
# Introducing the Web Configurator

## 2.1 Overview

The web configurator is an HTML-based management interface that allows easy device setup and management via Internet browser. Use Internet Explorer 11.0 and later versions, Chrome 52 and later versions, Mozilla Firefox 47 and later versions, or Safari 8.0 and later versions. The recommended screen resolution is 1024 by 768 pixels.

In order to use the web configurator you need to allow:

- Web browser pop-up windows from your device. Web pop-up blocking is enabled by default in Windows XP SP (Service Pack) 2.
- JavaScript (enabled by default).
- Java permissions (enabled by default).

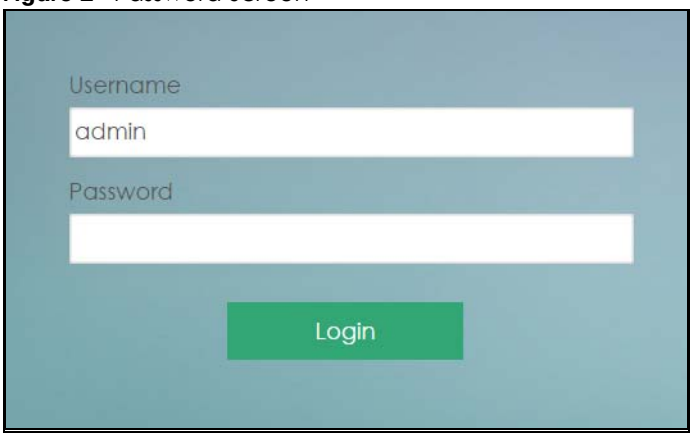
### 2.1.1 Login Accounts

There is one system account that you can use to log in to the LTE7460-M608: "**admin**". The **admin** account allows you full access to all system configurations. The default admin user is "admin" and the default password is "1234".

### 2.1.2 Accessing the Web Configurator

1. Make sure your LTE7460-M608 hardware is properly connected (refer to the Quick Start Guide).
2. Launch your web browser.
3. Type "https://192.168.1.1" as the URL.
4. A password screen displays. Type "admin" as the default Username and "1234" as the default password to access the device's Web Configurator. Click **Login**. If you have changed the password, enter your password and click **Login**.

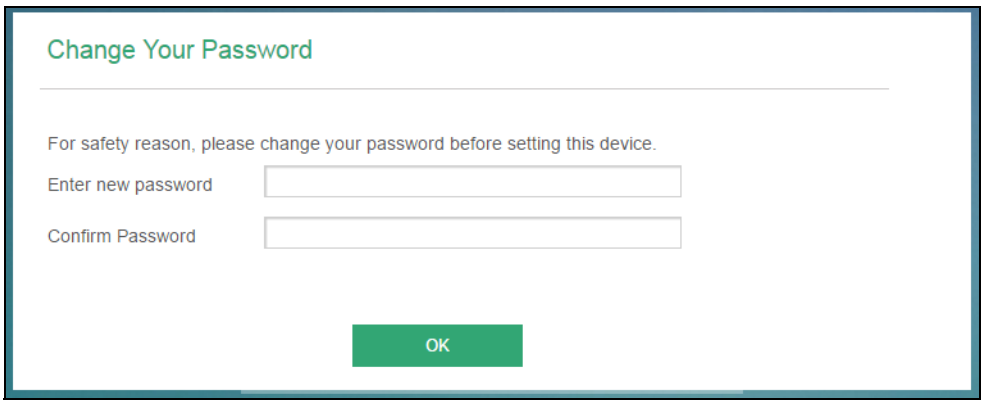
**Figure 2** Password Screen




Note: For security reasons, the LTE7460-M608 automatically logs you out if you do not use the web configurator for five minutes (default). If this happens, log in again.

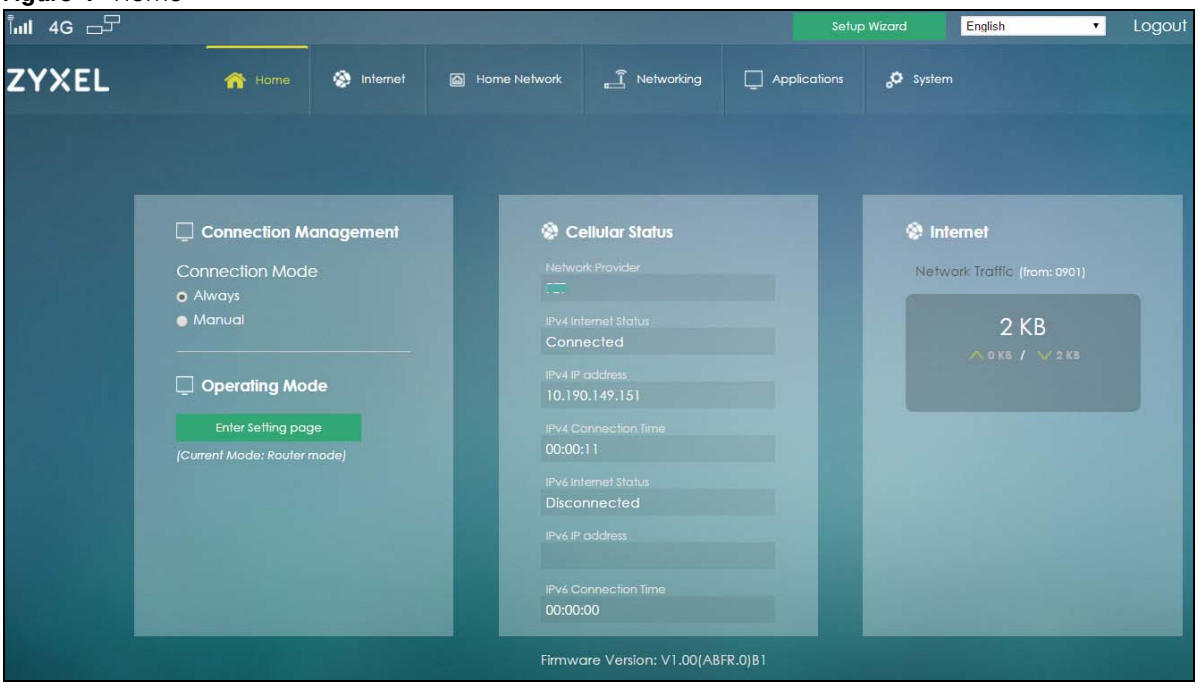
5 The following screen displays if you have not yet changed your password. It is required for you to enter a new password, this password must contain between 8 and 30 ASCII characters, and should include at least one numeric, capital and lower case character. Retype it to confirm and click **OK**.

**Figure 3** Change Password Screen




6 The **Home** screen appears.

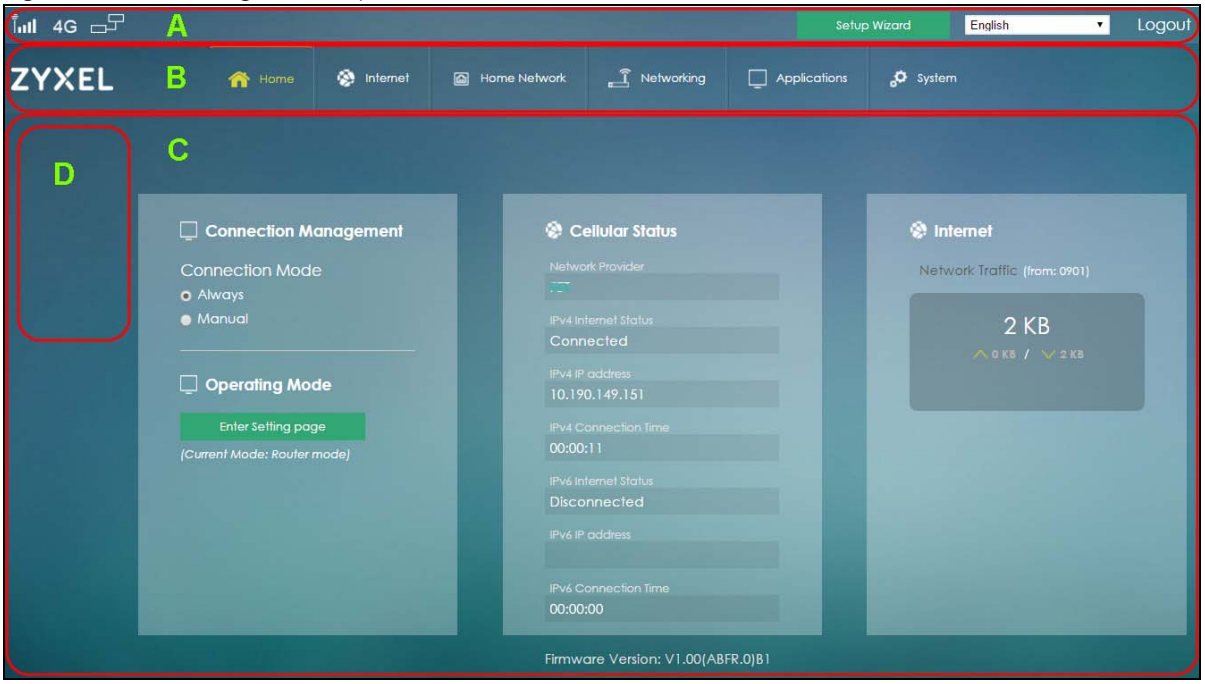
**Figure 4** Home




# 2.2 Navigating the Web Configurator

After logging in the **Home** screen will appear.

**Figure 5** Web Configurator Layout




As illustrated above, the main screen is divided into these parts:

- **A** - Title Bar
- **B** - Navigation Panel - Main Menus
- **C** - Main Window
- **D** - Navigation Panel - Sub Menus

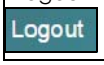
## 2.2.1 Title Bar

The title bar provides some useful links that always appear over the screens below, regardless of how deep into the Web Configurator you navigate.

**Figure 6** Title Bar


The icons in the title bar provide the following instructions.

Table 2 Title Bar: Web Configurator Icons

| LABEL | DESCRIPTION |
|---|---|
| SIM  | This shows whether a SIM card is inserted in the LTE7460-M608.<br>The icon  shows if there is no SIM card inserted.<br>The icon  shows if the SIM card is locked. |
| Signal Strength  | This shows the current signal strength to the mobile network.<br>The icon is grayed out if the mobile data connection is not up.<br>This icon is replaced with  if the LTE7460-M608 is using roaming. |
| Roaming  | This shows whether the LTE7460-M608 is connected to another service provider's mobile network using roaming.<br>The icon is grayed out if roaming is disabled on the LTE7460-M608. |
| Radio Access Technology (RAT)  | This shows the Radio Access Techonology (RAT) of the network to which the LTE7460-M608 is connected.<br>This shows **Searching...** if the LTE7460-M608 is not connected to a mobile network yet. |
| Internet  | This shows whether the LTE7460-M608 has an Internet connection.<br>The icon shows if the LTE7460-M608 is not connected to the Internet. |
| LAN  | This shows the LTE7460-M608's number of connected LAN clients. |
| Setup Wizard  | Click this to access the LTE7460-M608 easy setup. |
| Language | Choose your language from the drop-down list on the upper right corner of the title bar. |
| Logout  | Click this to log out of the Web Configurator. |

## 2.2.2 Navigation Panel

Use the menu items on the navigation panel to open screens to configure the LTE7460-M608 features. The following sections introduce the LTE7460-M608's navigation panel menus and their screens.

**Figure 7** Navigation Panel


The following table describes all the screens in the Web Configurator.

Table 3 Navigation Panel

| MAIN MENU | SUBMENU | FUNCTION |
|---|---|---|
| Home | | Display connection mode, wireless LAN information and the LTE7460-M608's traffic statistics.<br>Use this screen to access the wizard. |
| Internet | Internet Status | Configure the WAN settings on the LTE7460-M608 for Internet access. |
| | Internet Settings | Use this to enable data roaming on the LTE7460-M608.<br>Select when and the type of network to which you want to connect. |
| | PIN Settings | Configure the PIN code when PIN code authentication is enabled. Change the PIN code for the inserted SIM card. |
| | APN Configuration | Configure user-defined connection profiles. |
| | Network Selection | Display available Public Land Mobile Networks and select a preferred network for roaming. |
| | Data Usage/ Statistic | Specify limiting the amount of the package data and view the LTE7460-M608's traffic statistics. |
| Home Network | LAN IP | Configure the management IP address for the LTE7460-M608 LAN interface. |
| | DHCP | Enable the DHCP server on the LTE7460-M608.<br>Configure static DHCP series. |
| | Static Route | Use this to add up to 15 static routes on the LTE7460-M608. |
| | UPnP | Enable the UPnP settings on the LTE7460-M608. |
| | Connected Devices | View current clients information of network clients connected to the LTE7460-M608. |
| Networking | Operating Mode | Use this to choose the operating mode for your LTE7460-M608. |
| | TR069 | Configure TR069 for an administator to use an Auto Configuration Server (ACS) to manage the LTE7460-M608. |
| | DNS Settings | Configure the DNS settings on the LTE7460-M608. |
| | Firewall | Configure IPv4/Port, IPv6/Port, URL filtering rules, DoS attack, ALG, ULG, and IP port forwarding rules. |
| | DDNS Settings | Configure the Dynamic DNS settings on the LTE7460-M608. |
| | VPN Pass Through | Use this to allow computers to establish an outbound VPN service. |
| | Certificate Management | Use this to upload and download certificate files to authenticate servers and clients in your network. |
| | Bandwidth Management | Use this to control traffic on your LTE7460-M608. |
| | Remote Management | Use this to allow addresses outside your LAN to access the LTE7460-M608. |
| | ICMP | Use this screen to enable WAN and LAN ping respond. |

Table 3 Navigation Panel

| MAIN MENU | SUBMENU | FUNCTION |
|---|---|---|
| Applications | Contacts | Use this screen to add, import or view the contacts stored in your SIM card. |
| | Short Message | Use this screen to send SMS messages through the service provider the LTE7460-M608 uses. |
| | USSD | Use this to enter a code for devices in your network to communicate with cellular telephones in your services provider's network. |
| System | System Information | Display the LTE7460-M608's basic information and reboot the LTE7460-M608. |
| | User Account | Change administrative settings and the password of your LTE7460-M608. |
| | Settings Profile | Backup and restore device configurations or reset your device settings back to the factory default. |
| | Firmware Upgrade | Upload a new firmware to the LTE7460-M608. |
| | Time Settings | Change the LTE7460-M608's time.<br>Select your time zone and configure daylight saving time. |
| | System Log | Configure to where the LTE7460-M608 is to send logs.<br>View the logged messages. |
| | Diagnostic | Use this screen to perform ping and trace route tests. |

# CHAPTER 3
# Tutorials

## 3.1 Overview

This chapter shows you how to use the LTE7460-M608's various features.



## 3.2 Connecting to the Internet

This section gives you an example on how to connect to the Internet.

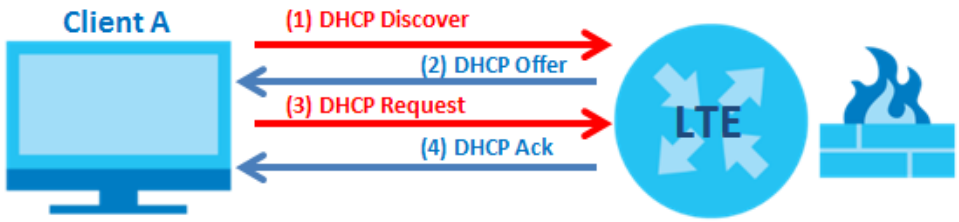
1. Insert the SIM Card into your LTE7460-M608 SIM slot. Make sure this SIM has an active data plan with your Internet Service Provider (ISP).
2. Connect your LTE7460-M608 to your computer, and log into the Web Configurator.
3. If your SIM has a PIN Code, enter this code in the **Home > Internet** screen.
4. Use the **Home** screen or **WAN > Internet Status** screen to check the **Internet Status (IPv4)** or **Internet Status (IPv6)**. If it shows **Connected** this means your internet connection is up.

## 3.3 Configuring DHCP

You can enable the DHCP(Dynamic Host Configuration Protocol) in your LTE7460-M608 to assign IP addresses and DNS servers to systems that support DHCP client capability. DHCPallows clients to obtain TCP/IP configuration at start-up from a server.

The following figure shows how **Client A** uses DHCP to join the LTE7460-M608's network. First Client A searches for an available DHCP, and sends a **DHCP Discover** broadcast message asking for an IP address to connect to. Then the DHCP selects an IP address from its pool of IP addresses for Client A. The DHCP sends a **DHCP Offer** including the IP address selected and a lease time, which is the period of time Client A will be able to use this IP address, After Client A has received DHCP offers for an IP address, it chooses one and sends out a **DHCP Request** including the IP address it chose. Finally the DHCP confirms

through a **DHCP Ack (Acknowledge)** message that the host can use the IP address for the previously specified lease time.




To configure the DHCP in your LTE7460-M608:

1 Log into the LTE7460-M608's Web Configurator.

2 Click **Home Network > DHCP > DHCP Settings**.

3 Click **Enable DHCP Server**.

4 Enter a range of addresses from which your DHCP will assign to devices in your network.

Note: Do not include the LTE7460-M608's LAN IP address in your range of addresses.

5 Enter the **Lease Time**, the period of time (in minutes) a device can use one of the IP addresses from the DHCP pool. The lease time helps recycle unused IP addresses so that other can use them again.

## 3.3.1 Adding Devices to Your Static DHCP List

IP addresses from the DHCP pool can be reused after they have completed their lease time. Add your devices to your Static DHCP List so they have the same IP address everytime they connect to your network.

To add a device to your Static DHCP List:

1 Log into the LTE7460-M608's Web Configurator.

2 Click **Home Network > DHCP > Static DHCP List**.

3 Click **Add New**.

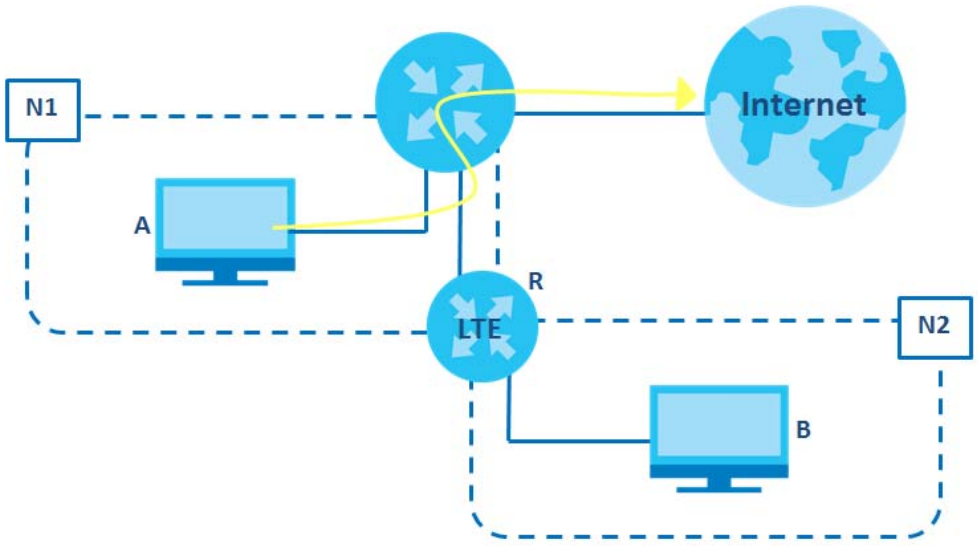
4 Enter the **IP address** you want to assign to your device.

5 Enter the **MAC Address** of your device to which the LTE7460 assigns the IP address.

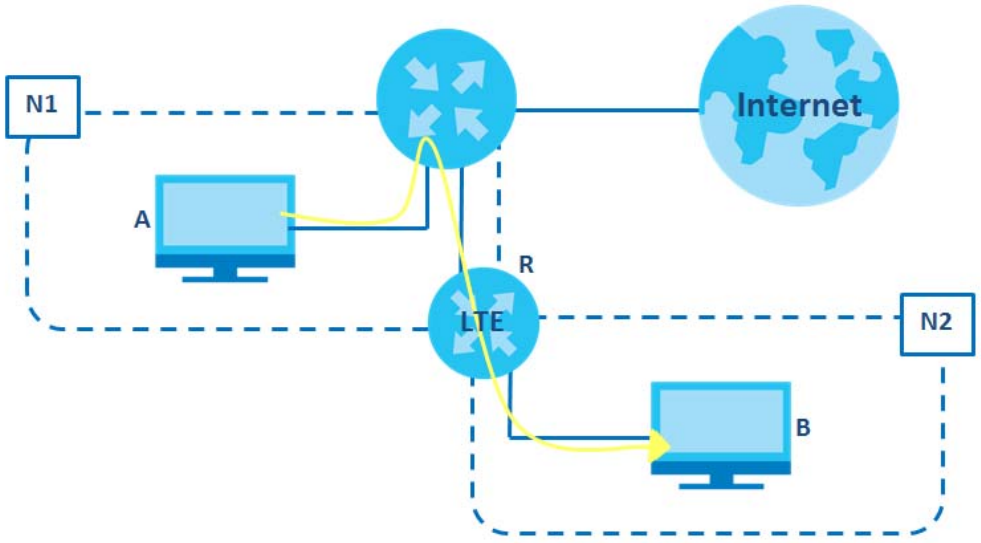
# 3.4 Configuring Static Route for Routing to Another Network

In order to extend your Intranet and control traffic flowing directions, you may connect a router to the LTE7460-M608's LAN. The router may be used to separate two area networks. This tutorial shows how to configure a static routing rule for two network routings.

In the following figure, router **R** is connected to the LTE7460-M608's LAN. **R** connects to two networks, **N1** (192.168.1.x/24) and **N2** (192.168.10.x/24). If you want to send traffic from computer **A** (in **N1** network) to computer **B** (in **N2** network), the traffic is sent to the LTE7460-M608's WAN default gateway by default. In this case, **B** will never receive the traffic.




You need to specify a static routing rule on the LTE7460-M608 to specify **R** as the router in charge of forwarding traffic to **N2**. In this case, the LTE7460-M608 routes traffic from **A** to **R** and then **R** routes the traffic to **B**.



This tutorial uses the following example IP settings:

Table 4 IP Settings in this Tutorial

| DEVICE / COMPUTER | IP ADDRESS |
|---|---|
| The LTE7460-M608's LAN | 192.168.1.1 |
| A | 192.168.1.34 |
| R's N1 | 192.168.1.253 |
| R's N2 | 192.168.10.2 |
| B | 192.168.10.33 |

To configure a static route to route traffic from **N1** to **N2**:

1 Log into the LTE7460-M608's Web Configurator.

2 Click **Home Network > Static Route**.

3 Click **Add new** in the Static Route screen.

4 Configure the Static Route Setup screen using the following settings:

**4a** Type 192.168.10.2 and subnet mask 255.255.255.0 for the destination, N2.

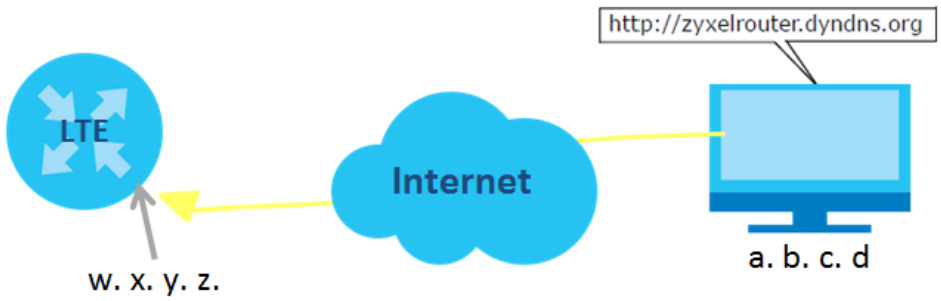
**4b** Type 192.168.1.253 (R's N1 address) in the **Gateway IP Address** field.

**4c** Click **Add**.

Now **B** should be able to receive traffic from **A**. You may need to additionally configure **B**'s firewall settings to allow specific traffic to pass through.

# 3.5 Access the LTE7460-M608 Using DDNS

If you connect your LTE7460-M608 to the Internet and it uses a dynamic WAN IP address, it is inconvenient for you to manage the device from the Internet. The LTE7460-M608's WAN IP address changes dynamically. Dynamic DNS (DDNS) allows you to access the LTE7460-M608 using a domain name.




To use this feature, you have to apply for DDNS service at www.dyndns.org.

This tutorial covers:

- Registering a DDNS Account on www.dyndns.org
- Configuring DDNS on Your LTE7460-M608
- Testing the DDNS Setting

Note: If you have a private WAN IP address, then you cannot use DDNS.

## 3.5.1 Registering a DDNS Account on www.dyndns.org

1 Open a browser and type **http://www.dyndns.org**.

2 Apply for a user account. This tutorial uses **UserName1** and **12345** as the username and password.

3 Log into www.dyndns.org using your account.

4 Add a new DDNS host name. This tutorial uses the following settings as an example.

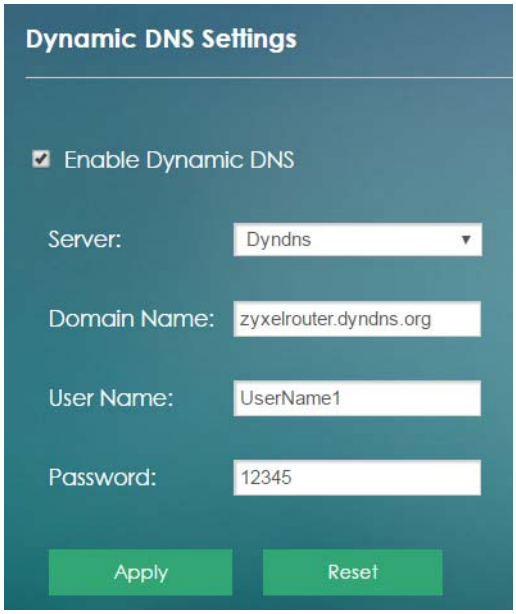
- Hostname: **zyxelrouter.dyndns.org**
- Service Type: **Host with IP address**
- IP Address: Enter the WAN IP address that your LTE7460-M608 is currently using. You can find the IP address on the LTE7460-M608's Web Configurator **Home** page.

5 Then you will need to configure the same account and host name on the LTE7460-M608 later.

## 3.5.2 Configuring DDNS on Your LTE7460-M608

Configure the following settings in the **Networking > DDNS Settings** screen.

- Select Enable Dynamic DNS.
- Select www.DynDNS.com as the service provider.
- Type zyxelrouter.dyndns.org in the Host Name field.
- Enter the user name (UserName1) and password (12345).



Click **Apply**.

### 3.5.3 Testing the DDNS Settings

Now you should be able to access the LTE7460-M608 from the Internet. To test this:

1. Open a web browser on the computer (using the IP address a.b.c.d) that is connected to the Internet.
2. Type **http://zyxelrouter.dyndns.org** and press [Enter].
3. The LTE7460-M608's login page should appear. You can then log into the LTE7460-M608 and manage it.

# PART II
# Technical Reference

# CHAPTER 4
# Home

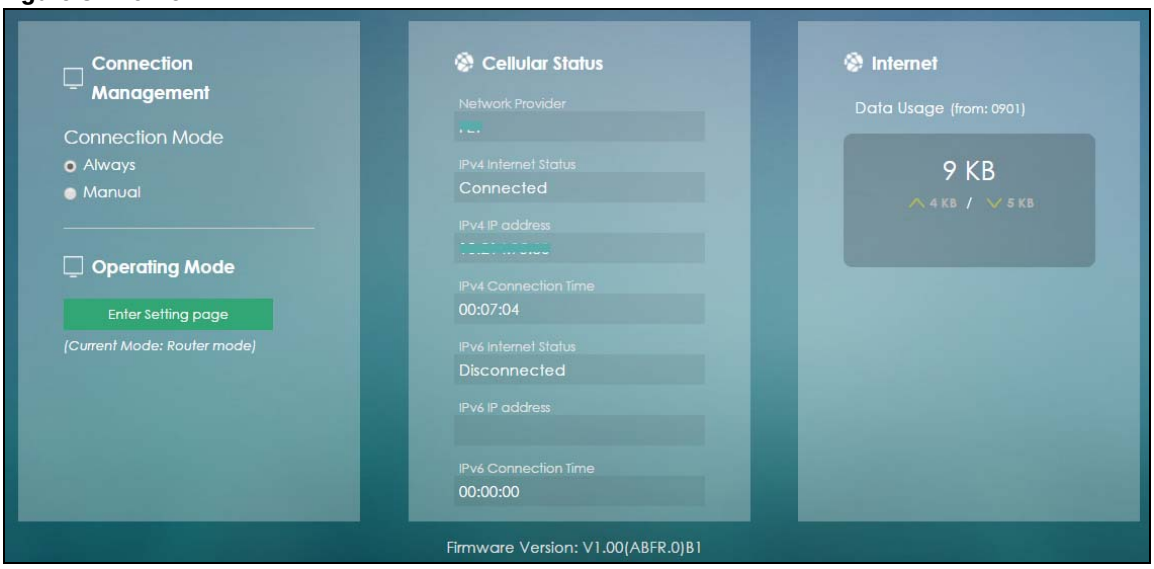
## 4.1 Overview

Use the **Home** screen to check status information about the LTE7460-M608. Use the **Wizard** screen to configure the LTE7460-M608's basic Internet access and wireless settings.

## 4.2 Home Screen

This screen is the first thing you see when you log into the LTE7460-M608. It also appears every time you click the **Home** icon in the navigation panel. The **Home** screen displays the LTE7460-M608's connection mode, wireless LAN information and traffic statistics.

**Figure 8** Home




The following table describes the labels in this screen.

Table 5 Home

| LABEL | DESCRIPTION |
|---|---|
| Connection Management | |
| Connection Mode | This field displays the connected mode of the LTE7460-M608. Select **Always** to connect to the mobile network automatically if there is an available mobile network. Otherwise, select **Manual.** |
| Operating Mode | Click the **Enter Setting page** button to set up the operating mode for your LTE7460-M608. |
| Cellular Status | |

Table 5 Home

| LABEL | DESCRIPTION |
|---|---|
| Network Provider | This field displays the name of the network provider. |
| IPv4 Internet Status | This field displays **Connected** if the LTE7460-M608 has IPv4 Internet. It displays **Disconnected** if there is no Internet connection through IPv4 Internet. |
| IPv4 IP address | This field displays the IPv4 IP address your LTE7460-M608 uses to access the Internet. |
| IPv4 Connection Time | This field displays the time your LTE7460-M608 IPv4 connection to the Internet has been up. |
| IPv6 Internet Status | This field displays **Connected** if the LTE7460-M608 has IPv6 Internet. It displays **Disconnected** if there is no Internet connection through IPv6 Internet. |
| IPv6 IP address | This field displays the IPv6 IP address your LTE7460-M608 uses to access the Internet.<br><br>Note: This information will not be displayed if your ISP does not support IPv6 Internet protocol. |
| IPv6 Connection Time | This field displays the time your LTE7460-M608 IPv6 connection to the Internet has been up. |
| Internet | |
| Data Usage | This field displays the amount of downstream and upstream in kilobytes (KB) used in the LTE7460-M608's LAN.<br><br>Note: This information will not be displayed if you have not entered the SIM's PIN code. Enter the PIN code here before it is available for data usage. |
| Firmware Version | This field displays the LTE7460-M608's current firmware version. |

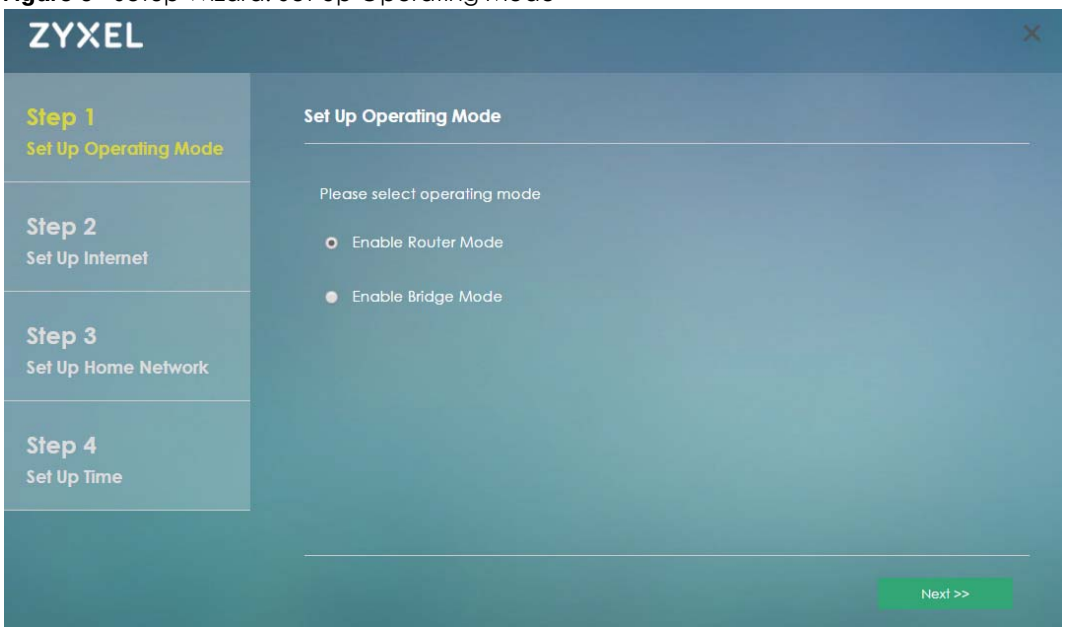
# 4.3 Setup Wizard

Click **Home > Setup Wizard** to open the wizard screen.

## 4.3.1 Operating Mode

The LTE7460-M608 offers two different system operation modes: Router Mode and Bridge Mode. When you click on **Setup Wizard** the following screen opens. To learn more about each mode see Section 7.2 on page 59.

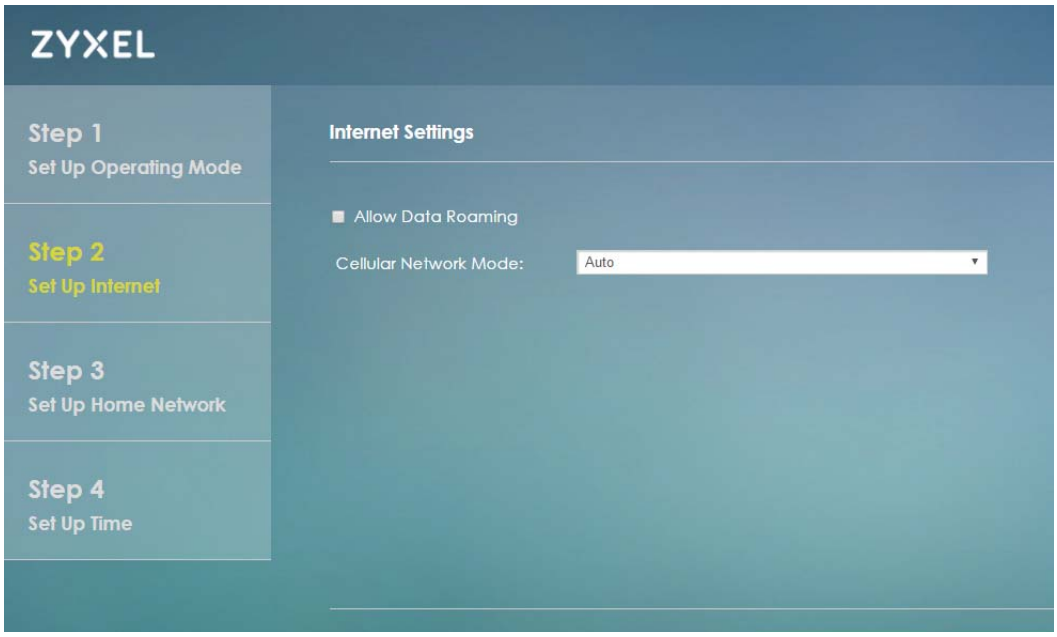
**Figure 9** Setup Wizard: Set Up Operating Mode




## 4.3.2 Internet

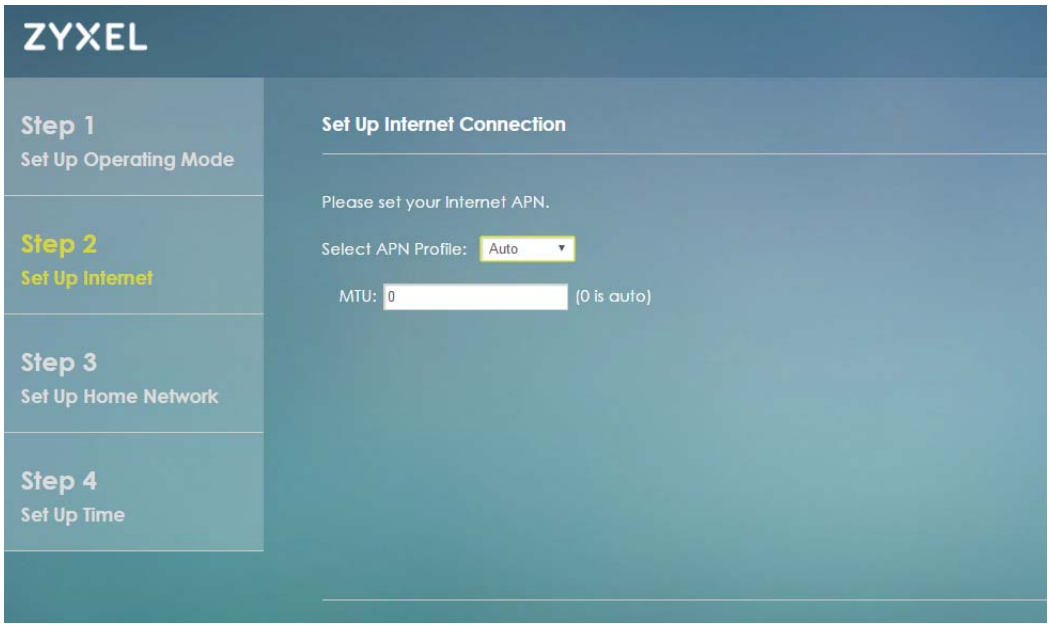
Select the **Auto** option for the LTE7460-M608 to use any of the available mobile networks. Select **Allow Data Roaming** to use your device in an area which is not covered by your service provider. Click **Next** to continue.

**Figure 10** Setup Wizard > Set Up Internet: Internet Settings



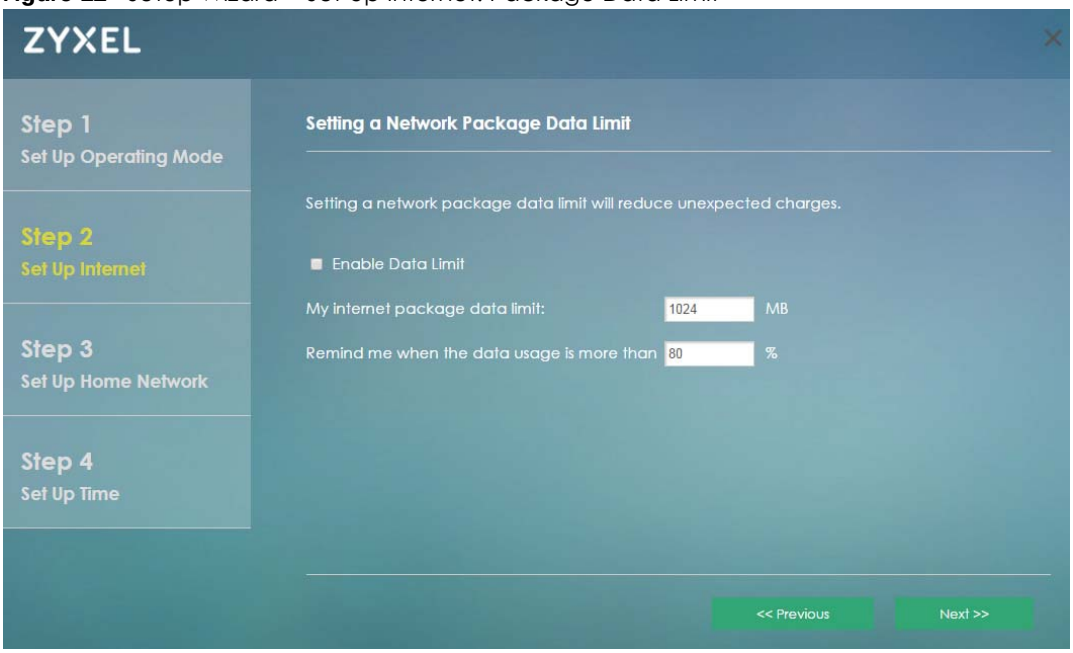

Select **Auto** option if you did not configure the connection profile. Click **Next** to continue.

**Figure 11** Setup Wizard > Set Up Internet: APN Profile




Specify limiting the amount of the data package and reminding the percentage of the data package usage. Click **Next** to configure Wi-Fi settings.

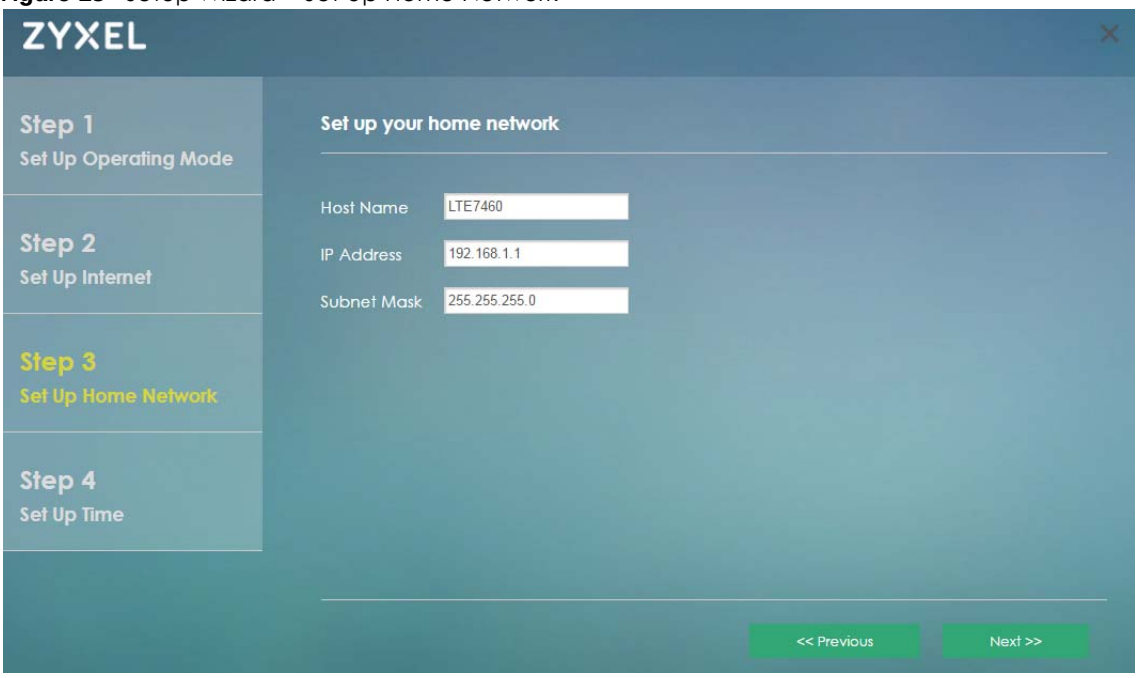
**Figure 12** Setup Wizard > Set Up Internet: Package Data Limit




## 4.3.3 Home Network

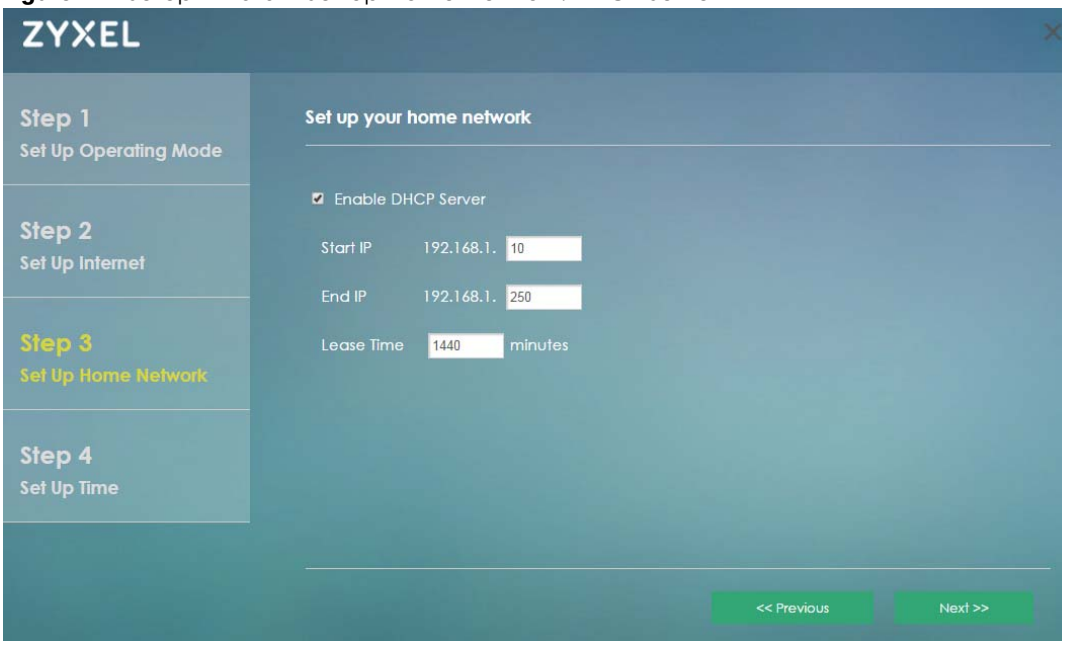
Use this screen to assign a name to your LTE7460-M608 network and modify its IP Address and Subnet Mask. Click **Next** to continue.

**Figure 13** Setup Wizard > Set Up Home Network




Enable the DHCP Server and add a range of IP addresses that can access your LTE7460-M608 for a determined period of time (**Lease Time**). Click **Next** to continue.

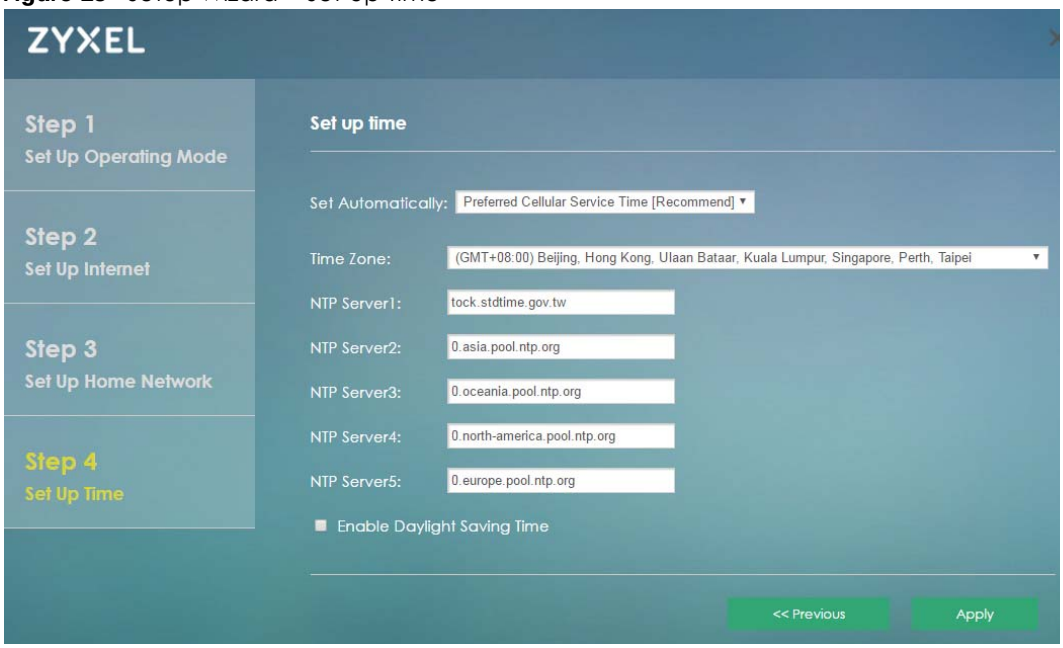
**Figure 14** Setup Wizard > Set Up Home Network: DHCP Server




## 4.3.4 Time

Select the LTE7460-M608's time zone and modify any Network Time Protocol (NTP) servers so your LTE7460-M608 can obtain its time from these servers.

**Figure 15** Setup Wizard > Set Up Time




Click **Apply** to save your changes. The LTE7460-M608 will restart.

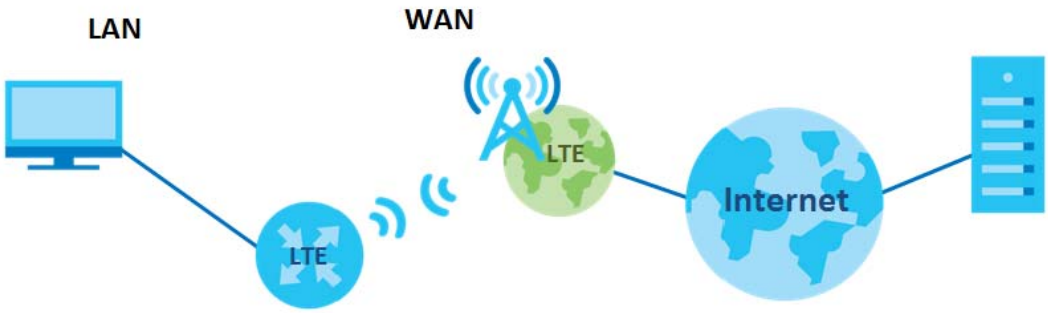
# CHAPTER 5
# Internet

## 5.1 Overview

This chapter discusses the LTE7460-M608's **Internet** screens. Use these screens to configure your LTE7460-M608 for Internet access.

A WAN (Wide Area Network) connection is an outside connection to another network or the Internet. It connects your private networks, such as a LAN (Local Area Network) and other networks, so that a computer in one location can communicate with computers in other locations.

**Figure 16** LAN and WAN




### 5.1.1 What You Can Do in this Chapter

- Use the **Internet Status** screen to display the LTE7460-M608's WAN status and details about the Network Provider (Section 5.2 on page 31).
- Use the **Internet Settings** screen to configure the WAN settings on the LTE7460-M608 for Internet access (Section 5.3 on page 33).
- Use the **PIN Settings** screen to enable or disable PIN code authentication (Section 5.4 on page 33).
- Use the **APN Configuration** screen to configure user-defined connection profiles (Section 5.5 on page 34).
- Use the **Network Selection** screen to display available Public Land Mobile Networks (Section 5.6 on page 36).
- Use the **Data Usage/Statistic** screen to specify limiting the amount of the data package and view the LTE7460-M608's traffic statistics (Section 5.7 on page 38).

### 5.1.2 What You Need to Know

The following terms and concepts may help as you read this chapter.

### WAN IP Address

The WAN IP address is an IP address for the LTE7460-M608, which makes it accessible from an outside network. It is used by the LTE7460-M608 to communicate with other devices in other networks. The ISP dynamically assigns it each time the LTE7460-M608 tries to access the Internet.

### APN

Access Point Name (APN) is a unique string which indicates an LTE network. An APN is required for LTE stations to enter the LTE network and then the Internet.

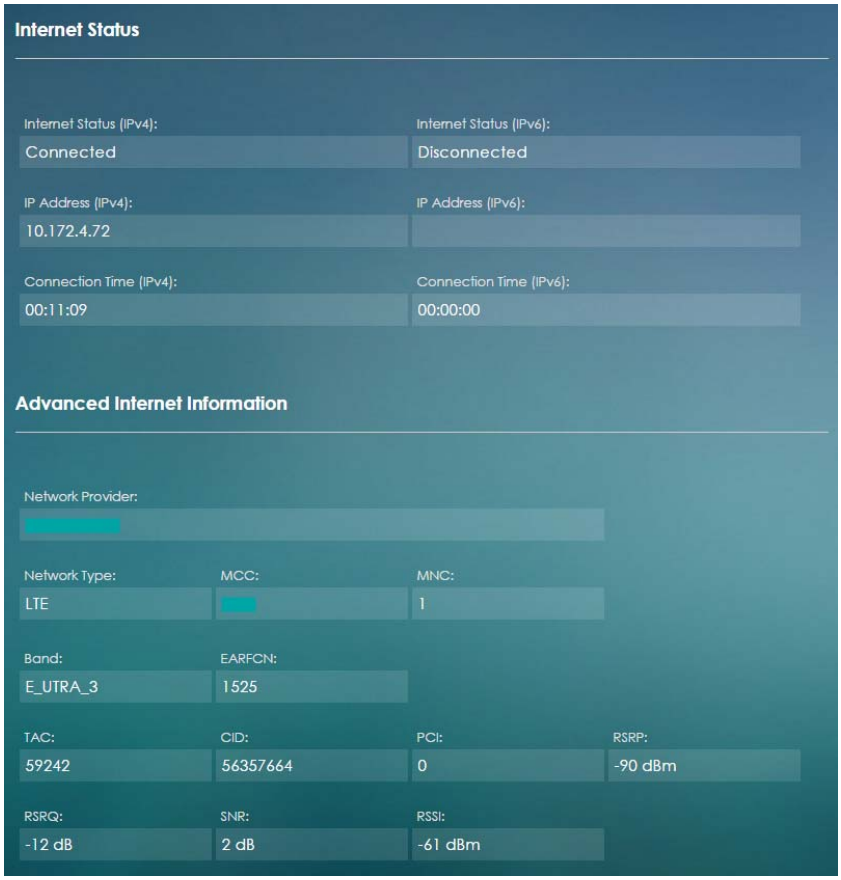
## 5.1.3 Before You Begin

You may need to know your Internet access settings such as LTE APN and SIM card's PIN code if the **INTERNET** light on your LTE7460-M608 is off. Get this information from your service provider.

# 5.2 Internet Status Screen

Use this screen to view details about your LTE7460-M608's connection with the Internet Service Provider (ISP). Click **Internet > Internet Status**. The screen appears as shown next.

**Figure 17** Internet > Internet Status



The following table describes the labels in this screen.

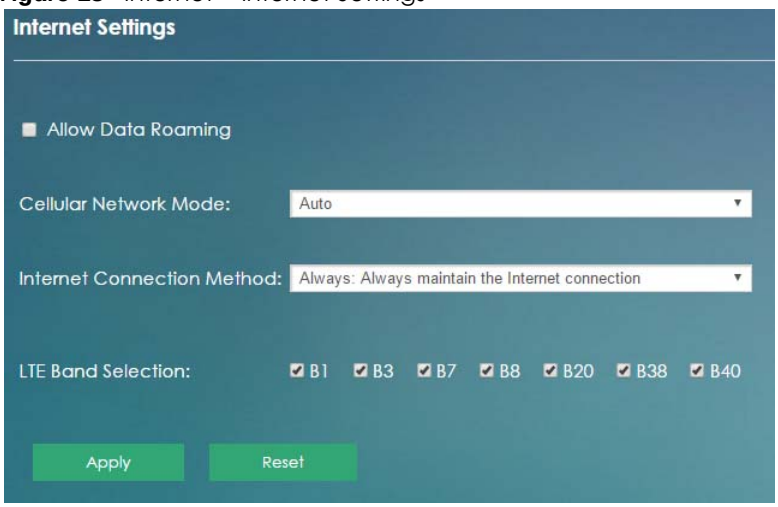
Table 6 Internet > Internet Status

| LABEL | DESCRIPTION |
|---|---|
| Internet Status | |
| Internet Status (IPv4) | This shows the IPv4 mobile data connection status. |
| IP Address (IPv4) | This field displays the current IPv4 address assigned to the WAN interface. |
| Connection Time (IPv4) | This field displays how long you connect to the Internet through IPv4. |
| Internet Status (IPv6) | This shows the IPv6 mobile data connection status. |
| IP Address (IPv6) | This field displays the current IPv6 address assigned to the WAN interface. |
| Connection Time (IPv6) | This field displays how long you connect to the Internet through IPv6. |
| Advanced Internet Information | |
| Network Provider | This shows the name of the service provider for the mobile network to which the LTE7460-M608 is connected. |
| Network Type | This shows the mobile network type (such as LTE, UMTS, GSM, HSPA+, etc.) to which the LTE7460-M608 is connecting. |
| MCC | This displays the Mobile Country Code (MCC), which is used to identify the country of a mobile subscriber. |
| MNC | This displays the Mobile Network Code (MNC), which is used in combination with MCC to identify the public land mobile network (PLMN) of a mobile subscriber. |
| Band | This displays the network type and the frequency band used by the mobile network to which the LTE7460-M608 is connecting. |
| EARFCN/UARFCN/ARFCN | This displays the channel used by the mobile network to which the LTE7460-M608 is connecting. |
| LAC | This displays the 2-octet Location Area Code (LAC), which is used to identify a location area within a PLMN. |
| TAC | This displays the Tracking Area Code (TAC), which is used to identify the country of a mobile subscriber. |
| CID | This displays the Cell ID (CID), which is a unique number used to identify the Base Transceiver Station to which the LTE7460-M608 is connecting. |
| Ec/Io | This displays the ratio (in dB) of the received energy per chip and the interference level. |
| PCI | This shows the Physical Cell ID(PCI), which are queries and replies among the LTE7460-M608 and the mobile network it is connecting to. |
| RSCP | This displays the Received Signal Code Power (RSCP) which measures the power on the channel used by the LTE7460-M608. |
| RSRP | This displays the Reference Signal Receive Power (RSRP), which is the average received power of all Resource Elements (RE) that carry cell-specific Reference Signals (RS) within the specified bandwidth. |
| RSRQ | This displays the Reference Signal Received Quality (RSRQ), which is the ratio of RSRP to the E-UTRA carrier RSSI and indicates the quality of the received reference signal. |
| SNR | This displays the Signal-to-Noise-Ratio (SNR), which indicates a ratio of signal power to noise power. |
| RSSI | This displays the received signal strength indicator (RSSI), that is, the received signal strength in dBm. |

# 5.3 Internet Settings Screen

Use this screen to change your LTE7460-M608's Internet access settings. Click **Internet > Internet Settings**. The screen appears as shown next.

**Figure 18** Internet > Internet Settings




The following table describes the labels in this screen.

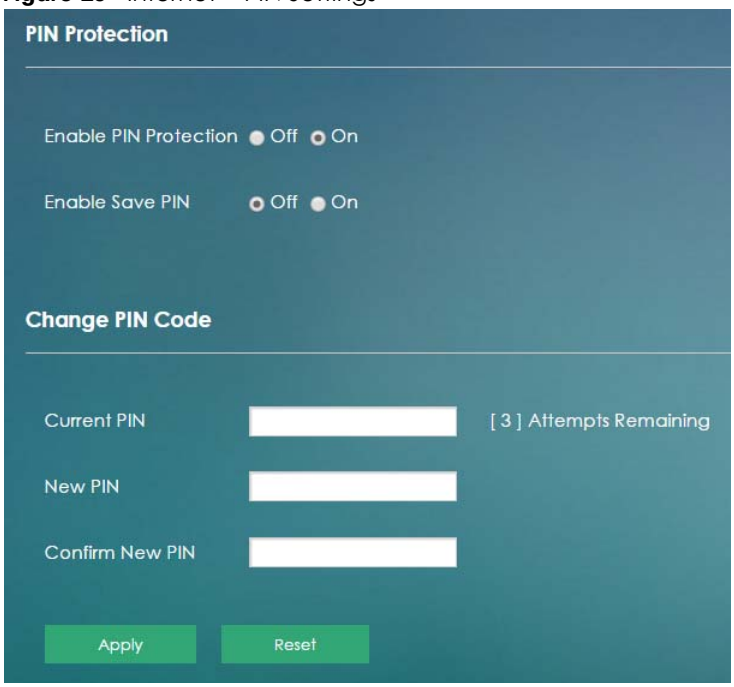
Table 7 Internet > Internet Settings

| LABEL | DESCRIPTION |
|---|---|
| Internet Settings | |
| Allow Data Roaming | Select this check box to enable data roaming on the LTE7460-M608.<br><br>Data roaming is to use your mobile device in an area which is not covered by your local service provider. Enable data roaming to ensure that your LTE7460-M608 is kept connected to the Internet when you are traveling outside the geographical coverage area of the network to which you are registered. |
| Cellular Network Mode | Select the type of the network (**4G Mode**, **3G Mode**, or **2G Mode**) to which you want the LTE7460-M608 to connect.<br><br>Otherwise, select **Auto** to have the LTE7460-M608 connect to an available network using the default settings on the SIM card. If the currently registered mobile network is not available or the mobile network's signal strength is too low, the LTE7460-M608 switches to another available mobile network. |
| Internet Connection Method | Select **Always** to connect to the mobile network automatically if there is an available mobile network. Otherwise, select **Manual**. |
| LTE Band Selection | Select the LTE frequency bands provided by your ISP. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 5.4 PIN Settings Screen

Use this screen to turn on or off PIN code authentication on the inserted SIM Card. You can also change your PIN code to prevent others from using your account should the SIM be stolen or removed from your LTE7460-M608. Click **Internet > PIN settings**. The screen appears as shown next.

**Figure 19** Internet > PIN Settings




The following table describes the labels in this screen.

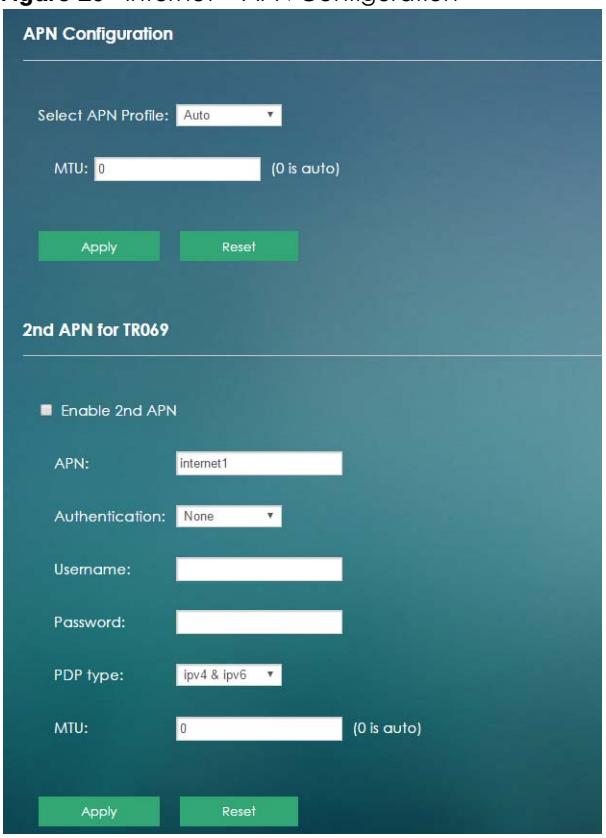
Table 8 Internet > PIN Settings

| LABEL | DESCRIPTION |
|---|---|
| PIN Protection | |
| Enable PIN Protection | Click **On** to turn on PIN code authentication. Click **Off** to turn off PIN code authentication.<br><br>A PIN (Personal Identification Number) code is a key to a SIM card. Without the PIN code, you cannot use the SIM card. |
| Enable Save PIN | Select this for the LTE7460-M608 to save the SIM card PIN code, and avoid reentering the PIN code everytime you log in. |
| Change PIN Code | |
| Current PIN | Enter the default or existing PIN code for the inserted SIM card. |
| New PIN | Configure a new PIN code for the SIM card. You can specify any four to eight digits to have a new PIN code. |
| Confirm New PIN | Enter the new PIN code again for confirmation. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 5.5 APN Configuration Screen

Use this screen to view or configure a connection profile. A connection profile defines the parameters that you need to connect to a mobile network, such as the Access Point Name (APN), user name and password. Click **Internet > APN Configuration**. The screen appears as shown next.

**Figure 20** Internet > APN Configuration




The following table describes the labels in this screen.

Table 9 Internet > APN Configuration

| LABEL | DESCRIPTION |
|---|---|
| APN Configuration | |
| Select APN Profile | Select **Auto** to reload the default profile. Otherwise, select **Manual** to configure a connection profile. |
| MTU | Specify the Maximum Transmission Unit (MTU) for each packet or frame sent in the LTE7460-M608's network. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |
| 2nd APN for TR069 | Access Point Names (APNs) are provided by your service provider. Connections with different APNs may provide different services (such as Internet access or MMS (Multi-Media Messaging Service) and charging method.<br>You can include a second APN profile to allow TR069 services to go by the second APN while the rest of the traffic goes by the first APN. |
| Enable 2nd APN | Check to enable a second APN profile. |
| APN | This field displays the Access Point Name (APN) in the profile.<br>You can enter up to 30 printable characters [A-Z][a-z][-]. Spaces are not allowed. |

Table 9 Internet > APN Configuration

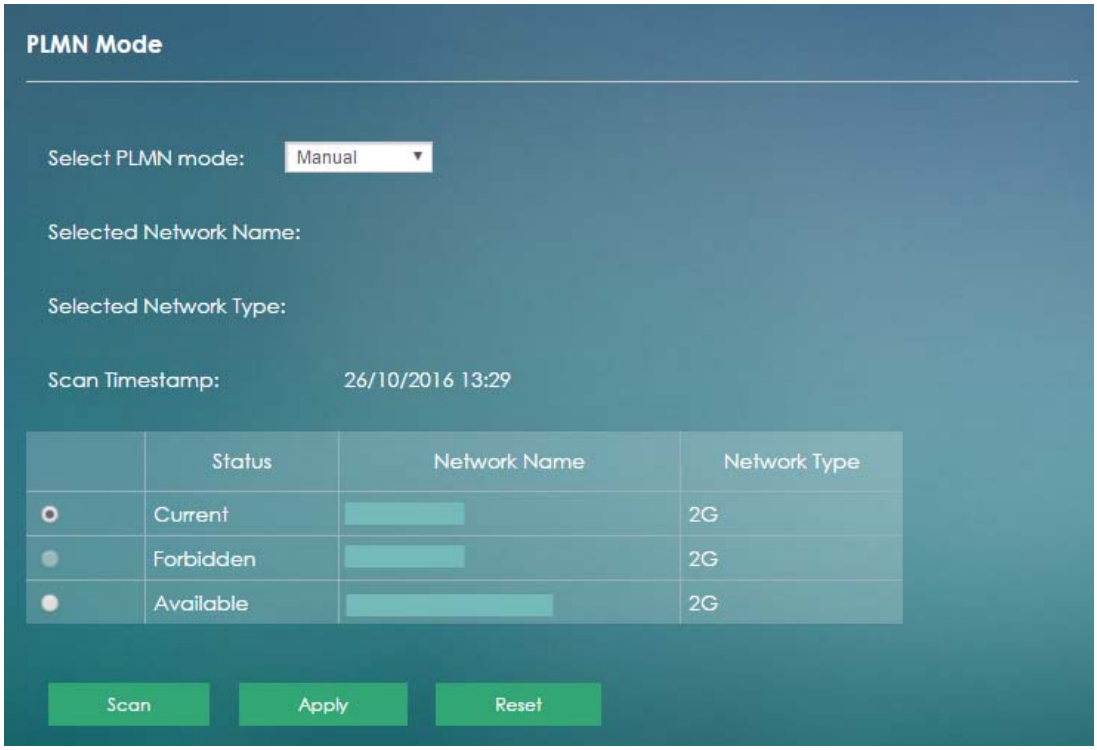
| LABEL | DESCRIPTION |
|---|---|
| Authentication | Select the type of authentication method peers use to connect to the LTE7460-M608 in LTE connections.<br><br>In Password Authentication Protocol (**PAP**) peers identify themselves with a user name and a password. In Challenge Handshake Authentication Protocol (**CHAP**) additionally to user names and passwords the LTE7460-M608 sends regular challenges to make sure an intruder has not replaced a peer. Otherwise you can select **Auto** or **None**. |
| Username | This field displays the user name in the profile.<br><br>Type the user name (of up to 31 printable ASCII characters). |
| Password | This field displays the password in the profile.<br><br>Type the password (of up to 31 printable ASCII characters) associated with the user name above. |
| PDP type | Choose the Packet Data Protocol (PDP) type provided by your Internet service provider. |
| MTU | Specify the Maximum Transmission Unit (MTU) for each packet or frame sent in the LTE7460-M608's network. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 5.6 Network Selection Screen

This screen allows you to view available Public Land Mobile Networks (PLMNs) and select your preferred network when the LTE7460-M608 is outside the geographical coverage area of the network to which you are registered and roaming is enabled.

Click **Internet > Network Selection**. The screen appears as shown next.

**Figure 21** Internet > Network Selection




The following table describes the labels in this screen.

Table 10 Internet > Network Selection

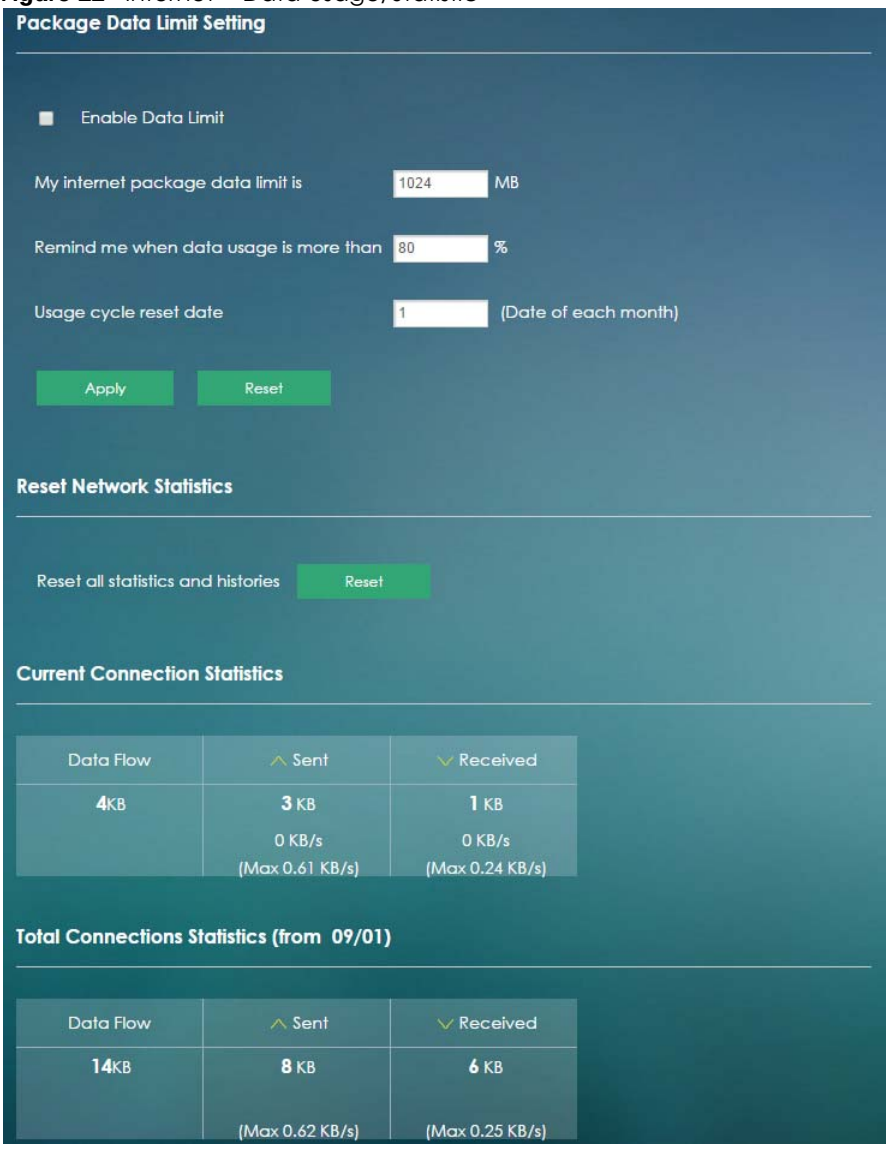
| LABEL | DESCRIPTION |
|---|---|
| PLMN Mode | |
| Select PLMN Mode | Select **Auto** to have the LTE7460-M608 automatically connect to the first available mobile network. |
| Selected Network Name | This shows the ISP the LTE7460-M608 is currently connected to. |
| Selected Network Type | This shows the type of network the LTE7460-M608 is using when connected to the ISP. |
| Scan Timestamp | This shows the last time the LTE7460-M608 scanned for ISPs on its surroundings. |
| | Check the radio button so the LTE7460-M608 connects to this ISP. |
| Status | This shows **Current** to show the ISP the LTE7460-M608 is currently connected to.<br>This shows **Forbidden** to indicate the LTE7460-M608 can not connect to this ISP.<br>This shows **Available** to indicate an available ISP your LTE7460-M608 can connect to. |
| Network Name | This shows the ISP name. |
| Network Type | This shows the type of network the ISP provides. |
| Scan | Click **Scan** for the LTE7460-M608 to check for available ISPs on its surroundings. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 5.7 Data Usage/Statistic Screen

This screen allows you to configure limiting the amount of the data package and view the LTE7460-M608's traffic statistics.

Click **Internet > Data Usage/Statistic**. The screen appears as shown next.

**Figure 22** Internet > Data Usage/Statistic




The following table describes the labels in this screen.

Table 11 Internet > Data Usage/Statistic

| LABEL | DESCRIPTION |
|---|---|
| Package Data Limit Setting | |
| Enable Data Limit | Select the check box to enable data limits. |
| My internet package data limit is | Specify the limiting the amount of the package data in this field. |

Table 11 Internet > Data Usage/Statistic

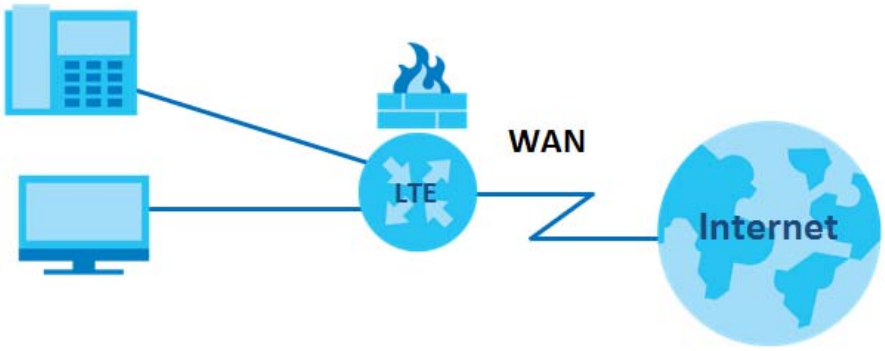
| LABEL | DESCRIPTION |
|---|---|
| Remind me when data usage is more than | Specify the reminding percentage of the package data usage in this field. |
| Usage cycle reset date | Specify the date that you want the LTE7460-M608 to restart calculating the amount of the package data per month. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |
| Reset Network Statistics | |
| Reset all statistics and histories | Click **Reset** to reload the remove all traffic statistics. |
| Current Connection Statistics | This shows the accumulated statistics for the period of time the LTE7460-M608 has been up. |
| Data Flow | This indicates the current traffic flow transmitting from/to the LTE7460-M608. |
| Sent | This indicates the number of transmitted packets on the LTE7460-M608. |
| Received | This indicates the number of received packets on the LTE7460-M608. |
| Total Connection Statistics | This shows the LTE7460-M608 accumulated statistics for one month. By default statistics begin on the first day of each month. |
| Data Flow | This indicates total traffic flows transmitting from/to the LTE7460-M608. |
| Sent | This indicates the number of transmitted packets on the LTE7460-M608. |
| Received | This indicates the number of received packets on the LTE7460-M608. |

# CHAPTER 6
# Home Network

## 6.1 Overview

A Local Area Network (LAN) is a shared communication system to which many computers are attached. A LAN is usually located in one immediate area such as a building or floor of a building.

The LAN screens can help you configure a LAN DHCP server and manage IP addresses.




### 6.1.1 What You Can Do in this Chapter

- Use the **LAN IP** screen to set the LAN IP address and subnet mask (Section 6.2 on page 41).
- Use the **DHCP** screen to assign IP addresses on the LAN to specific individual computers based on their MAC Addresses (Section 6.3 on page 42).
- Use the **Static Route** screen to configure static routes in your LTE7460-M608 (Section 6.4 on page 44).
- Use the **UPnP** screen to enable UPnP (Section 6.5 on page 45).
- Use **Connected Devices** screen to view current clients information (Section 6.6 on page 45).

Note: These screens are not available if your LTE7460-M608's operating mode is on bridge mode. To learn more about changing your LTE7460-M608's operating mode see Section 7.2 on page 59.

### 6.1.2 What You Need To Know

The following terms and concepts may help as you read this chapter.

#### 6.1.2.1 About LAN

##### IP Address

Similar to the way houses on a street share a common street name, so too do computers on a LAN share one common network number. This is known as an Internet Protocol address.

##### Subnet Mask

The subnet mask specifies the network number portion of an IP address. Your LTE7460-M608 will compute the subnet mask automatically based on the IP address that you entered. You don't need to change the subnet mask computed by the LTE7460-M608 unless you are instructed to do otherwise.

##### DHCP

DHCP (Dynamic Host Configuration Protocol) allows clients to obtain TCP/IP configuration at start-up from a server. This LTE7460-M608 has a built-in DHCP server capability that assigns IP addresses and DNS servers to systems that support DHCP client capability.

#### 6.1.2.2 About UPnP

##### How do I know if I'm using UPnP?

UPnP hardware is identified as an icon in the Network Connections folder (Windows XP). Each UPnP compatible device installed on your network will appear as a separate icon. Selecting the icon of a UPnP device will allow you to access the information and properties of that device.

##### Cautions with UPnP

The automated nature of NAT traversal applications in establishing their own services and opening firewall ports may present network security issues. Network information and configuration may also be obtained and modified by users in some network environments.

When a UPnP device joins a network, it announces its presence with a multicast message. For security reasons, the LTE7460-M608 allows multicast messages on the LAN only.

All UPnP-enabled devices may communicate freely with each other without additional configuration. Disable UPnP if this is not your intention.

## 6.2 The LAN IP Screen

Click **Home Networking** to open the **LAN IP** screen. Use this screen to set the Local Area Network IP address and subnet mask of your LTE7460-M608.

**Figure 23** Home Networking > LAN Setup


The following table describes the fields in this screen.

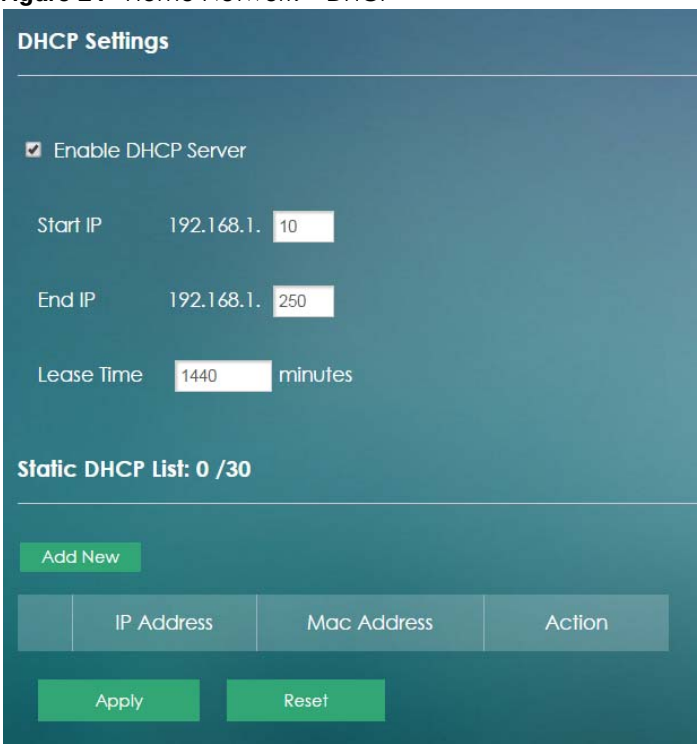
Table 12 Home Networking > LAN IP

| LABEL | DESCRIPTION |
|---|---|
| LAN IP | |
| Host Name | This shows the default host name.<br>Enter a new host name for the LTE7460-M608 if you want to change it. |
| IP Address | This shows the default LAN IP address.<br>Enter the new IP address for the LTE7460-M608's LAN interface if you want to change it. |
| Subnet Mask | This shows the default subnet mask.<br>Enter the subnet mask of this interface in dot decimal notation. The subnet mask indicates what part of the IP address is the same for all computers in the network. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Cancel | Click **Cancel** to reload the previous configuration for this screen. |

# 6.3 The DHCP Screen

The LTE7460-M608 has built-in DHCP server capability that assigns IP addresses to systems that support DHCP client capability. Use this screen to enable the DHCP server. To access this screen, click **Home Network > DHCP**.

**Figure 24** Home Network > DHCP




The following table describes the labels in the screen.

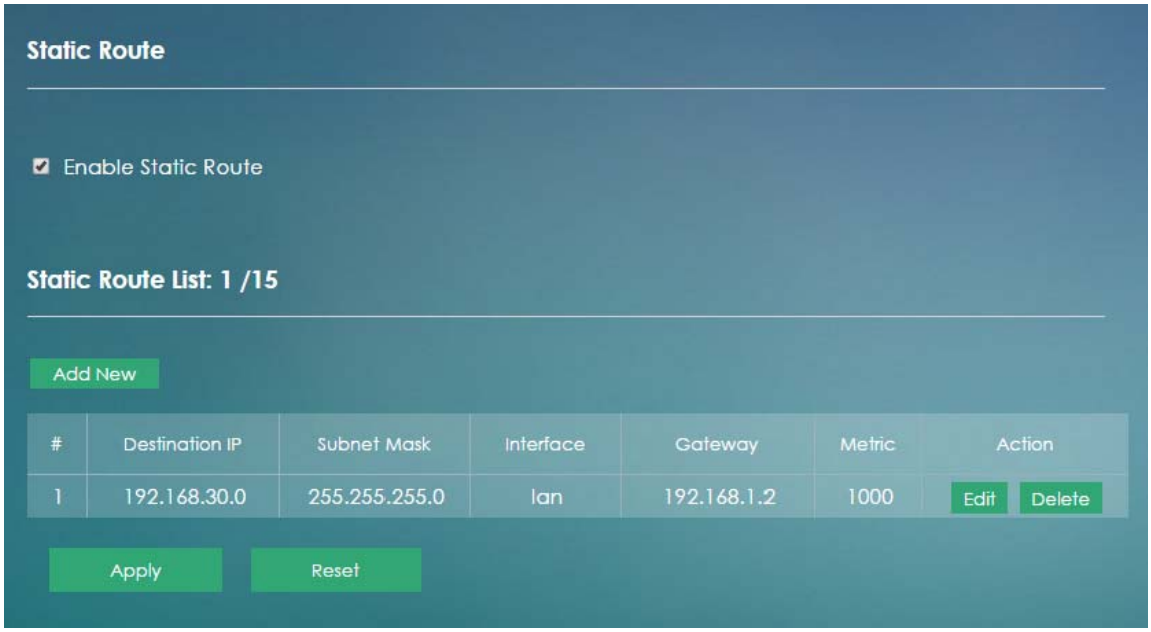
Table 13 Home Network > DHCP

| LABEL | DESCRIPTION |
|---|---|
| DHCP Settings | |
| Enable DHCP Server | Select the check box to enable the DHCP server on the LTE7460-M608. |
| Start IP | The LTE7460-M608 is pre-configured with a pool of 241 IP addresses starting from 192.168.1.10 to 192.168.1.250.<br><br>This field specifies the first of the continuos addresses in the IP address pool. |
| End IP | This field specifies the last of the continuos addresses in the IP address pool. |
| Lease Time | Specify how long (in minutes) each computer can use the information (especially the IP address). |
| Static DHCP List | |
| Add New | Click **Add New** to create a new entry. |
| | This field displays the index number of the IP address entry. |
| IP Address | This field displays the IP address that the LTE7460-M608 assigns to a device with the entry's MAC address. |
| MAC address | This field displays the MAC address of the device to which the LTE7460-M608 assigns the entry's IP address. |
| Action | Click **Edit** to go to the screen where you can edit the static IP address.<br><br>Click **Delete** to remove the static IP address entry. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 6.4 The Static Route Screen

Use this screen to view and configure IP static routes on the LTE7460-M608. Click **Home Network > Static Route** to open the following screen.

**Figure 25** Home Network > Static Route




The following table describes the labels in this screen.

Table 14 Home Network > Static Route

| LABEL | DESCRIPTION |
|---|---|
| Static Route | |
| Enable Static Route | Select the check box to enable the static route on the LTE7460-M608. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |
| Static Route List | |
| Add New | Click **Add New** to set up a new static route on the LTE7460-M608. |
| # | This field displays the index number of an individual static route. |
| Destination IP | This field specifies the IP network address of the final destination. Routing is always based on network number. |
| Subnet Mask | This parameter specifies the IP network subnet mask of the final destination. |
| Interface | This is the WAN interface through which the traffic is routed. |
| Gateway | This is the IP address of the gateway. The gateway is a router or switch on the same network segment as the device's LAN or WAN port. The gateway helps forward packets to their destinations. |
| Metric | This is the "cost" of transmission for routing purposes. |
| Action | Click **Edit** to go to the screen where you can set up a static route on the LTE7460-M608.<br><br>Click **Delete** to remove a static route from the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 6.5 The UPnP Screen

Universal Plug and Play (UPnP) is a distributed, open networking standard that uses TCP/IP for simple peer-to-peer network connectivity between devices. A UPnP device can dynamically join a network, obtain an IP address, convey its capabilities and learn about other devices on the network. In turn, a device can leave a network smoothly and automatically when it is no longer in use. See page 48 for more information on UPnP.

Use the following screen to configure the UPnP settings on your LTE7460-M608. Click **Home Network > UPnP** to display the screen shown next.

**Figure 26** Home Network > UPnP


The following table describes the labels in this screen.

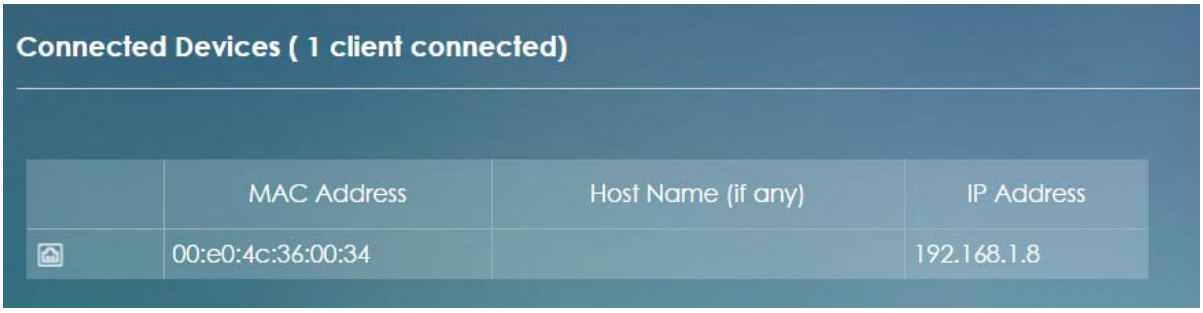
Table 15 Network Settings > Home Networking > UPnP

| LABEL | DESCRIPTION |
|---|---|
| Enable UPnP | Select **On** to activate UPnP. Be aware that anyone could use a UPnP application to open the web configurator's login screen without entering the LTE7460-M608's IP address (although you must still enter the password to access the web configurator). |
| Apply | Click **Apply** to save your changes. |
| Reset | Click **Reset** to restore your previously saved settings. |

# 6.6 The Connected Devices Screen

Click **Home Network > Connected Devices** to view current information (including IP Address, Host Name and MAC Address) of network clients connected to the LTE7460-M608. The following screen displays.

**Figure 27** Home Network > Connected Devices



The following table describes the labels in this screen.

Table 16 Home Network > Connected Devices

| LABEL | DESCRIPTION |
|---|---|
| | This shows an icon representing how the device is connected to the LTE7460-M608. |
| MAC Address | This field displays the MAC address of the device. |
| Host Name (if any) | This displays the device host name. |
| IP Address | This field displays the IP address that the LTE7460-M608 assigns to the device. |

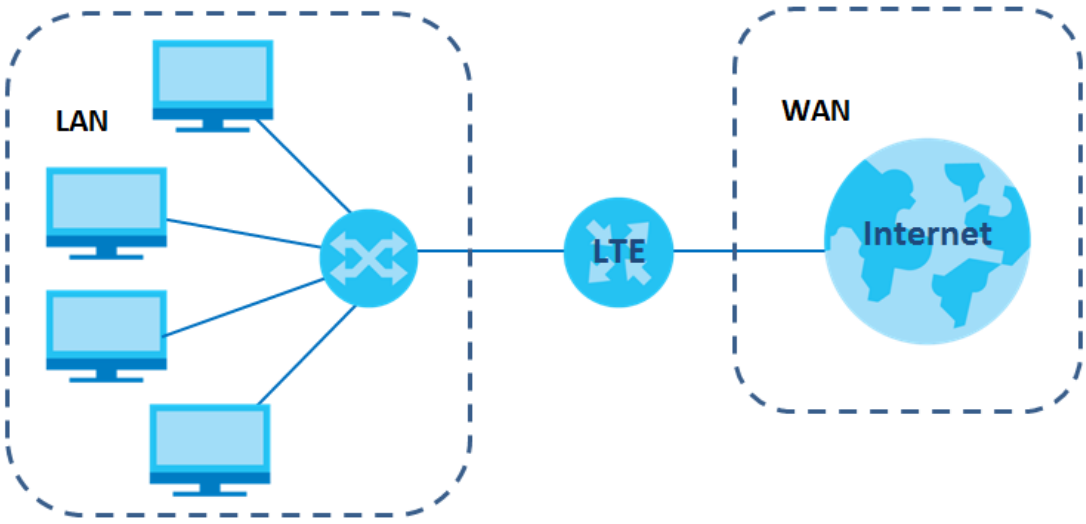
# 6.7 Technical Reference

This section provides some technical background information about the topics covered in this chapter.

## LANs, WANs and the LTE7460-M608

The actual physical connection determines whether the LTE7460-M608 ports are LAN or WAN ports. There are two separate IP networks, one inside the LAN network and the other outside the WAN network as shown next.

**Figure 28** LAN and WAN IP Addresses




## DHCP Setup

DHCP (Dynamic Host Configuration Protocol, RFC 2131 and RFC 2132) allows individual clients to obtain TCP/IP configuration at start-up from a server. You can configure the LTE7460-M608 as a DHCP server or disable it. When configured as a server, the LTE7460-M608 provides the TCP/IP configuration for the clients. If you turn DHCP service off, you must have another DHCP server on your LAN, or else the computer must be manually configured.

## IP Pool Setup

The LTE7460-M608 is pre-configured with a pool of IP addresses for the DHCP clients (DHCP Pool). See the product specifications in the appendices. Do not assign static IP addresses from the DHCP pool to your LAN computers.

## LAN TCP/IP

The LTE7460-M608 has built-in DHCP server capability that assigns IP addresses and DNS servers to systems that support DHCP client capability.

## IP Address and Subnet Mask

Similar to the way houses on a street share a common street name, so too do computers on a LAN share one common network number.

Where you obtain your network number depends on your particular situation. If the ISP or your network administrator assigns you a block of registered IP addresses, follow their instructions in selecting the IP addresses and the subnet mask.

If the ISP did not explicitly give you an IP network number, then most likely you have a single user account and the ISP will assign you a dynamic IP address when the connection is established. If this is the case, it is recommended that you select a network number from 192.168.0.0 to 192.168.255.0 and you must enable the Network Address Translation (NAT) feature of the LTE7460-M608. The Internet Assigned Number Authority (IANA) reserved this block of addresses specifically for private use; please do not use any other number unless you are told otherwise. Let's say you select 192.168.1.0 as the network number; which covers 254 individual addresses, from 192.168.1.1 to 192.168.1.254 (zero and 255 are reserved). In other words, the first three numbers specify the network number while the last number identifies an individual computer on that network.

Once you have decided on the network number, pick an IP address that is easy to remember, for instance, 192.168.1.1, for your LTE7460-M608, but make sure that no other device on your network is using that IP address.

The subnet mask specifies the network number portion of an IP address. Your LTE7460-M608 will compute the subnet mask automatically based on the IP address that you entered. You don't need to change the subnet mask computed by the LTE7460-M608 unless you are instructed to do otherwise.

## Private IP Addresses

Every machine on the Internet must have a unique address. If your networks are isolated from the Internet, for example, only between your two branch offices, you can assign any IP addresses to the hosts without problems. However, the Internet Assigned Numbers Authority (IANA) has reserved the following three blocks of IP addresses specifically for private networks:

- 10.0.0.0 — 10.255.255.255
- 172.16.0.0 — 172.31.255.255
- 192.168.0.0 — 192.168.255.255

You can obtain your IP address from the IANA, from an ISP or it can be assigned from a private network. If you belong to a small organization and your Internet access is through an ISP, the ISP can provide you

with the Internet addresses for your local networks. On the other hand, if you are part of a much larger organization, you should consult your network administrator for the appropriate IP addresses.

Note: Regardless of your particular situation, do not create an arbitrary IP address; always follow the guidelines above. For more information on address assignment, please refer to RFC 1597, "Address Allocation for Private Internets" and RFC 1466, "Guidelines for Management of IP Address Space".

# 6.8 Installing UPnP in Windows Example

This section shows how to install UPnP in Windows Me and Windows XP.

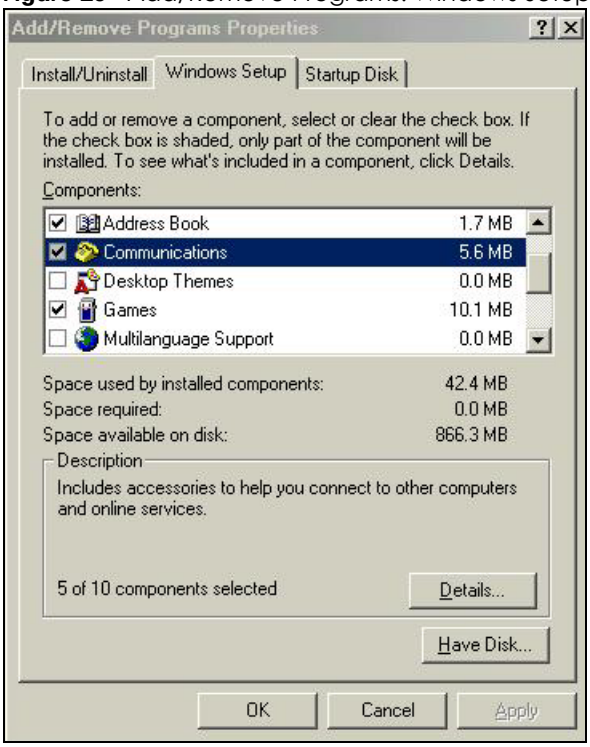
### Installing UPnP in Windows Me

Follow the steps below to install the UPnP in Windows Me.

1 Click **Start** and **Control Panel**. Double-click **Add/Remove Programs**.

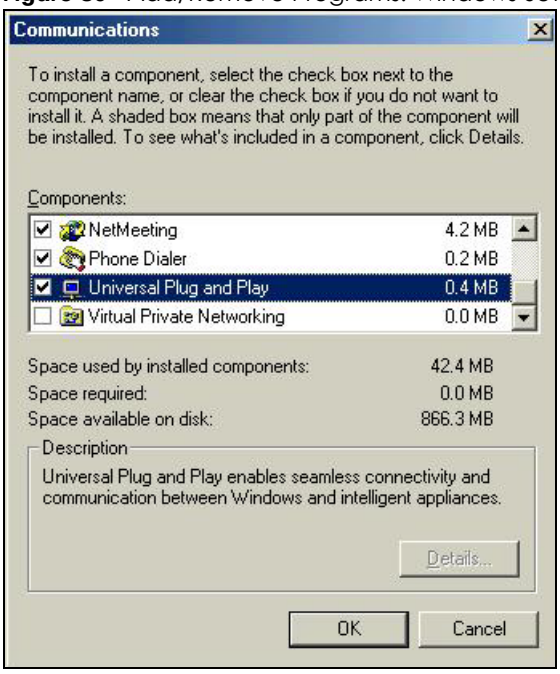
2 Click the **Windows Setup** tab and select **Communication** in the **Components** selection box. Click **Details**.

**Figure 29** Add/Remove Programs: Windows Setup: Communication




3 In the **Communications** window, select the **Universal Plug and Play** check box in the **Components** selection box.

**Figure 30** Add/Remove Programs: Windows Setup: Communication: Components




4 Click **OK** to go back to the **Add/Remove Programs Properties** window and click **Next**.

5 Restart the computer when prompted.

### Installing UPnP in Windows XP

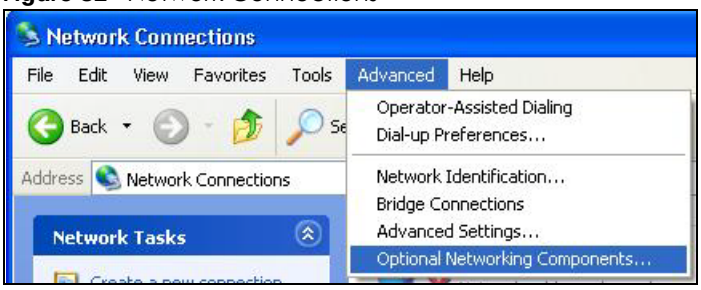
Follow the steps below to install the UPnP in Windows XP.

1 Click **Start** and **Control Panel**.

2 Double-click **Network Connections**.

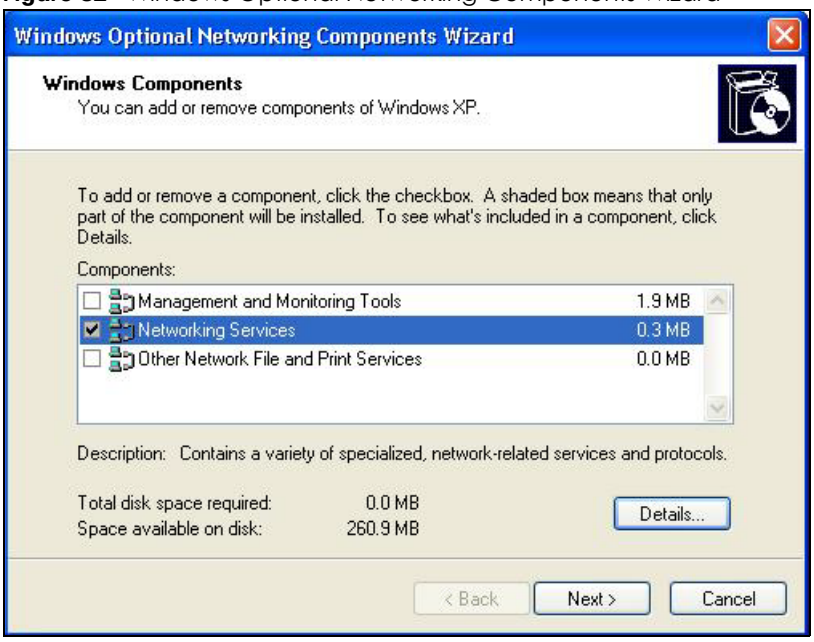
3 In the **Network Connections** window, click **Advanced** in the main menu and select **Optional Networking Components ...**.

**Figure 31** Network Connections



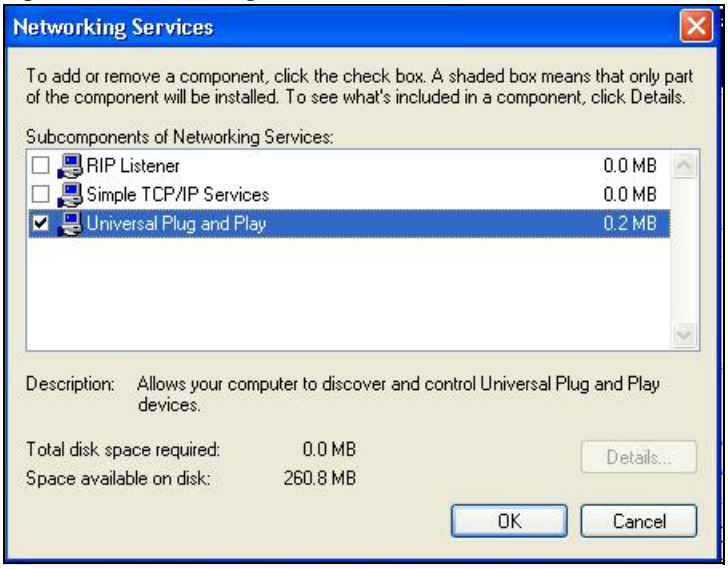

4 The **Windows Optional Networking Components Wizard** window displays. Select **Networking Service** in the **Components** selection box and click **Details**.

**Figure 32** Windows Optional Networking Components Wizard




5 In the **Networking Services** window, select the **Universal Plug and Play** check box.

**Figure 33** Networking Services




6 Click **OK** to go back to the **Windows Optional Networking Component Wizard** window and click **Next**.

# 6.9 Using UPnP in Windows XP Example

This section shows you how to use the UPnP feature in Windows XP. You must already have UPnP installed in Windows XP and UPnP activated on the LTE7460-M608.

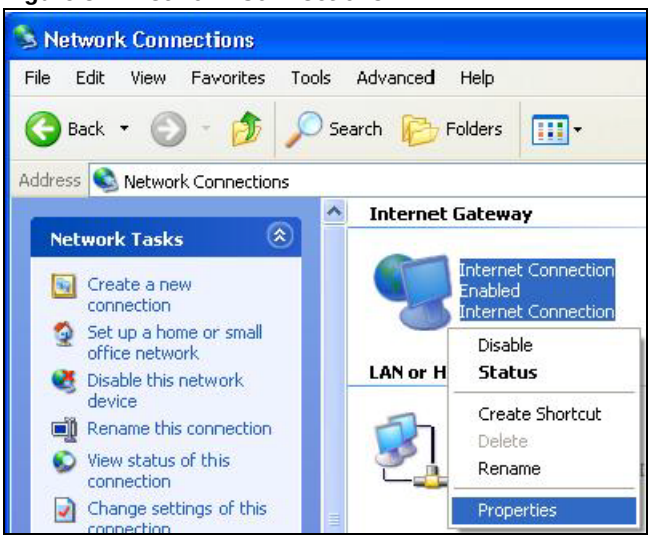
Make sure the computer is connected to a LAN port of the LTE7460-M608. Turn on your computer and the LTE7460-M608.

### Auto-discover Your UPnP-enabled Network Device

1 Click **Start** and **Control Panel**. Double-click **Network Connections**. An icon displays under Internet Gateway.

2 Right-click the icon and select **Properties**.

**Figure 34** Network Connections




3 In the **Internet Connection Properties** window, click **Settings** to see the port mappings there were automatically created.

**Figure 35** Internet Connection Properties


4 You may edit or delete the port mappings or click **Add** to manually add port mappings.

**Figure 36** Internet Connection Properties: Advanced Settings

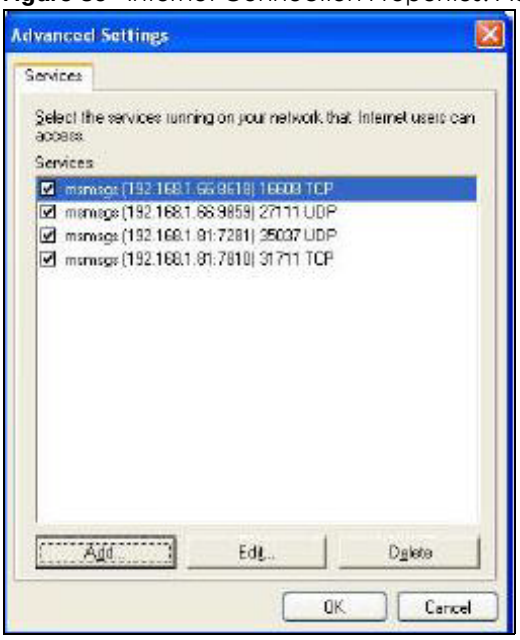
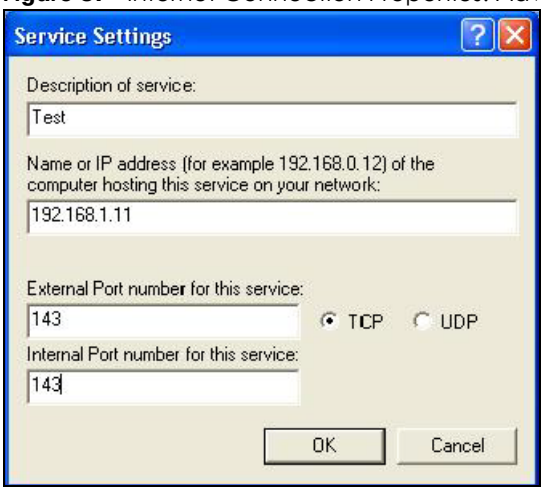


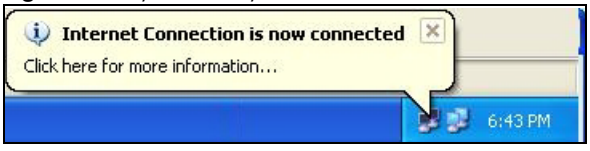

**Figure 37** Internet Connection Properties: Advanced Settings: Add




5 When the UPnP-enabled device is disconnected from your computer, all port mappings will be deleted automatically.

6 Select **Show icon in notification area when connected** option and click **OK**. An icon displays in the system tray.

**Figure 38** System Tray Icon




7 Double-click on the icon to display your current Internet connection status.

**Figure 39** Internet Connection Status


## Web Configurator Easy Access

With UPnP, you can access the web-based configurator on the LTE7460-M608 without finding out the IP address of the LTE7460-M608 first. This comes helpful if you do not know the IP address of the LTE7460-M608.

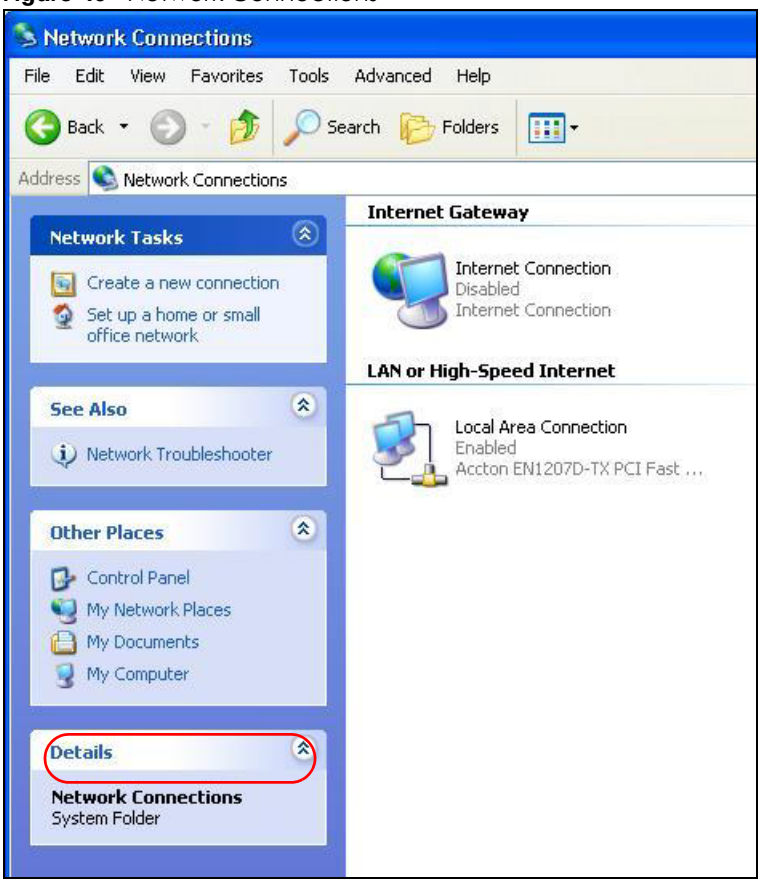
Follow the steps below to access the web configurator.

1 Click **Start** and then **Control Panel**.

2 Double-click **Network Connections**.

3 Select **My Network Places** under **Other Places**.

**Figure 40** Network Connections




4 An icon with the description for each UPnP-enabled device displays under **Local Network**.

5 Right-click on the icon for your LTE7460-M608 and select **Invoke**. The web configurator login screen displays.

**Figure 41** Network Connections: My Network Places


6 Right-click on the icon for your LTE7460-M608 and select **Properties**. A properties window displays with basic information about the LTE7460-M608.

**Figure 42** Network Connections: My Network Places: Properties: Example


# 6.10 Using UPnP in Windows 7 Example

This section shows you how to use the UPnP feature in Windows 7. You must already have UPnP installed in Windows XP and UPnP activated on the LTE7460-M608.

Make sure the computer is connected to a LAN port of the LTE7460-M608. Turn on your computer and the LTE7460-M608.

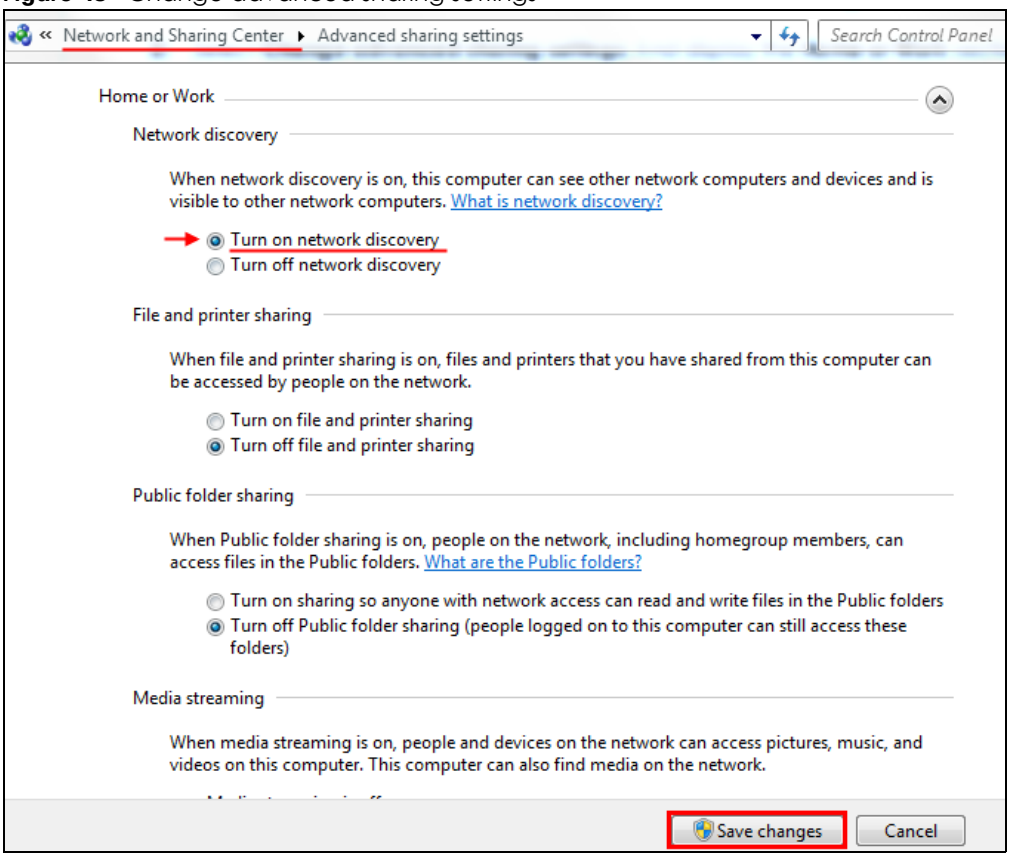
### Auto-discover Your UPnP-enabled Network Device

1 Click **Start** and **Control Panel**. Then click the **Network and Sharing Center**.

2 In the left pane, select **Change advanced sharing settings** to display the **Home or Work** section.

3 In the **Network Discovery** section, select the option for **Turn on network discovery** and click the **Save changes** button.

**Figure 43** Change advanced sharing settings



# CHAPTER 7
# Networking

## 7.1 Overview

This chapter describes how you can configure the LTE7460-M608's operating mode, IP/port filtering, ALG, DoS Attack, DNS and DDNS settings.

### 7.1.1 What You Can Do in this Chapter

- Use the **Operating Mode** screen to configure the LTE7460-M608's operating mode (Section 7.2 on page 59).
- Use the **TR069** to configure the LTE7460-M608's TR-069 auto-configuration settings.(Section 7.3 on page 61).
- Use the **DNS Settings** screen to configure the LTE7460-M608's DNS settings (Section 7.4 on page 63).
- Use the **Firewall** screen to protect your LTE7460-M608 from attacks on the Internet and control access to it (Section 7.5 on page 64 to Section 7.10 on page 70).
- Use the **DDNS Settings** screen to enable and configure the LTE7460-M608's DDNS (Section 7.11 on page 71).
- Use the **VPN Pass Through** screen to allow VPN traffic to pass through the LTE7460-M608 (Section 7.12 on page 72).
- Use the **Certificate Management** screen to upload or view the current certificate used for HTTPs and SSH (Section 7.13 on page 73).
- Use the **Bandwidth Management** screen to configure the LTE7460-M608 bandwidth profiles (Section 7.14 on page 74).
- Use the **Remote Management** screen to configure port settings for the WAN side access to the LTE7460-M608 (Section 7.15 on page 76).
- Use the **ICMP** screen to change the LTE7460-M608's security settings. (Section 7.16 on page 78).

Note: **DNS Settings**, **Firewall**, **DDNS**, **VPN Pass Through**, **Bandwidth Management** and **ICMP** screens are not available if your LTE7460-M608's operating mode is on bridge mode. To learn more about changing your LTE7460-M608's operating mode see Section 7.2 on page 59.

### 7.1.2 What you need to know

The following terms and concepts may help as you read this chapter.

#### DNS

DNS (Domain Name System) maps a domain name to its corresponding IP address and vice versa. The DNS server is extremely important because without it, you must know the IP address of a computer before you can access it. The DNS server addresses you enter when you set up DHCP are passed to the client machines along with the assigned IP address and subnet mask.

## File Transfer Protocol

This is a method of transferring data from one computer to another over a network such as the Internet.

## DYNDNS Wildcard

Enabling the wildcard feature for your host causes *.yourhost.dyndns.org to be aliased to the same IP address as yourhost.dyndns.org. This feature is useful if you want to be able to use, for example, www.yourhost.dyndns.org and still reach your hostname.

If you have a private WAN IP address, then you cannot use Dynamic DNS.

## Firewall

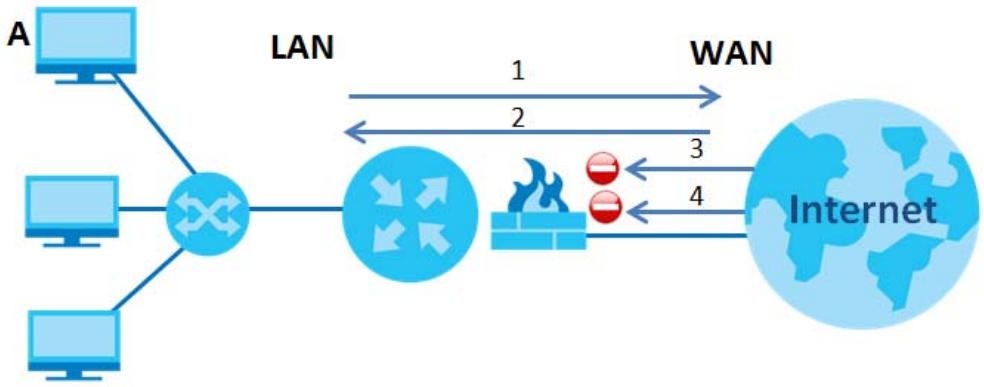
A firewall protects your LTE7460-M608 and network from attacks by hackers on the Internet and control access to it. The firewall:

- allows traffic that originates from your LAN computers to go to all other networks.
- blocks traffic that originates on other networks from going to the LAN.
- blocks SYN and port scanner attacks.

By default, the LTE7460-M608 blocks DDOS, LAND and Ping of Death attacks whether the firewall is enabled or disabled.

The following figure illustrates the firewall action. User **A** can initiate an IM (Instant Messaging) session from the LAN to the WAN (1). Return traffic for this session is also allowed (2). However other traffic initiated from the WAN is blocked (3 and 4).

**Figure 44** Default Firewall Action




## Inside/Outside and Global/Local

Inside/outside denotes where a host is located relative to the LTE7460-M608, for example, the computers of your subscribers are the inside hosts, while the web servers on the Internet are the outside hosts.

Global/local denotes the IP address of a host in a packet as the packet traverses a router, for example, the local address refers to the IP address of a host when the packet is in the local network, while the global address refers to the IP address of the host when the same packet is traveling in the WAN side.

### NAT

In the simplest form, NAT changes the source IP address in a packet received from a subscriber (the inside local address) to another (the inside global address) before forwarding the packet to the WAN side. When the response comes back, NAT translates the destination address (the inside global address) back to the inside local address before forwarding it to the original inside host. See Section 7.17 on page 78 for advanced technical information on NAT.

### Certification Authorities

A Certification Authority (CA) issues certificates and guarantees the identity of each certificate owner. There are commercial certification authorities like CyberTrust or VeriSign and government certification authorities.

### Certification Path

A certification path is the hierarchy of certification authority certificates that validate a certificate. The LTE7460-M608 does not trust a certificate if any certificate on its path has expired or been revoked.

### Certificate Directory Servers

Certification authorities maintain directory servers with databases of valid and revoked certificates. A directory of certificates that have been revoked before the scheduled expiration is called a CRL (Certificate Revocation List). The LTE7460-M608 can check a peer's certificate against a directory server's list of revoked certificates. The framework of servers, software, procedures and policies that handles keys is called PKI (public-key infrastructure).

### Advantages of Certificates

Certificates offer the following benefits.

- The LTE7460-M608 only has to store the certificates of the certification authorities that you decide to trust, no matter how many devices you need to authenticate.
- Key distribution is simple and very secure since you can freely distribute public keys and you never need to transmit private keys.

### Certificate File Format

The certification authority certificate that you want to import has to be in PEM (Base-64) encoded X.509 file format. This Privacy Enhanced Mail format uses 64 ASCII characters to convert a binary X.509 certificate into a printable form.

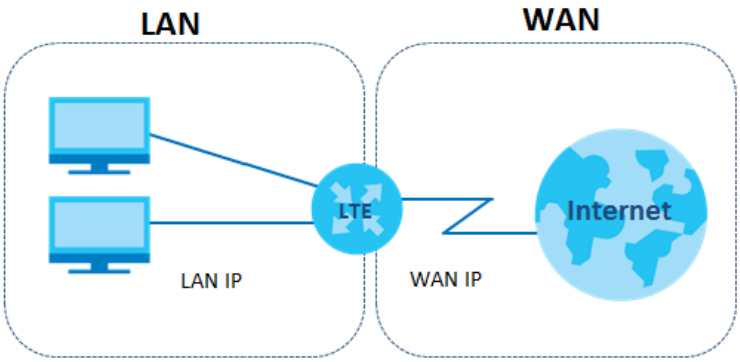
## 7.2 Operating Mode Screen

The LTE7460-M608 offers two different operation modes: **Router mode** and **Bridge mode**. The LTE7460-M608 is set to **Router mode** by default.

## 7.2.1 Router mode

In Router mode your LTE7460-M608 connects your local network with another network, like the Internet. Use Router mode if your Internet service provider gives you one IP address only and you want multiple computers to share an Internet account.

**Figure 45** LAN and WAN IP Addresses in Router Mode

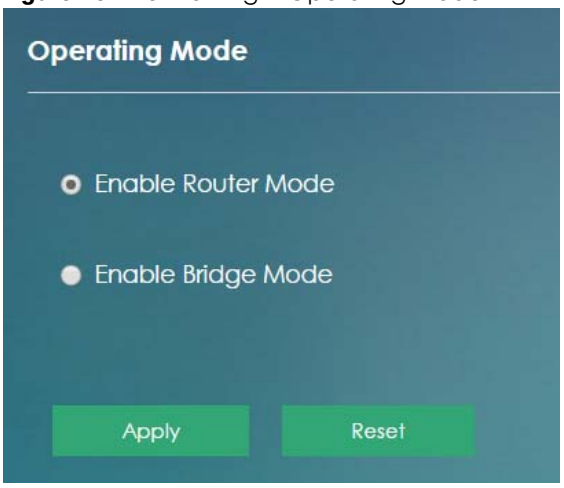



## 7.2.2 Bridge mode

Use Bridge mode on the LTE7460-M608 you want the connected devices to get individual IP addresses from the Internet service provider's DHCP. If you select Bridge mode, you cannot use routing functions, such as VPN Pass Through, Firewall, DHCP server and NAT on traffic from the selected LAN port(s).

Click **Networking > Operating Mode** to open the following screen and change your LTE7460-M608's operating mode.

**Figure 46** Networking > Operating Mode




The following table describes the labels in the screen.

Table 17 Networking > Operating Mode

| LABEL | DESCRIPTION |
|---|---|
| Operating Mode | |
| Enable Router Mode | Select this check box to change the LTE7460-M608's operating mode to Router Mode. |

Table 17 Networking > Operating Mode

| LABEL | DESCRIPTION |
|---|---|
| Enable Bridge Mode | Select this check box to change the LTE7460-M608's operating mode to Bridge Mode. |
| Apply | Click **Apply** to save your changes. |
| Reset | Click **Reset** to restore your previously saved settings. |

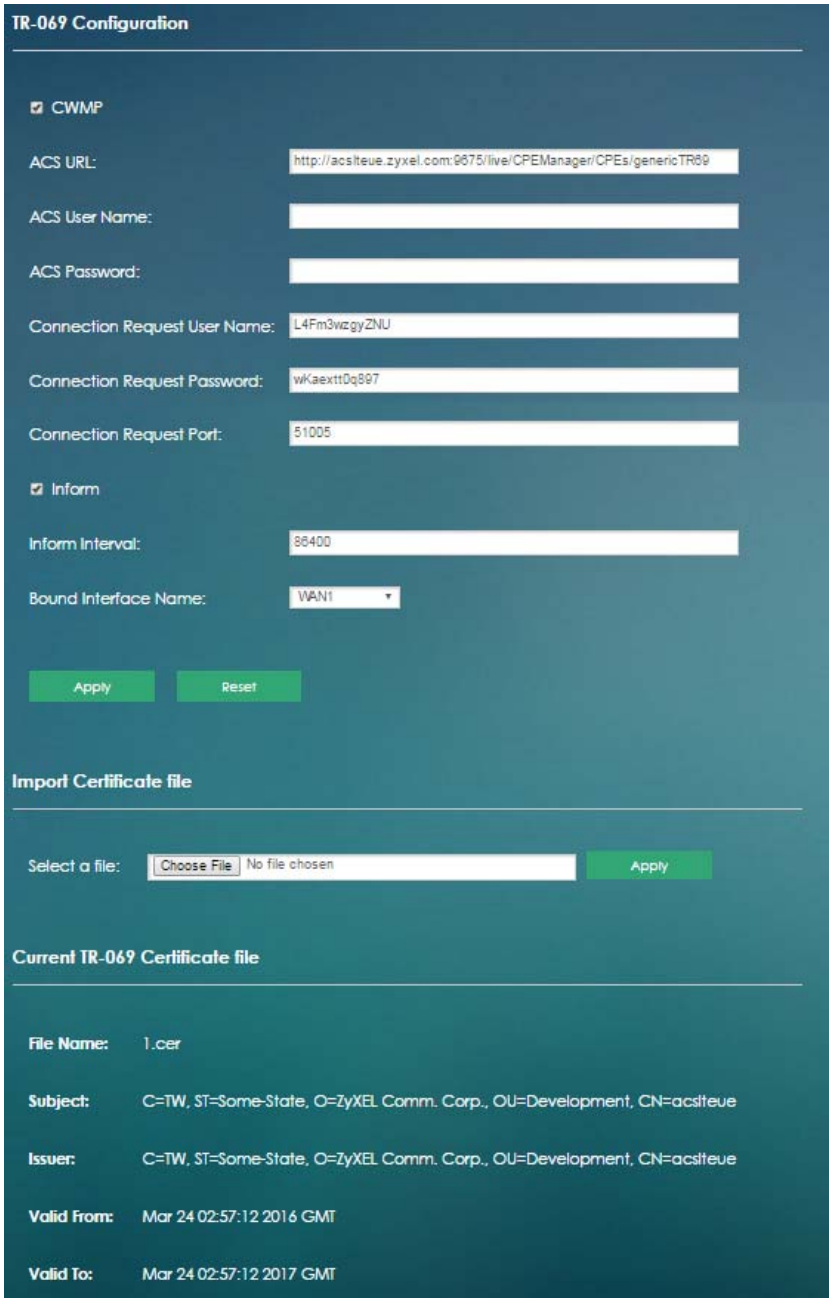
# 7.3 TR069 Screen

TR-069 defines how Customer Premise Equipment (CPE), for example your LTE7460-M608, can be managed over the WAN by an Auto Configuration Server (ACS). TR-069 is based on sending Remote Procedure Calls (RPCs) between an ACS and a client device. RPCs are sent in Extensible Markup Language (XML) format over HTTP or HTTPS.

An administrator can use an ACS to remotely set up the LTE7460-M608, modify settings, perform firmware upgrades as well as monitor and diagnose the LTE7460-M608. You have to enable the device to be managed by the ACS and specify the ACS IP address or domain name and username and password.

Click **Networking > TR069** to open the following screen. Use this screen to configure you LTE7460-M608 to be managed by an ACS.

**Figure 47** Networking > TR069




The following table describes the labels in this screen.

Table 18 Networking > TR069

| LABEL | DESCRIPTION |
|---|---|
| TR-069 Configuration | |
| CWMP | Click the check box to allow the LTE7460-M608 to be managed by a management server. Otherwise, so the LTE7460-M608 is not managed by a management server. |
| ACS URL | Enter the URL or IP address of the auto-configuration server. |
| ACS User Name | Enter the TR-069 user name for authentication with the auto-configuration server. |
| ACS Password | Enter the TR-069 password for authentication with the auto-configuration server. |

The following table describes the labels in this screen.

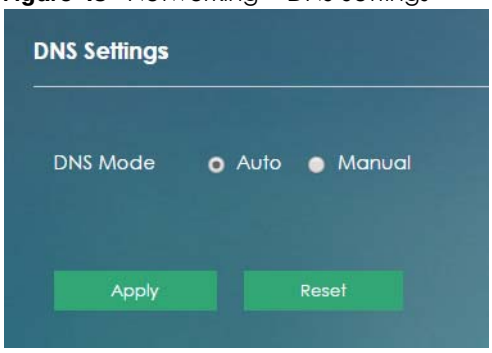
Table 18 Networking > TR069

| LABEL | DESCRIPTION |
|---|---|
| Connection Request User Name | Enter the connection request user name. When the ACS makes a connection request to theLTE7460-M608, this user name is used to authenticate the ACS. |
| Connection Request Password | Enter the connection request password. When the ACS makes a connection request to the LTE7460-M608, this password is used to authenticate the ACS. |
| Connection Request Port | The default port for access to the LTE7460-M608 from the management server is the HTTP port, port 80. If you change it, make sure it does not conflict with another port on your network and it is recommended to use a port number above 1024 (not a commonly used port). The management server should use this port to connect to the LTE7460-M608. You may need to alter your NAT port forwarding rules if they were already configured. |
| Inform | Select Enable for the LTE7460-M608 to send periodic inform via TR-069 on the WAN. Otherwise, select Disable. |
| Inform Interval | Enter the time interval (in seconds) at which the LTE7460-M608 sends information to the autoconfiguration server. |
| Bound Interface Name | Select whether the TR069 connection path is WAN1 or WAN2. |
| Apply | Click **Apply** to save your changes. |
| Reset | Click **Reset** to restore the screen's last saved settings. |
| Import Certificate File | |
| Select a File | Use this field to upload a certificate the LTE7460-M608 uses for TLS/SSL authentication. |
| Apply | Click **Apply** to upload the certificate. |
| Current TR-069 Certificate file | |
| File Name | This field displays the name used to identify this TR-069 certificate. It is recommended that you give each certificate a unique name. |
| Subject | This field displays identifying information about the certificate's owner, such as CN (Common Name), OU (Organizational Unit or department), O (Organization or company), S (State), and C (Country). It is recommended that each certificate has unique subject information. |
| Issuer | This field displays identifying information about the certificate's issuing certification authority, such as a common name, organizational unit or department, organization or company and country. |
| Valid From | This field displays the date that the certificate becomes applicable. The text displays in red and includes a **Not Valid!** message if the certificate has not yet become applicable. |
| Valid To | This field displays the date that the certificate expires. The text displays in red and includes an **Expired!** message if the certificate is about to expire or has already expired. |

# 7.4 DNS Settings Screen

Click **Networking > DNS Settings** to configure the DNS servers your LTE7460-M608 uses. The following screen displays.

**Figure 48** Networking > DNS Settings




The following table describes the labels in this screen

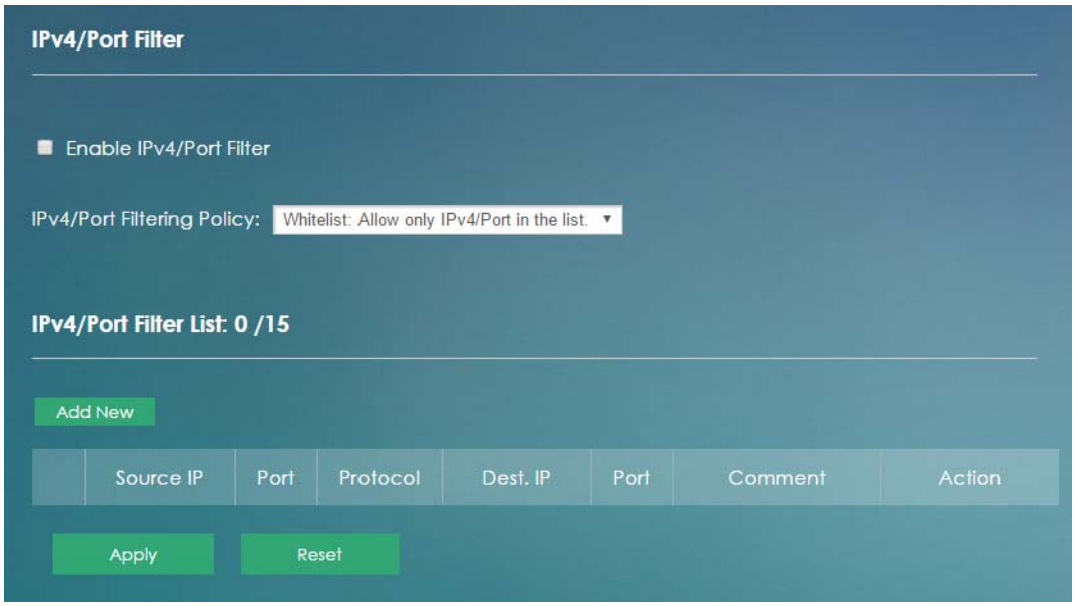
Table 19 Networking > DNS Settings

| LABEL | DESCRIPTION |
|---|---|
| DNS Settings | |
| DNS Mode | Select **Auto** if your LTE7460-M608 pass DHCP server to the LAN users. Otherwise, select **Manual** if you to assign a specific DNS server information to the LAN users. have the IP address of a DNS server. |
| Apply | Click **Apply** to save your changes. |
| Reset | Click **Reset** to restore the screen's last saved settings. |

# 7.5 Firewall > IPv4/Port Filter Screen

The LTE7460-M608 firewall is a packet filtering firewall and restricts access based on the source/ destination computer network address of a packet and the type of application. Use this screen to configure IP filtering rules. IPv6/Port Filter is useful to allow or block any traffic to/from specific IPv6 addresses or TCP/UDP ports. To access this screen, click **Networking > Firewall > IPv4/Port Filter**.

**Figure 49** Networking > Firewall > IPv4/Port Filter



The following table describes the labels in this screen

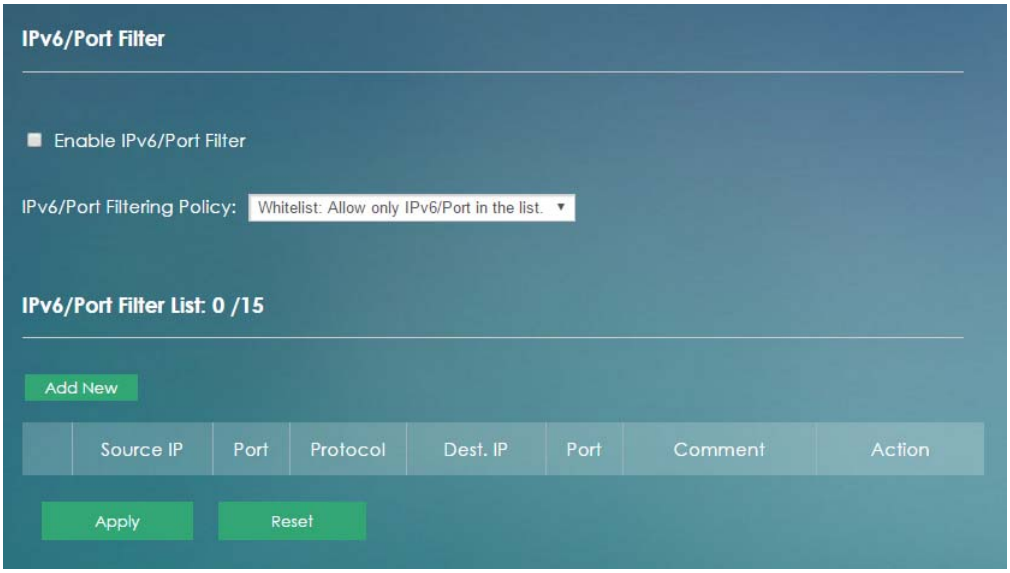
Table 20 Networking > Firewall > IPv4/Port Filter

| LABEL | DESCRIPTION |
|---|---|
| IPv4/Port Filter | |
| Enable IPv4/Port Filter | Select the check box to enable the rule. |
| IPv4/Port Filtering Policy | Select **Whitelist** to allow packets that match the filtering rules defined on this screen to pass through. Select **Blacklist** to block packets that match the filtering rules defined on this screen. |
| IPv4/Port Filter List | |
| Add new | Click **Add New** to create a new rule. |
| | This field displays the rule index number. |
| Source IP | This field displays the source IPv4 addresses to which this rule applies. |
| Port | This field displays a single port number of the source or a port range.<br>Enter the port number/range of the source that define the traffic type, for example TCP port 80 defines web traffic. Use a dash (**-**) to enter port ranges, for example TCP ports 80-82. |
| Protocol | This field displays the protocol (**TCP**, **UDP**, **TCP+UDP** or **any**) used to transport the packets for which you want to apply the rule. Select **Any** and all traffic from a Source IP and Destination IP is filtered. |
| Dest. IP | This field displays the destination IPv4 addresses to which this rule applies. |
| Port | This field displays a single port number of the destination or a port range.<br>Enter the port number/range of the destination that define the traffic type, for example TCP port 80 defines web traffic.Use a dash (**-**) to enter port ranges, for example TCP ports 80-82. |
| Comment | Enter descriptions of the rule in this field. |
| Action | Click **Edit** to go to the screen where you can edit the filtering rule.<br>Click **Delete** to remove the filtering rule. |
| Apply | Click **Apply** to save your changes. |
| Reset | Click **Reset** to restore the screen's last saved settings. |

# 7.6 Firewall > IPv6/Port Filter Screen

Use this screen to configure IP filtering rules. IPv6/Port Filter is useful to allow or block any traffic to/from specific IPv6 addresses or TCP/UDP ports. To access this screen, click **Networking > Firewall > IPv6/Port Filter**.

**Figure 50** Networking > Firewall > IPv6/Port Filter




The following table describes the labels in this screen.

Table 21 Networking > Firewall > IPv6/Port Filter

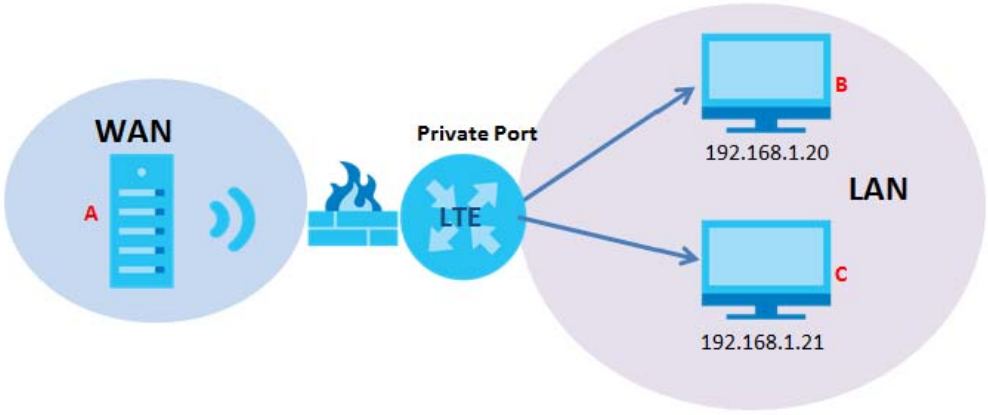
| LABEL | DESCRIPTION |
|---|---|
| IPv6/Port Filter | |
| Enable IPv6/Port Filter | Select the check box to enable the rule. |
| IPv6/Port Filtering Policy | Select **Whitelist** to allow packets that match the filtering rules defined on this screen to pass through. Select **Blacklist** to block packets that match the filtering rules defined on this screen. |
| IPv6/Port Filter List | |
| Add New | Click **Add New** to create a new rule. |
| | This field displays the rule index number. |
| Source IP | This field displays the source IPv6 addresses to which this rule applies. |
| Port | This field displays a single port number of the source or a port range.<br>Enter the port number/range of the source that define the traffic type, for example TCP port 80 defines web traffic. |
| Protocol | This field displays the protocol (**TCP**, **UDP**, **TCP+UDP** or **any**) used to transport the packets for which you want to apply the rule. Select **Any** and all traffic from a Source IP and Destination IP is filtered. |
| Dest. IP | This field displays the destination IPv6 addresses to which this rule applies. |
| Port | This field displays a single port number of the destination or a port range.<br>Enter the port number/range of the destination that define the traffic type, for example TCP port 80 defines web traffic. |
| Comment | Enter descriptions of the rule in this field. |
| Action | Click **Edit** to go to the screen where you can edit the filtering rule.<br>Click **Delete** to remove the filtering rule. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 7.7 Firewall > IP/Port Forwarding Screen

Use this screen to configure port forwarding rules. Servers outside the LTE7460-M608's LAN can access devices inside your LAN through IP/Port forwarding.

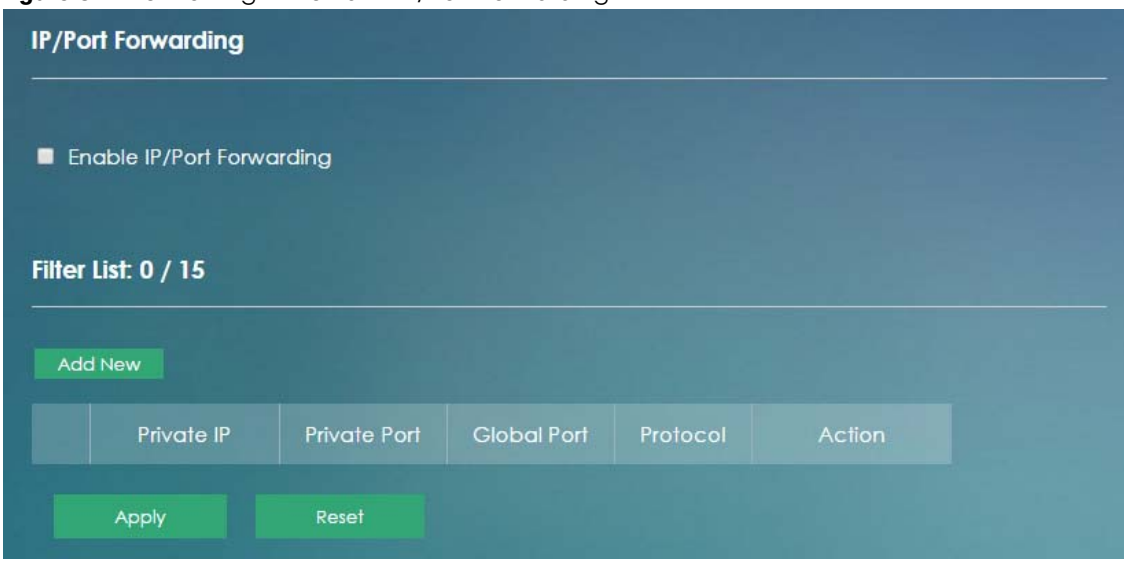
The following figure shows how port forwarding works. Server **A** in the Internet wants to access the computer **B** inside your LTE7460-M608's network. **A** can find the LTE7460-M608 through its public IP address but it cannot access **B**. When you enable port forwarding **A** can use a **Global Port** to get into your LAN, the LTE7460-M608 forwards this request to a **Private Port** inside your LAN to **B**'s IP address.

**Figure 51** How Port Forwarding Works




To access this screen, click **Networking > Firewall > IP/Port Forwarding**.

**Figure 52** Networking > Firewall > IP/Port Forwarding




The following table describes the labels in this screen.

Networking > Firewall > IP/Port Forwarding

| LABEL | DESCRIPTION |
|---|---|
| IP/Port Forwarding | |
| Enable IP/Port Forwarding | Select the check box to enable port forwarding rules. |

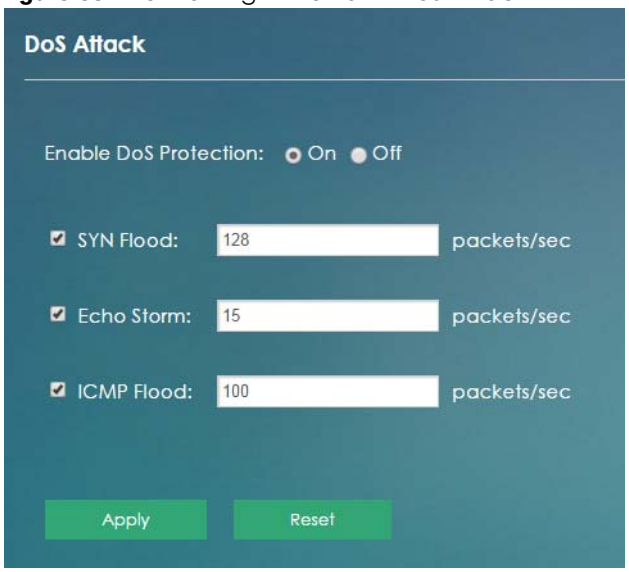
Networking > Firewall > IP/Port Forwarding

| LABEL | DESCRIPTION |
|---|---|
| Filter List | |
| Add New | Click **Add New** to create a new rule. |
| | This field displays the rule index number. |
| Private IP | This field displays the inside IP address of the server.<br>Enter the inside IP address of the virtual server here. |
| Private Port | A private port is a port that causes (or triggers) the LTE7460-M608 to record the IP address of the LAN computer that sent the traffic to a server on the WAN.<br>Enter the port number/range of the private in this field. |
| Global Port | A global port is a port that a server on the WAN uses when it sends out a particular service. The LTE7460-M608 forwards the traffic with this port to the client computer on the LAN that requested the service.<br>Enter the port number/range of the global in this field. |
| Protocol | This field displays the protocol (**TCP**, **UDP**, **TCP+UDP**) used to transport the packets for which you want to apply the rule. |
| Action | Click **Edit** to go to the screen where you can edit the port forwarding rule.<br>Click **Delete** to remove the port forwarding rule. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 7.8 Firewall > DoS Attack Screen

Use this screen to enable DoS protection. DoS protection is used to prevent denial of service attacks and control the number of sessions between interfaces or addresses. Click **Networking > Firewall > DoS Attack** to display the following screen.

**Figure 53** Networking > Firewall > DoS Attack



The following table describes the labels in this screen.

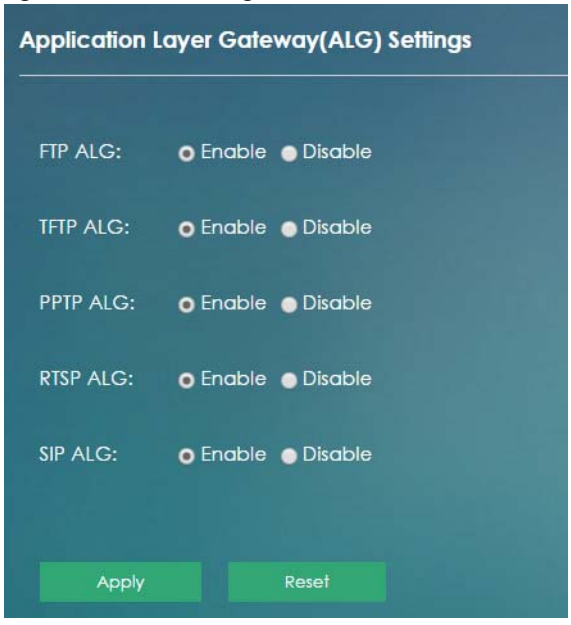
Table 22 Networking > Firewall > DoS Attack

| LABEL | DESCRIPTION |
|---|---|
| DoS Attack | |
| Enable DoS Protection | Enable this to protect against DoS attacks. The LTE7460-M608 will drop sessions that surpass maximum thresholds. |
| SYN Flood | This is the rate of new TCP half-open sessions per second that causes the firewall to start deleting half-open sessions. When the rate of new connection attempts rises above this number, the LTE7460-M608 deletes half-open sessions as required to accommodate new connection attempts. |
| Echo Storm | This is the rate of new Echo Request half-open sessions per second that causes the firewall to start deleting half-open sessions. When the rate of new connection attempts rises above this number, the LTE7460-M608 deletes half-open sessions as required to accommodate new connection attempts. |
| ICMP Flood | This is the rate of new ICMP Request (other than Echo) half-open sessions per second that causes the firewall to start deleting half-open sessions. When the rate of new connection attempts rises above this number, the LTE7460-M608 deletes half-open sessions as required to accommodate new connection attempts. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 7.9 Firewall > ALG Screen

Click **Networking > Firewall > ALG** to open the ALG (Application Layer Gateway) screen. Use this screen to add NAT (Network Address Translation) filters into your LTE7460-M608's gateway to support packets and sessions for certain application layer protocols.

**Figure 54** Networking > Firewall > ALG



The following table describes the labels in this screen.

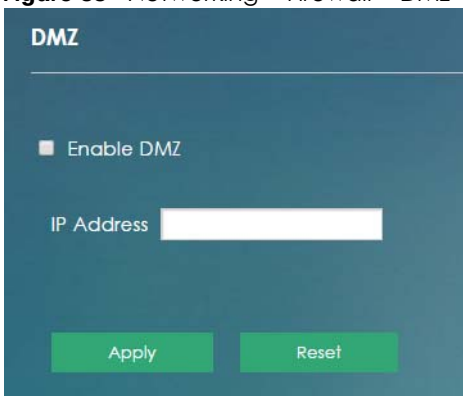
Table 23 Networking > Firewall > ALG

| LABEL | DESCRIPTION |
|---|---|
| Application Layer Gateway (ALG) Settings | |
| FTP ALG | Select **Enable** for File Transfer Protocol (FTP) ALG to detect FTP traffic and help build FTP sessions through the LTE7460-M608, otherwise select **Disable**. |
| TFTP ALG | Select **Enable** for Trivial File Transfer Protocol (TFTP) ALG to detect TFTP packets and help build TFTP sessions through the LTE7460-M608, otherwise select **Disable**. |
| PPTP ALG | Select **Enable** for Point-to-Point Tunneling Protocol (PPTP) ALG to detect PPTP and help build PPTP sessions through the LTE7460-M608, otherwise select **Disable**. |
| RTSP ALG | Select **Enable** for Real Time Streaming Protocol (RTSP) ALG to detect RTSP traffic and help build RTSP sessions through the LTE7460-M608, otherwise select **Disable**. |
| SIP ALG | Select **Enable** for Session Initiation Protocol (SIP) ALG to detect SIP traffic and help build SIP sessions through the LTE7460-M608, otherwise select **Disable**. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 7.10 Firewall > DMZ Screen

Click **Networking > Firewall > DMZ** to open the DMZ screen. Use this screen to specify the IP address of a default server to receive packets from ports.

**Figure 55** Networking > Firewall > DMZ




The following table describes the labels in this screen.

Table 24 Networking > Firewall > DMZ

| LABEL | DESCRIPTION |
|---|---|
| Enable DMZ | Click on the check box to enable the DMZ in your LTE7460-M608. |
| IP Address | Enter the IP address of the default server which receives packets from ports. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

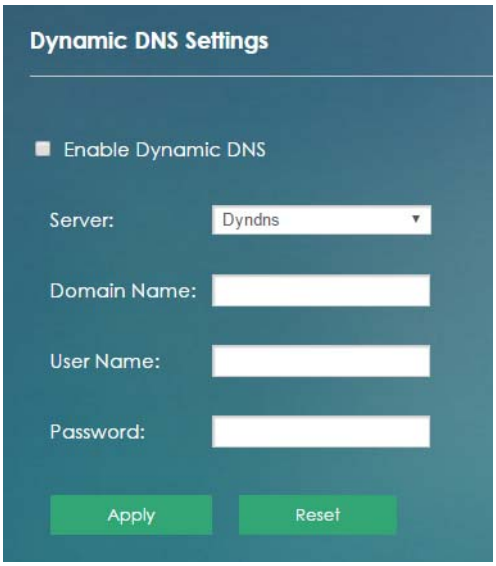
# 7.11 DDNS Settings Screen

Dynamic DNS allows you to update your current dynamic IP address with one or many dynamic DNS services so that anyone can contact you (in applications such as NetMeeting and CU-SeeMe). You can also access your FTP server or Web site on your own computer using a domain name (for instance myhost.dhs.org, where myhost is a name of your choice) that will never change instead of using an IP address that changes each time you reconnect. Your friends or relatives will always be able to call you even if they don't know your IP address.

First of all, you need to have registered a dynamic DNS account with www.dyndns.org. This is for people with a dynamic IP from their ISP or DHCP server that would still like to have a domain name. The Dynamic DNS service provider will give you a password or key.

Use the Dynamic DNS screen to enable DDNS and configure the DDNS settings on the LTE7460-M608. To change your LTE7460-M608's DDNS, click **Networking > DDNS Settings**. The screen appears as shown.

**Figure 56** Networking > DDNS Settings




The following table describes the labels in this screen.

Table 25 Networking > DDNS Settings

| LABEL | DESCRIPTION |
|---|---|
| Dynamic DNS Settings | |
| Enable Dynamic DNS | Select the check box to use Dynamic DNS. |
| Server | Select the name of your Dynamic DNS service provider. |
| Domain Name | Type the domain name assigned to your LTE7460-M608 by your Dynamic DNS service provider. |
| User Name | Type your user name for the Dynamic DNS service provider. |
| Password | Type your password for the Dynamic DNS service provider. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 7.12 VPN Pass Through Screen

Click **Networking > VPN Pass Through** to open the following screen. Use this screen to enable different types of VPN pass through so that VPN traffic can be sent through the LTE7460-M608.

**Figure 57** Networking > VPN Pass Through


The following table describes the labels in this screen.

Table 26 Networking > VPN Pass Through

| LABEL | DESCRIPTION |
|---|---|
| VPN Pass Through | |
| PPTP Pass Through | Select **Enable** to allow VPN clients to make outbound PPTP connections. It is required in order to connect to a PPTP VPN account. If PPTP is disabled, then when a client sends a request to a VPN server, the server will reply to the LTE7460-M608 and the LTE7460-M608 will drop the request. When PPTP is enabled, the LTE7460-M608 will forward the reply from the VPN server to the client that initiated the request, and the connection will establish successfully. |
| IPSec Pass Through | Select **Enable** to allow VPN clients to make outbound IPSec connections. It is required in order to connect to a IPSec VPN account. If IPSEC is disabled, then when a client sends a request to a VPN server, the server will reply to the LTE7460-M608 and the LTE7460-M608 will drop the request. When IPSEC is enabled, the LTE7460-M608 will forward the reply from the VPN server to the client that initiated the request, and the connection will establish successfully. |
| L2TP Pass Through | Select **Enable** to allow VPN clients to make outbound L2TP connections. It is required in order to connect to a L2TP VPN account. If L2TP is disabled, then when a client sends a request to a VPN server, the server will reply to the LTE7460-M608 and the LTE7460-M608 will drop the request. When L2TP is enabled, the LTE7460-M608 will forward the reply from the VPN server to the client that initiated the request, and the connection will establish successfully. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 7.13 Certificate Management Screen

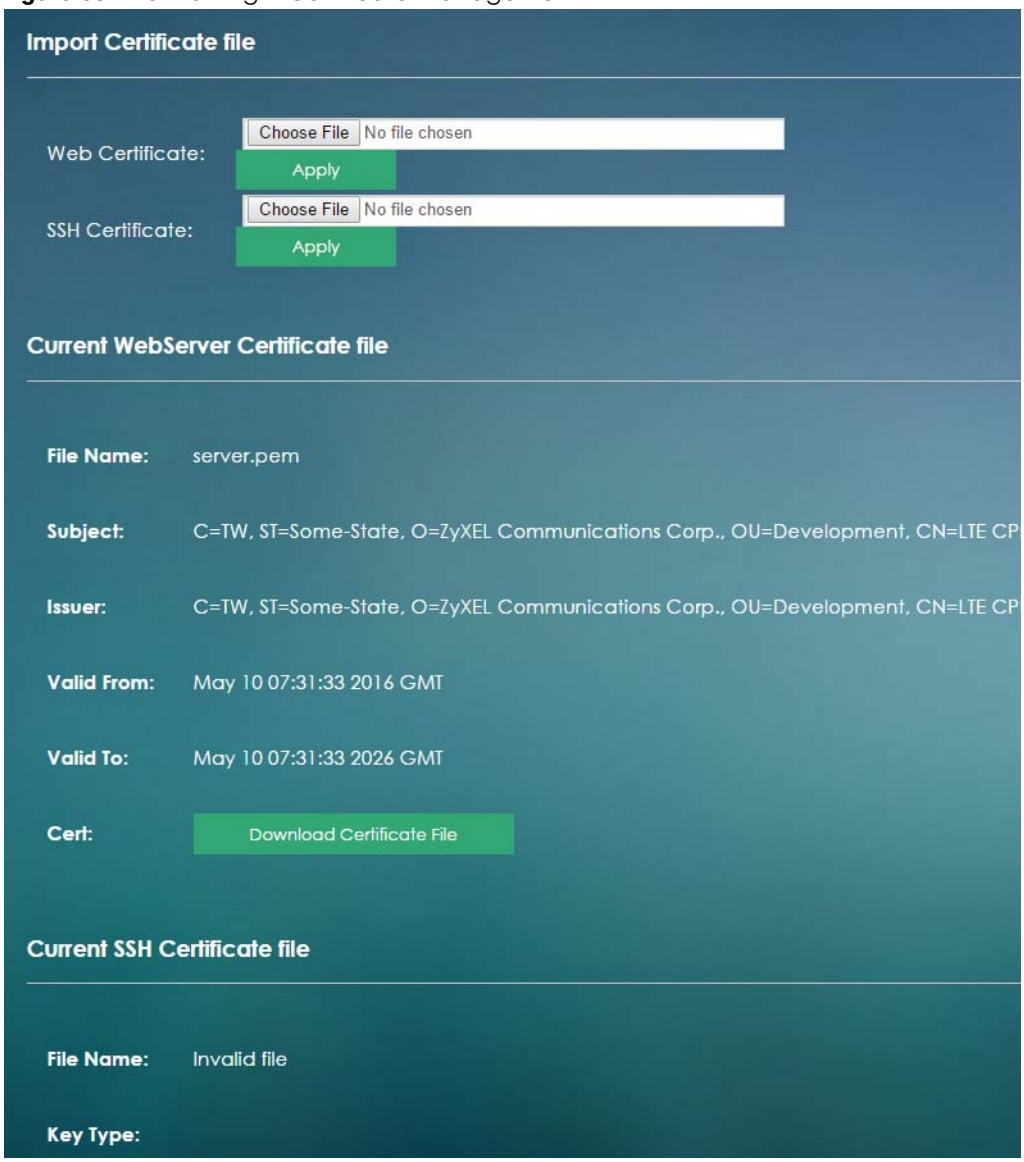
The LTE7460-M608 can use certificates (also called digital IDs) to authenticate users. Certificates are based on public-private key pairs. A certificate contains the certificate owner's identity and public key. Certificates provide a way to exchange public keys for use in authentication.

Use this screen to view the LTE7460-M608's summary list of certificates and certification requests and import certificates to authenticate the users in the LTE7460-M608's network. You can import the following certificates to your LTE7460-M608:

- Web Server - This certificate secures HTTP connections.
- SSH- This certificate secures remote connections.

Click on **Networking > Certificate Management** to open this screen.

**Figure 58** Networking > Certificate Management



The following table describes the labels in this screen.

Table 27 Networking > Certificate Management

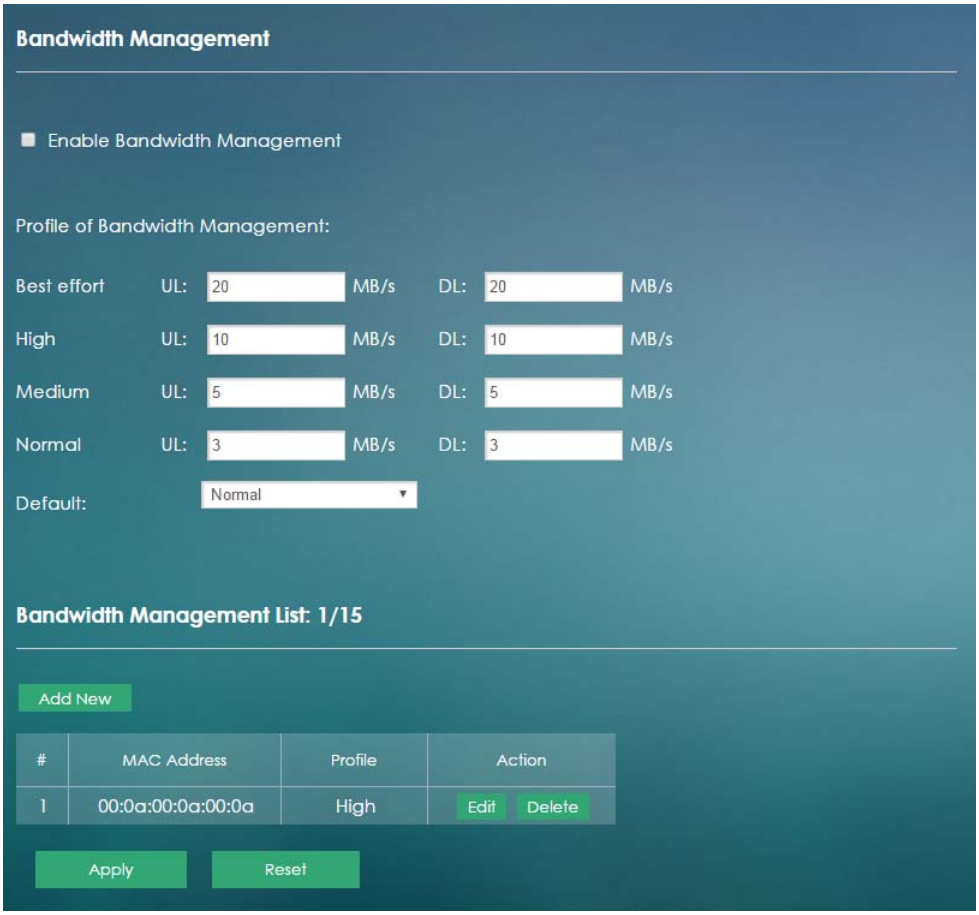
| LABEL | DESCRIPTION |
|---|---|
| Import Certificate File | |
| Web Certificate | Click **Choose File** to find the web server certificate file you want to upload. Then click **Apply** to upload it to your LTE7460-M608. |
| SSH Certificate | Click **Choose File** to find the SSH certificate file you want to upload. Then click **Apply** to upload it to your LTE7460-M608. |
| Current WebServer Certificate File | |
| File Name | This field displays the name used to identify this web server certificate. It is recommended that you give each certificate a unique name. |
| Subject | This field displays identifying information about the certificate's owner, such as CN (Common Name), OU (Organizational Unit or department), O (Organization or company), S (State), and C (Country). It is recommended that each certificate has unique subject information. |
| Issuer | This field displays identifying information about the certificate's issuing certification authority, such as a common name, organizational unit or department, organization or company and country. |
| Valid from | This field displays the date that the certificate becomes applicable. The text displays in red and includes a **Not Valid** message if the certificate has not yet become applicable. |
| Valid to | This field displays the date that the certificate expires. The text displays in red and includes an **Expired!** message if the certificate is about to expire or has already expired. |
| Cert | Click **Download Certificate File** to download the web server certificate file. |
| Current SSH Certificate file | |
| File Name | This field displays the name used to identify this SSH certificate. It is recommended that you give each certificate a unique name. |
| Key Type | This field applies to the SSH/SCP/SFTP certificate.<br><br>This shows the file format of the current certificate. |

# 7.14 Bandwidth Management Screen

Use this screen to map a connected device's MAC address to one of four different priority profiles (**Best effor, High, Medium** and **Normal**). The priority will

Unconfigured MAC addresses use the default profile. Click on **Networking > Bandwidth Management** to display the following screen.

**Figure 59** Networking > Bandwidth Management




The following table describes the labels in this screen.

Table 28 Networking > Bandwidth Management

| LABEL | DESCRIPTION |
|---|---|
| Bandwidth Management | |
| Enable Bandwidth Management | Select the check box to use the Bandwidth Management. |
| Profile of Bandwidth Management | |
| Best effort | **Best Effort** is the bandwidth management profile with the highest priority. Enter the data rate for both Uplink (**UL**) and Downlink (**DL**) in MB/s for the **Best Effort** profile. |
| High | Enter the data rate for both Uplink (**UL**) and Downlink (**DL**) in MB/s for the **High** bandwidth management profile. |
| Medium | Enter the data rate for both Uplink (**UL**) and Downlink (**DL**) in MB/s for the **Medium** bandwidth management profile. |
| Normal | Enter the data rate for both Uplink (**UL**) and Downlink (**DL**) in MB/s for the **Normal** bandwidth management profile. |
| Default | Select a profile from the drop-down list to be the LTE7460-M608's default bandwidth management profile. |
| Bandwidth Management List | |
| Add new | Click **Add new** to add a new device to one of the LTE7460-M608's bandwidth management profiles. |
| # | This field displays the device's index number. |

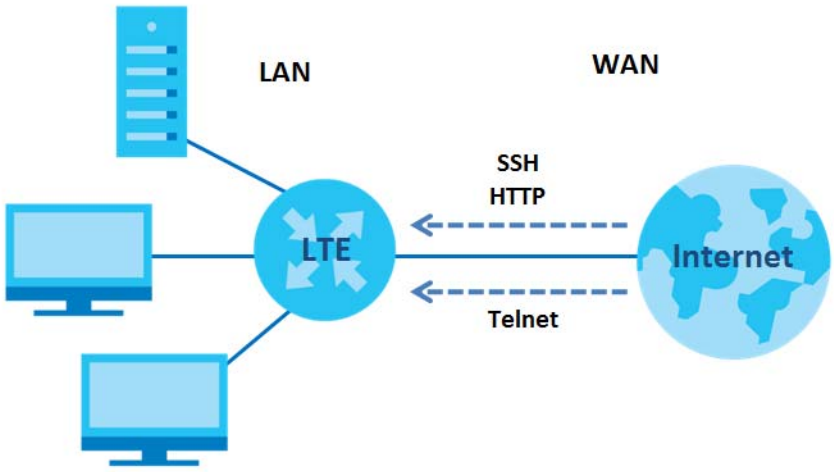
Table 28 Networking > Bandwidth Management

| LABEL | DESCRIPTION |
|---|---|
| MAC Address | This field displays the device's MAC address. |
| Profile | This field displays the type of bandwidth profile for the device. |
| Action | Click **Edit** to go to the screen where you can edit the MAC address and/or the bandwidth management profile.<br>Click **Delete** to remove the device from the list. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 7.15 Remote Management Screen

Remote management allows you to determine which services/protocols can access which LTE7460-M608 interface (if any) and from which computers. The following figure shows remote management of the LTE7460-M608 coming in from the WAN.

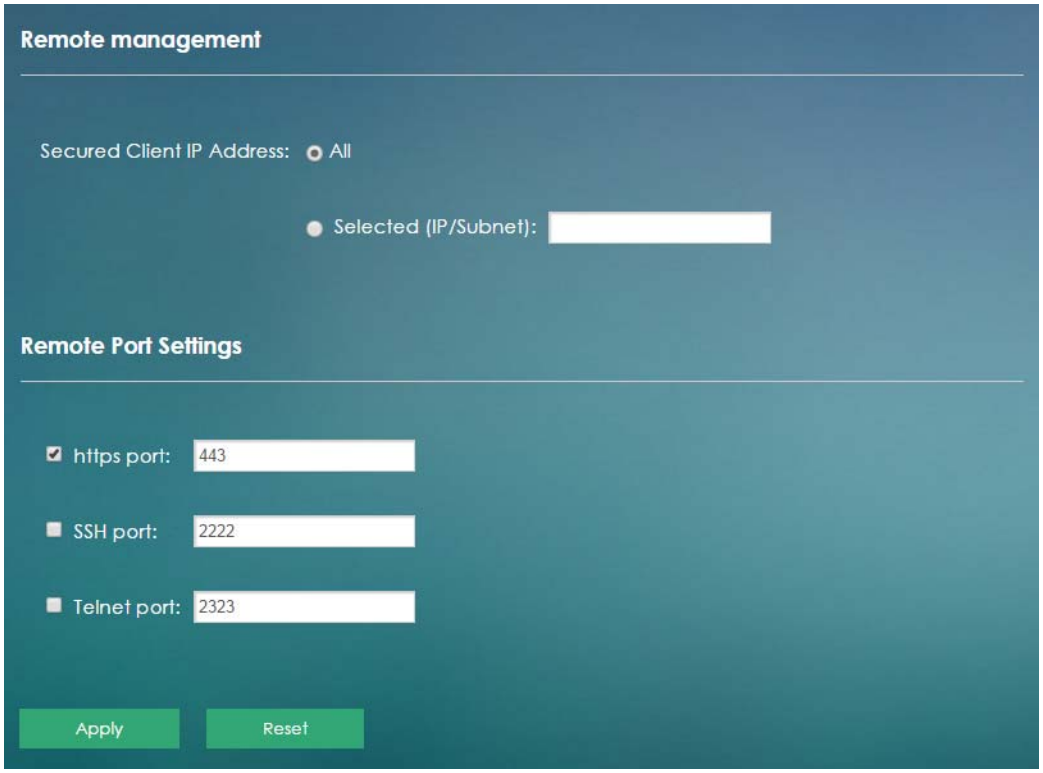
**Figure 60** Remote Management from the WAN




Note: Remote management does not work if the **Secured Client IP Address** field does not match the client IP address, or if there is a firewall rule that blocks it.

Click **Networking > Remote Management** to open the following screen.

**Figure 61** Networking > Remote Management




The following table describes the labels in this screen.

Table 29 Networking > Remote Management

| LABEL | DESCRIPTION |
|---|---|
| Remote Management | |
| Secured Client IP Address | A secured client is a "trusted" computer that is allowed to communicate with the LTE7460-M608 using HTTPS, SSH or Telnet service.<br>Select **All** to allow any computer to access the LTE7460-M608 using HTTPS, SSH or Telnet service.<br>Use the **Selected (IP/Subnet)** field to specify an IP address that will access the LTE7460-M608 using HTTPS, SSH or Telnet service. |
| Remote Port Settings | |
| https port | Select the check box to enable the access to the LTE7460-M608 using HTTPS service. Enter the service port number for accessing the LTE7460-M608 using this service. |
| SSH port | Select the check box to enable the access to the LTE7460-M608 using SSH service. Enter the service port number for accessing the LTE7460-M608 using this service. |
| Telnet port | Select the check box to enable the access to the LTE7460-M608 using Telnet service. Enter the service port number for accessing the LTE7460-M608 using this service. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

Note: In Bridge mode, this screen is referred to as **Port Management**, see Section 7.2 on page 54 to learn more about your LTE7460's operating modes.

# 7.16 ICMP Screen

If an outside user attempts to probe an unsupported port on your LTE7460-M608, an Internet Control Message Protocol (ICMP) response packet is automatically returned. This allows the outside user to know the LTE7460-M608 exists. Your LTE7460-M608 supports anti-probing, which prevents the ICMP response packet from being sent. This keeps outsiders from discovering your LTE7460-M608 when unsupported ports are probed.

To change your LTE7460-M608's security settings, click **Networking > ICMP**. The screen appears as shown.

Note: If you want your device to respond to pings and requests for unauthorized services, you will also need to configure the firewall accordingly by disabling SPI.

**Figure 62** Networking > ICMP


The following table describes the labels in this screen.

**Figure 63** Networking > ICMP

| LABEL | DESCRIPTION |
|---|---|
| ICMP Statements | |
| Enable WAN Ping Respond | The LTE7460-M608 will not respond to any WAN incoming Ping requests when **Enable WAN Ping Respond** is not selected. Select the check box to reply to incoming WAN Ping requests. |
| Enable LAN Ping Respond | The LTE7460-M608 will not respond to any LAN incoming Ping requests when **Enable LAN Ping Respond** is not selected. Select the check box to reply to incoming LAN Ping requests. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 7.17 Technical Reference

This section provides some technical background information about the topics covered in this chapter.

## 7.17.1 About NAT

Inside/outside denotes where a host is located relative to the LTE7460-M608, for example, the computers of your subscribers are the inside hosts, while the web servers on the Internet are the outside hosts.

Global/local denotes the IP address of a host in a packet as the packet traverses a router, for example, the local address refers to the IP address of a host when the packet is in the local network, while the global address refers to the IP address of the host when the same packet is traveling in the WAN side.

Note that inside/outside refers to the location of a host, while global/local refers to the IP address of a host used in a packet. Thus, an inside local address (ILA) is the IP address of an inside host in a packet when the packet is still in the local network, while an inside global address (IGA) is the IP address of the same inside host when the packet is on the WAN side. The following table summarizes this information.

Table 30 NAT Definitions

| ITEM | DESCRIPTION |
|---|---|
| Inside | This refers to the host on the LAN. |
| Outside | This refers to the host on the WAN. |
| Local | This refers to the packet address (source or destination) as the packet travels on the LAN. |
| Global | This refers to the packet address (source or destination) as the packet travels on the WAN. |

NAT never changes the IP address (either local or global) of an outside host.

## What NAT Does

In the simplest form, NAT changes the source IP address in a packet received from a subscriber (the inside local address) to another (the inside global address) before forwarding the packet to the WAN side. When the response comes back, NAT translates the destination address (the inside global address) back to the inside local address before forwarding it to the original inside host. Note that the IP address (either local or global) of an outside host is never changed.

The global IP addresses for the inside hosts can be either static or dynamically assigned by the ISP. In addition, you can designate servers, for example, a web server and a Telnet server, on your local network and make them accessible to the outside world. If you do not define any servers, NAT offers the additional benefit of firewall protection. With no servers defined, your LTE7460-M608 filters out all incoming inquiries, thus preventing intruders from probing your network. For more information on IP address translation, refer to *RFC 1631, The IP Network Address Translator (NAT)*.

## How NAT Works

Each packet has two addresses – a source address and a destination address. For outgoing packets, the ILA (Inside Local Address) is the source address on the LAN, and the IGA (Inside Global Address) is the source address on the WAN. For incoming packets, the ILA is the destination address on the LAN, and the IGA is the destination address on the WAN. NAT maps private (local) IP addresses to globally unique ones required for communication with hosts on other networks. It replaces the original IP source address (and TCP or UDP source port numbers for Many-to-One and Many-to-Many Overload NAT mapping) in each packet and then forwards it to the Internet. The LTE7460-M608 keeps track of the original addresses and port numbers so incoming reply packets can have their original values restored. The following figure illustrates this.

## 7.17.2 About Firewall

### SYN Attack

A SYN attack floods a targeted system with a series of SYN packets. Each packet causes the targeted system to issue a SYN-ACK response. While the targeted system waits for the ACK that follows the SYN-ACK, it queues up all outstanding SYN-ACK responses on a backlog queue. SYN-ACKs are moved off the queue only when an ACK comes back or when an internal timer terminates the three-way handshake. Once the queue is full, the system will ignore all incoming SYN requests, making the system unavailable for legitimate users.

### DoS

Denials of Service (DoS) attacks are aimed at devices and networks with a connection to the Internet. Their goal is not to steal information, but to disable a device or network so users no longer have access to network resources. The LTE7460-M608 is pre-configured to automatically detect and thwart all known DoS attacks.

### DDoS

A Distributed DoS (DDoS) attack is one in which multiple compromised systems attack a single target, thereby causing denial of service for users of the targeted system.

### LAND Attack

In a Local Area Network Denial (LAND) attack, hackers flood SYN packets into the network with a spoofed source IP address of the target system. This makes it appear as if the host computer sent the packets to itself, making the system unavailable while the target system tries to respond to itself.

### Ping of Death

Ping of Death uses a "ping" utility to create and send an IP packet that exceeds the maximum 65,536 bytes of data allowed by the IP specification. This may cause systems to crash, hang or reboot.

### SPI

Stateful Packet Inspection (SPI) tracks each connection crossing the firewall and makes sure it is valid. Filtering decisions are based not only on rules but also context. For example, traffic from the WAN may only be allowed to cross the firewall in response to a request from the LAN.

### RFC 4890 SPEC Traffic

RFC 4890 specifies the filtering policies for ICMPv6 messages. This is important for protecting against security threats including DoS, probing, redirection attacks and renumbering attacks that can be carried out through ICMPv6. Since ICMPv6 error messages are critical for establishing and maintaining communications, filtering policy focuses on ICMPv6 informational messages.

### Anti-Probing

If an outside user attempts to probe an unsupported port on your LTE7460-M608, an ICMP response packet is automatically returned. This allows the outside user to know the LTE7460-M608 exists. The LTE7460-M608 supports anti-probing, which prevents the ICMP response packet from being sent. This keeps outsiders from discovering your LTE7460-M608 when unsupported ports are probed.

### ICMP

Internet Control Message Protocol (ICMP) is a message control and error-reporting protocol between a host server and a gateway to the Internet. ICMP uses Internet Protocol (IP) datagrams, but the messages are processed by the TCP/IP software and directly apparent to the application user.

### DoS Thresholds

For DoS attacks, the LTE7460-M608 uses thresholds to determine when to drop sessions that do not become fully established. These thresholds apply globally to all sessions. You can use the default threshold values, or you can change them to values more suitable to your security requirements.

## 7.17.2.1 Firewall Rules Overview

Your customized rules take precedence and override the LTE7460-M608's default settings. The LTE7460-M608 checks the source IP address, destination IP address and IP protocol type of network traffic against the firewall rules (in the order you list them). When the traffic matches a rule, the LTE7460-M608 takes the action specified in the rule.

Firewall rules are grouped based on the direction of travel of packets to which they apply:

- LAN to Router
- LAN to WAN
- WAN to LAN
- WAN to Router

By default, the LTE7460-M608's stateful packet inspection allows packets traveling in the following directions:

- LAN to Router

  These rules specify which computers on the LAN can manage the LTE7460-M608 (remote management).

Note: You can also configure the remote management settings to allow only a specific computer to manage the LTE7460-M608.

- LAN to WAN

  These rules specify which computers on the LAN can access which computers or services on the WAN.

By default, the LTE7460-M608's stateful packet inspection drops packets traveling in the following directions:

- WAN to LAN

  These rules specify which computers on the WAN can access which computers or services on the LAN.

Note: You also need to configure NAT port forwarding (or full featured NAT address mapping rules) to allow computers on the WAN to access devices on the LAN.

- WAN to Router

  By default the LTE7460-M608 stops computers on the WAN from managing the LTE7460-M608. You could configure one of these rules to allow a WAN computer to manage the LTE7460-M608.

Note: You also need to configure the remote management settings to allow a WAN computer to manage the LTE7460-M608.

You may define additional rules and sets or modify existing ones but please exercise extreme caution in doing so.

For example, you may create rules to:

- Block certain types of traffic, such as IRC (Internet Relay Chat), from the LAN to the Internet.
- Allow certain types of traffic, such as Lotus Notes database synchronization, from specific hosts on the Internet to specific hosts on the LAN.
- Allow everyone except your competitors to access a web server.
- Restrict use of certain protocols, such as Telnet, to authorized users on the LAN.

These custom rules work by comparing the source IP address, destination IP address and IP protocol type of network traffic to rules set by the administrator. Your customized rules take precedence and override the LTE7460-M608's default rules.

### 7.17.2.2 Guidelines For Enhancing Security With Your Firewall

1. Change the default password via web configurator.
2. Think about access control before you connect to the network in any way.
3. Limit who can access your router.
4. Don't enable any local service (such as telnet or FTP) that you don't use. Any enabled service could present a potential security risk. A determined hacker might be able to find creative ways to misuse the enabled services to access the firewall or the network.
5. For local services that are enabled, protect against misuse. Protect by configuring the services to communicate only with specific peers, and protect by configuring rules to block packets for the services at specific interfaces.
6. Protect against IP spoofing by making sure the firewall is active.
7. Keep the firewall in a secured (locked) room.

### 7.17.2.3 Security Considerations

Note: Incorrectly configuring the firewall may block valid access or introduce security risks to the LTE7460-M608 and your protected network. Use caution when creating or deleting firewall rules and test your rules after you configure them.

Consider these security ramifications before creating a rule:

1. Does this rule stop LAN users from accessing critical resources on the Internet? For example, if IRC is blocked, are there users that require this service?

2. Is it possible to modify the rule to be more specific? For example, if IRC is blocked for all users, will a rule that blocks just certain users be more effective?

3. Does a rule that allows Internet users access to resources on the LAN create a security vulnerability? For example, if FTP ports (TCP 20, 21) are allowed from the Internet to the LAN, Internet users may be able to connect to computers with running FTP servers.

4. Does this rule conflict with any existing rules?

   Once these questions have been answered, adding rules is simply a matter of entering the information into the correct fields in the web configurator screens.

# CHAPTER 8 Applications

## 8.1 Overview

This chapter shows you how to set up a contact list, send and view the text messages.

SMS (Short Message Service) allows you to send and view the text messages that the LTE7460-M608 received from mobile devices or the service provider.

When the SMS box is full the LTE7460-M608 will begin to delete older entries as it adds new ones.

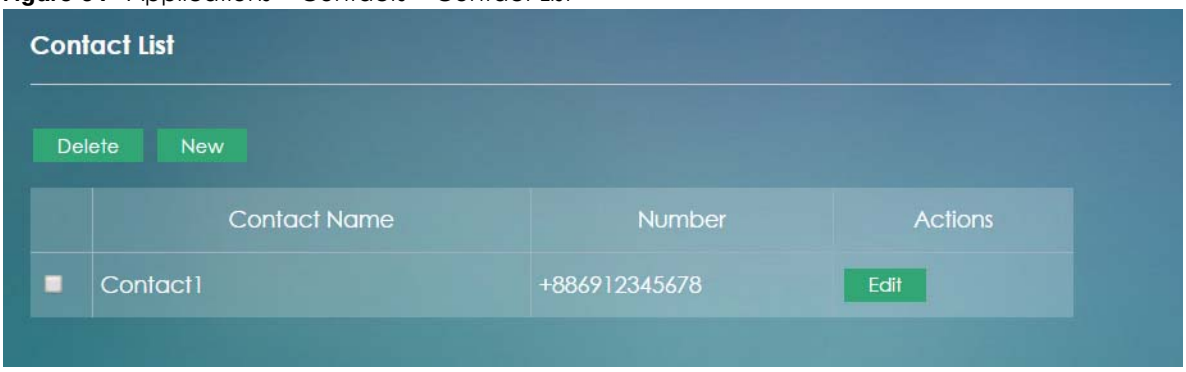
### 8.1.1 What You Can Do in this Chapter

- Use the **Applications > Contacts > Contact List** screen to configure the contact list saved on the LTE7460-M608 (Section 8.2 on page 85).
- Use the **Applications > Contacts > SIM Contacts** screen to view the contact list saved on the SIM card (Section 8.3 on page 86).
- Use the **Applications > Contacts > Contacts Settings** screen to import or export the contacts files (Section 8.4 on page 87).
- Use the **Applications > Short Message > New SMS** screen to send new messages (Section 8.5 on page 87).
- Use the **Applications > Short Message > Inbox** screen to view messages received on the LTE7460-M608 (Section 8.6 on page 88).
- Use the **Applications > Short Message > Outbox** screen to view messages sent from the LTE7460-M608 (Section 8.7 on page 89).
- Use the **Applications > Short Message > Draft** screen to view messages not yet sent from the LTE7460-M608 (Section 8.8 on page 89).
- Use the **Applications > Short Message > SIM SMS** screen to view messages received on the SIM card (Section 8.9 on page 90).
- Use the **Applications > USSD** screen to enter the USSD code for your LTE7460-M608 (Section 8.10 on page 91).

## 8.2 Contact List Screen

Use this screen to configure the contact list saved on the LTE7460-M608. To access this screen, click **Applications > Contacts > Contact List**.

**Figure 64** Applications > Contacts > Contact List




The following table describes the labels in this screen.

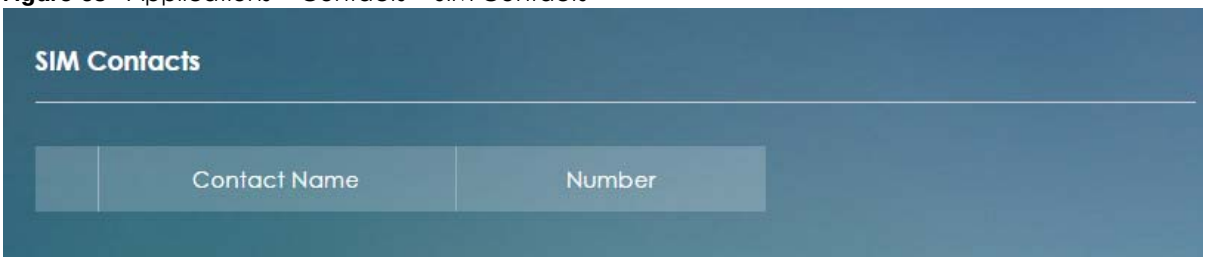
Table 31 Applications > Contacts > Contact List

| LABEL | DESCRIPTION |
|---|---|
| Contact List | |
| Delete | Select the check box next to the contact name and click **Delete** to remove the entry. |
| New | Click **New** to create a new entry. |
| Contact Name | This field displays a descriptive name used to identify contacts. |
| Number | This field displays the mobile phone number of contacts.<br>The number should begin with a **+** sign followed by the number's country calling code and the number, otherwise this number will not be useful. |
| Actions | Click **Edit** to go to the screen where you can edit the contact details. |

# 8.3 SIM Contacts Screen

Use this screen to view the contact list saved on the SIM card. To access this screen click **Applications > Contacts > SIM Contacts.**

**Figure 65** Applications > Contacts > SIM Contacts




The following table describes the labels in this screen.

Table 32 Applications > Contacts > SIM Contacts

| LABEL | DESCRIPTION |
|---|---|
| SIM Contacts | |
| | This field displays the index number of the contacts. |

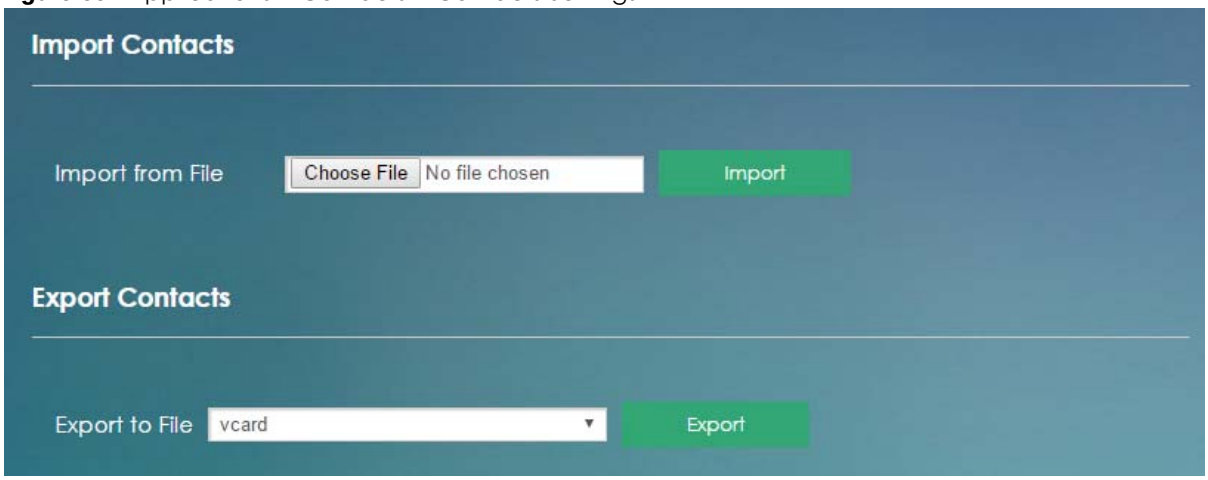
Table 32 Applications > Contacts > SIM Contacts

| LABEL | DESCRIPTION |
|---|---|
| Contact Name | This field displays a descriptive name used to identify contacts. |
| Number | This field displays the mobile phone number of contacts. |

# 8.4 Contacts Settings Screen

Use this screen to import or export the contacts files. To access this screen, click **Applications > Contacts > Contacts Settings**.

**Figure 66** Applications > Contacts > Contacts Settings




The following table describes the labels in this screen.

Table 33 Applications > Contacts > Contacts Settings

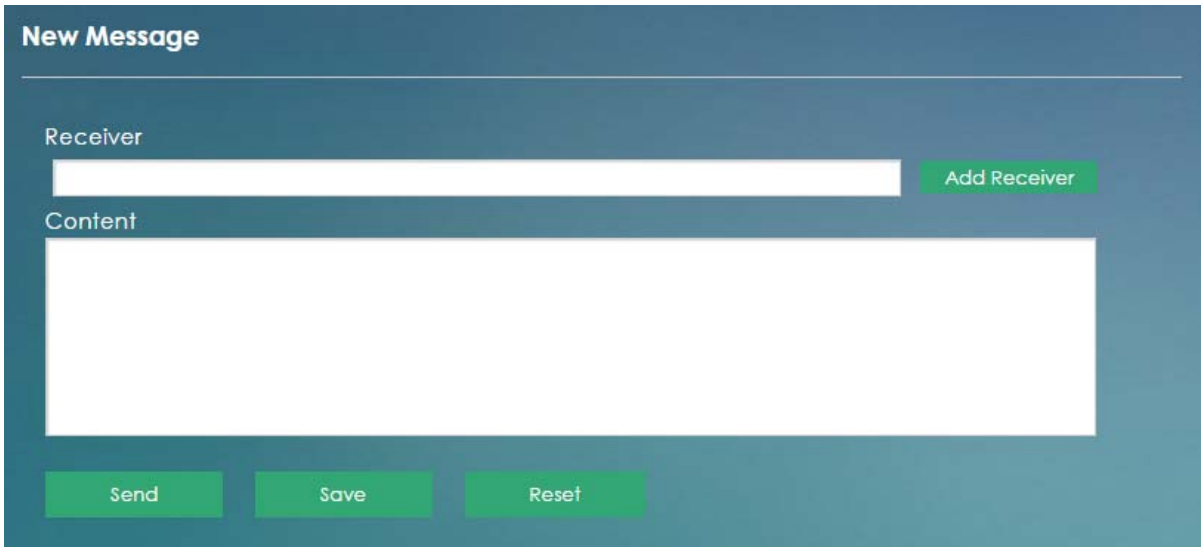
| LABEL | DESCRIPTION |
|---|---|
| Import Contacts | |
| Import from File | Click **Choose File** to find the .csv file you want to upload. Remember that you must decompress compressed (.zip) files before you can upload them.<br><br>You can select a .csv or .vcf file, then click **Import** to begin upload process. |
| Export Contact | |
| Export to File | A csv (comma-separated values) file is a way to store textual and numeric data. A vcard is an electronic business card, and it can store images and sound as well as text.<br><br>Select a contact format from the drop-down list box to export your contacts. Click **Export** to begin the download process. |

# 8.5 New SMS Screen

Use this screen to send messages using the LTE7460-M608. To access this screen, click **Applications > Short Message > New SMS**.

Type a phone number or click **Add Receiver** to select one from your Contact List. You can type up to 140 English characters (70 Chinese characters) in one message. If the message exceeds 140 English characters, more than one message will be sent. The maximum number of SMS that can be sent is 8 (1000 English characters or 500 Chinese characters total). Click **Send** to send the message. Click **Save** to store the message as a draft. Click **Reset** to reload the previous configuration for this screen.

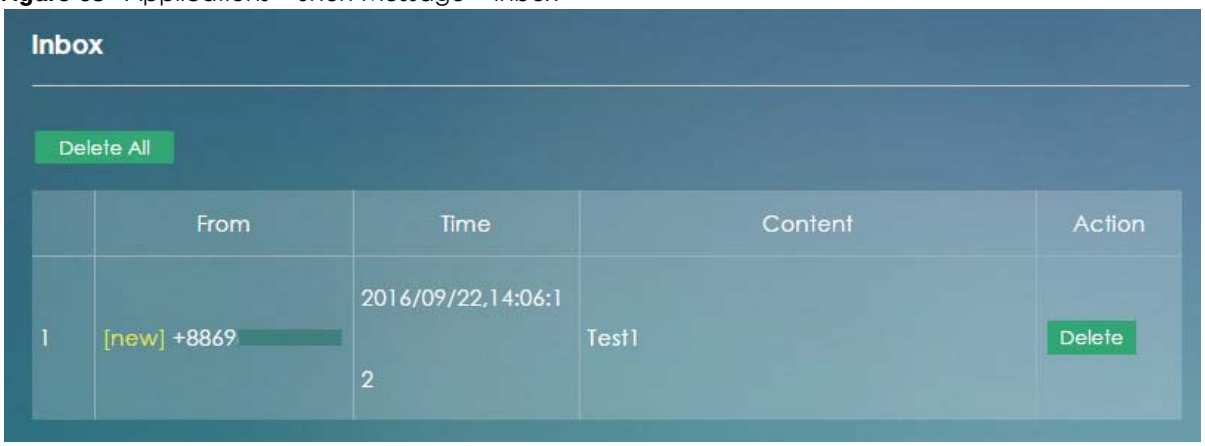
**Figure 67** Applications > Short Message > New SMS




# 8.6 Inbox Screen

Use this screen to view messages received on the LTE7460-M608. To access this screen, click **Applications > Short Message > Inbox**.

**Figure 68** Applications > Short Message > Inbox



The following table describes the labels in this screen.

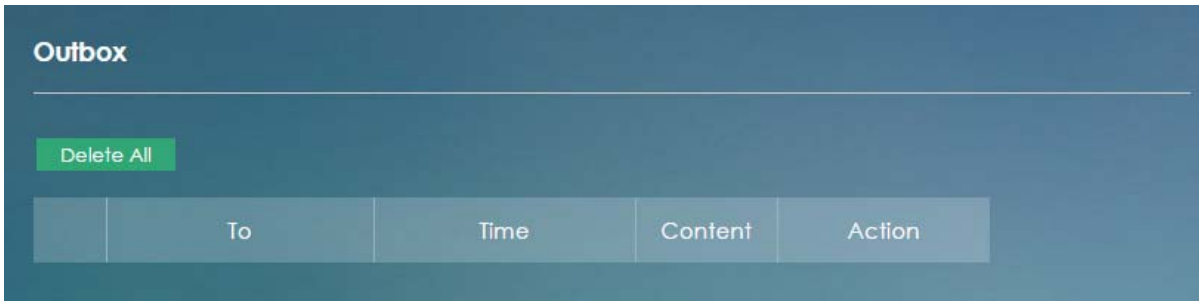
Table 34 Applications > Short Message > Inbox

| LABEL | DESCRIPTION |
|---|---|
| Inbox | |
| Delete All | Click **Delete All** to delete all messages. |
| | This field displays the index number of the message. |
| From | This field displays the name from which the message is sent. |
| Time | This field displays the data and time the message was received. |
| Content | This field displays the content of the message. |
| Action | Click **Delete** to remove the message record. |

# 8.7 Outbox Screen

Use this screen to view messages sent from the LTE7460-M608. To access this screen, click **Applications > Short Message > Outbox**.

**Figure 69** Applications > Short Message > Outbox




The following table describes the labels in this screen.

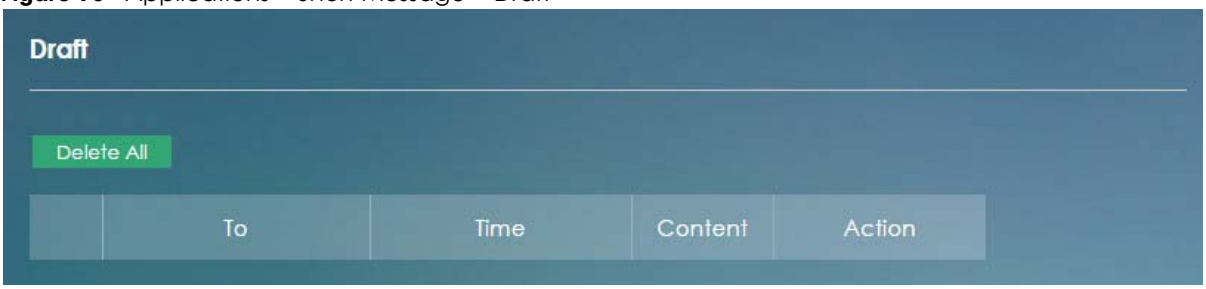
Table 35 Applications > Short Message > Outbox

| LABEL | DESCRIPTION |
|---|---|
| Outbox | |
| Delete All | Click **Delete All** to delete all messages. |
| | This field displays the index number of the message. |
| To | This field displays the name the message is sent to. |
| Time | This field displays the data and time the message was sent. |
| Content | This field displays the content of the message. |
| Action | Click **Delete** to remove the message record. |

# 8.8 Draft Screen

Use this screen to view messages not yet sent from the LTE7460-M608. To access this screen, click **Applications > Short Message > Draft**.

**Figure 70** Applications > Short Message > Draft




The following table describes the labels in this screen.

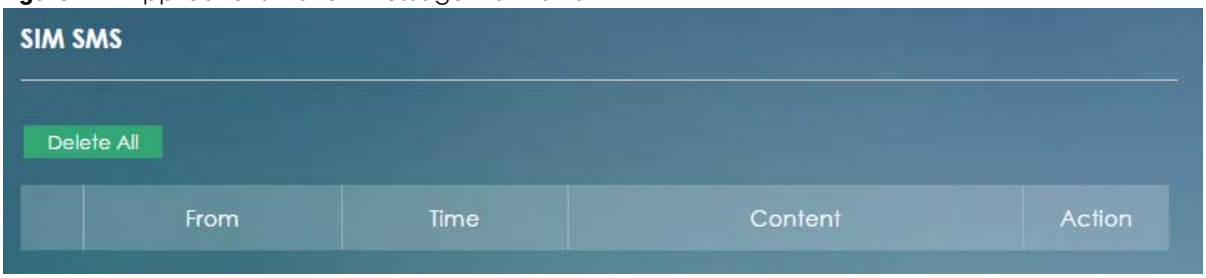
Table 36 Applications > Short Message > Draft

| LABEL | DESCRIPTION |
|---|---|
| Draft | |
| Delete All | Click **Delete All** to delete all messages. |
| | This field displays the index number of the message. |
| To | This field displays the name the message is sent to. |
| Time | This field displays the data and time the message was sent. |
| Content | This field displays the content of the message. |
| Action | Click **Send** to deliver the message.<br>Click **Delete** to remove the message record. |

# 8.9 SIM SMS Screen

Use this screen to view messages received on the SIM card. To access this screen, click **Applications > Short Message > SIM SMS**.

**Figure 71** Applications > Short Message > SIM SMS




The following table describes the labels in this screen.

Table 37 Applications > Short Message > SIM SMS

| LABEL | DESCRIPTION |
|---|---|
| SIM SMST | |
| Delete All | Click **Delete All** to delete all messages. |
| | This field displays the index number of the message. |
| From | This field displays the name from which the message is sent. |
| Time | This field displays the data and time the message was received. |

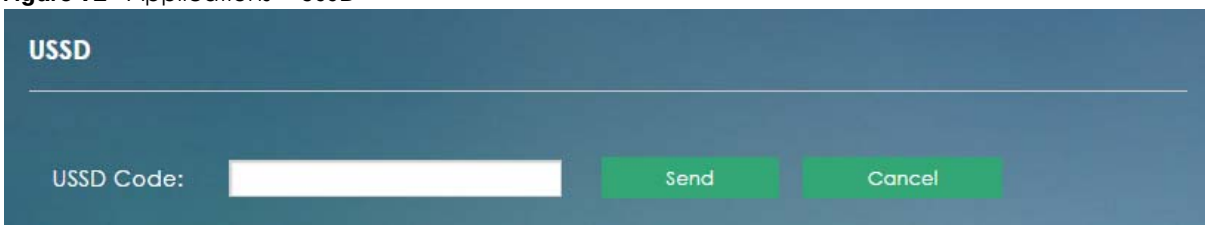
Table 37 Applications > Short Message > SIM SMS

| LABEL | DESCRIPTION |
|---|---|
| Content | This field displays the content of the message. |
| Action | Click **Delete** to remove the message record. |

# 8.10 USSD Screen

Use this screen to enter an Unstructured Supplementary Service Data (USSD) code. The LTE7460-M608 sends this code to request different services or features to the Internet service provider. Click **Applications > USSD**. Enter the code and click **Send**.

**Figure 72** Applications > USSD



# CHAPTER 9
# System

## 9.1 Overview

You can configure system settings, including the domain name and the inactivity time-out interval in the **System** screen.

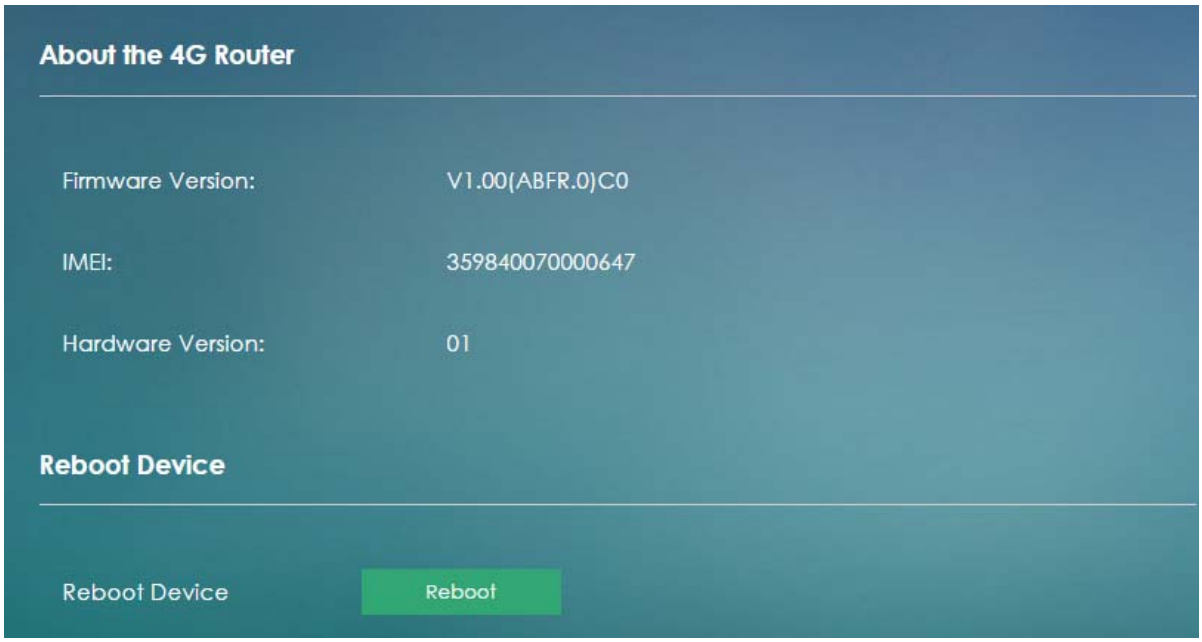
## 9.2 What You Can Do in This Chapter

- Use the **System > System Information** screen to view basic information about the LTE7460-M608 and restart the LTE7460-M608 (Section 9.3 on page 92).
- Use the **System > User Account** screen to set the domain name and change the LTE7460-M608's system password (Section 9.4 on page 93).
- Use the **System > Settings Profile** screen to reset your device settings back to the factory default, backup configuration and restoring configuration (Section 9.5 on page 95).
- Use the **System > Firmware Upgrade** screen to upload new firmware to your LTE7460-M608 (Section 9.6 on page 96).
- Use the **System > Time Settings** screen to change the LTE7460-M608's time and date and configure daylight saving time (Section 9.7 on page 97).
- Use the **System > System Log** screen to view logged messages and specify to where the LTE7460-M608 is to send logs (Section 9.8 on page 99).
- Use the **System > Diagnostic** screen to test a connection between devices and your LTE7460-M608 (Section 9.9 on page 101).

## 9.3 The System Information Screen

Use this screen to view basic information about the LTE7460-M608 and restart the LTE7460-M608. To access this screen, click **System > System Information**.

**Figure 73** System > System Information




The following table describes the items in this screen.

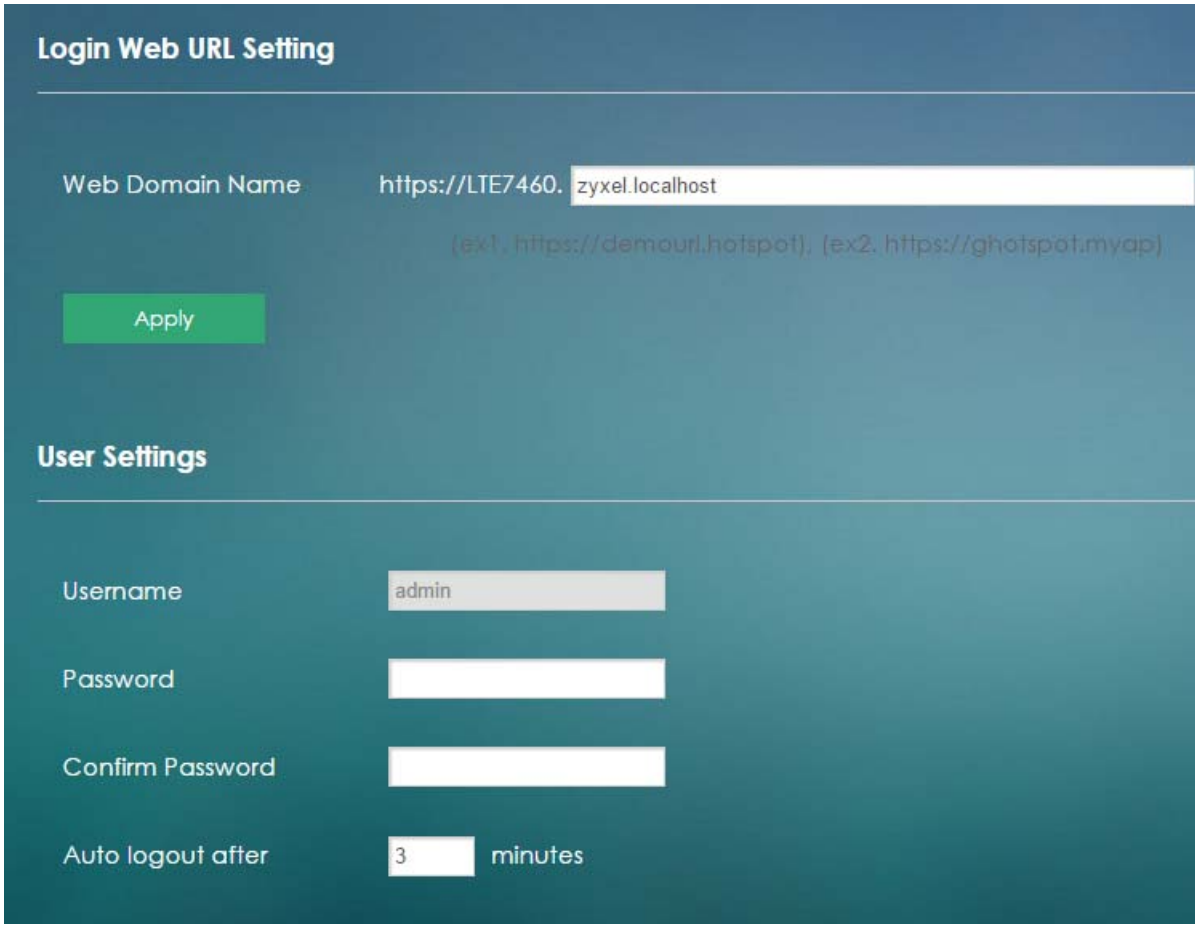
Table 38 System > System Information

| LABEL | DESCRIPTION |
|---|---|
| About the 4G Routers | |
| Firmware Version | This displays the LTE7460-M608's firmware version. |
| IMEI | This displays the International Mobile Equipment Identity (IMEI) which is the serial number of the built-in 3G module. IMEI is a unique 15-digit number used to identify a mobile device. |
| Hardware Version | This displays the LTE7460-M608's hardware version. |
| Reboot Device | |
| Reboot Device | Click **Reboot** to restart the device. Wait a few minutes until the login screen appears. If the login screen does not appear, type the IP address of the device in your Web browser. |

# 9.4 The User Account Screen

This screen allows you to set the domain name and change the LTE7460-M608's system password. It is strongly recommended that you change your LTE7460-M608's system password. To access this screen, click **System > User Account**.

**Figure 74** System > User Account




The following table describes the labels in this screen.

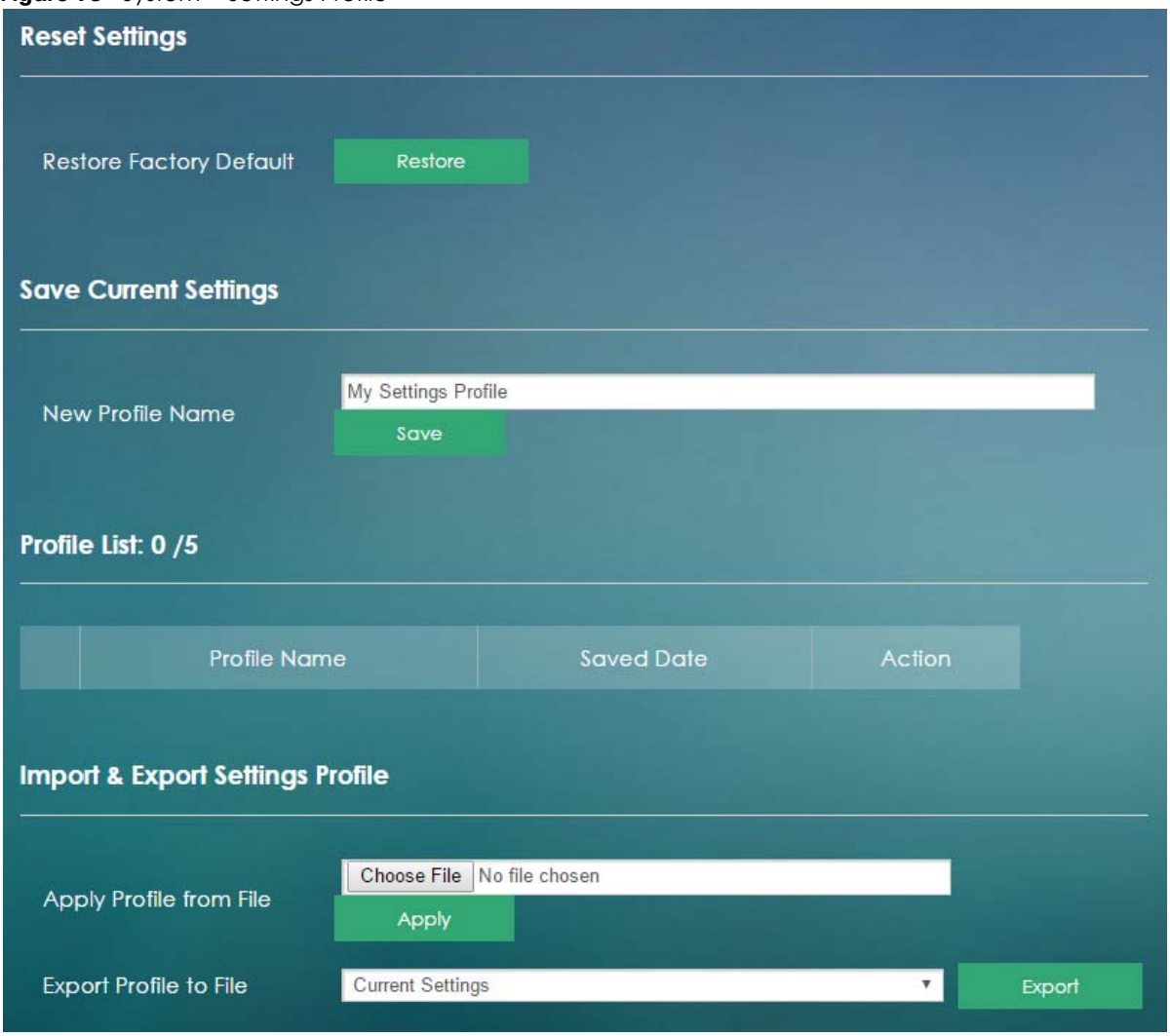
Table 39 System > User Account

| LABEL | DESCRIPTION |
|---|---|
| Login Web URL Setting | |
| Web Domain Name | Enter the domain name you want to give to the LTE7460-M608. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| User Settings | |
| Username | Enter your username of the system account. |
| Password | Type your new system password. Note that as you type a password, the screen displays as dot (.) for each character you type.<br>Your password needs to be at least 6 ASCII characters long and should contain both numbers and letters. |
| Confirm Password | Type the new password again in this field. |
| Auto logout after | Type how many minutes a management session can be left idle before the session times out. The default is 3 minutes. After it times out you have to log in with your password again. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 9.5 The Settings Profile Screen

The **Settings Profile** screen allows you to backup and restore device configurations. You can also reset your device settings back to the factory default. To access this screen, click **System > Settings Profile**.

**Figure 75** System > Settings Profile




## 9.5.1 Reset Settings

Click the **Restore** button to clear all user-entered configuration information and return the LTE7460-M608 to its factory defaults. The LTE7460-M608 automatically restarts.

You can also press the **Reset** button located next to the SIM card slot to reset the factory defaults of your LTE7460-M608.

## 9.5.2 Save Current Settings

Enter the profile name you specified in the **New Profile Name** field, and click **Save**. The profile you saved will be displayed in the **Profile List** field.

The following table describes the labels in this screen.

Table 40 System > Settings Profile

| LABEL | DESCRIPTION |
|---|---|
| Profile List | |
| | This field displays the index number of the profile. |
| Profile Name | This field displays the profile name you specified in the **New Profile Name** field. |
| Saved Date | This displays the saved time and date of the profile. |
| Action | Click **Apply** to use the configuration to the LTE7460-M608.<br>Click **Delete** to go to the screen where you can remove the profile. |

### 9.5.3 Import and Export Settings Profile

This screen allows you to upload a new or previously saved configuration file from your computer to your LTE7460-M608.

Type in the location of the file you want to upload in the **Apply Profile from File** field or click **Choose File** to find it. Click **Apply** to begin the upload process. The LTE7460-M608 automatically restarts.

**Do not turn off the LTE7460-M608 while configuration file upload is in progress.**

Backup Configuration allows you to back up (save) the LTE7460-M608's current configuration to a file on your computer. The configuration file should be saved and edited in UTF-8 (without BOM) format, if you're using Windows Notepad, make sure you choose **File > Save** as UTF-8 in the text editor. Once your LTE7460-M608 is configured and functioning properly, it is highly recommended that you back up your configuration file before making configuration changes. The backup configuration file will be useful in case you need to return to your previous settings.

Select one profile from the drop-down list box in the **Export Profile to File** field, and click **Export** to save the LTE7460-M608's current configuration to your computer.

After the LTE7460-M608 configuration has been restored successfully, the login screen appears. If you uploaded the default configuration file you may need to change the IP address of your computer to be in the same subnet as that of the default device IP address (192.168.1.1).

## 9.6 The Firmware Upgrade Screen

This screen allows you to upload new firmware to your LTE7460-M608. You can download new firmware releases from your nearest Zyxel FTP site (or www.zyxel.com) to use to upgrade your device's performance.

**Only use firmware for your device's specific model.**

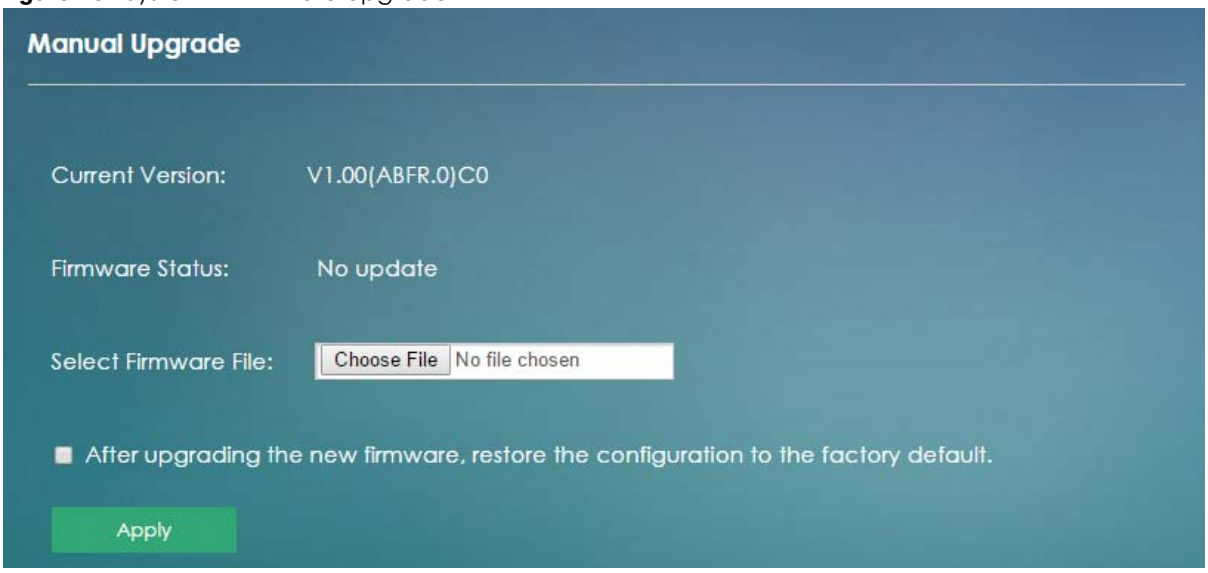
To access this screen, click **System > Firmware Upgrade**. This screen displays the current firmware version and status of the LTE7460-M608. Type in the location of the file you want to upload in the **Select Firmware File** field or click **Choose File** to find it. Remember that you must decompress compressed (.ZIP) files

before you can upload them. You can select the check box to return the LTE7460-M608 to its factory defaults after upgrading the new firmware. Click **Apply** to begin the upload process.

The upload process uses HTTP (Hypertext Transfer Protocol) and may take up to two minutes. After a successful upload, the system will reboot.

**Do NOT turn off the LTE7460-M608 while firmware upload is in progress!**

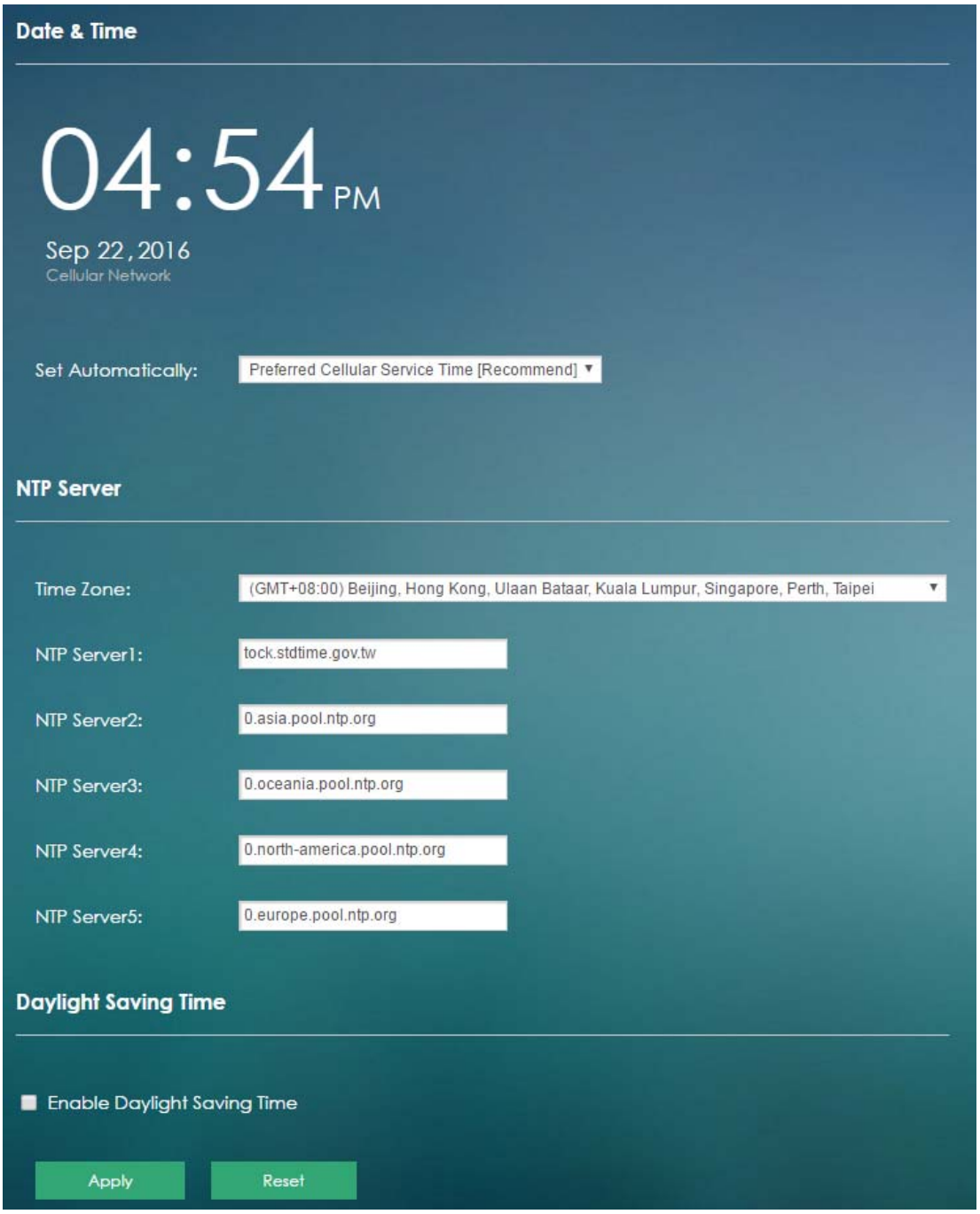
**Figure 76** System > Firmware Upgrade




# 9.7 The Time Settings Screen

For effective scheduling and logging, the LTE7460-M608 system time must be accurate. The LTE7460-M608 has a software mechanism to get the current time and date from an external server. To change your LTE7460-M608's time zone, click **System > Time Settings**. The screen displays as shown. You can have the LTE7460-M608 get the date and time from a time server or change the IP address or URL of your time server.

**Figure 77** System > Time Settings




The following table describes the labels in this screen.

Table 41 System > Time Settings

| LABEL | DESCRIPTION |
|---|---|
| Date & Time | |
| Device Time | This field displays the present time and date of your LTE7460-M608. |

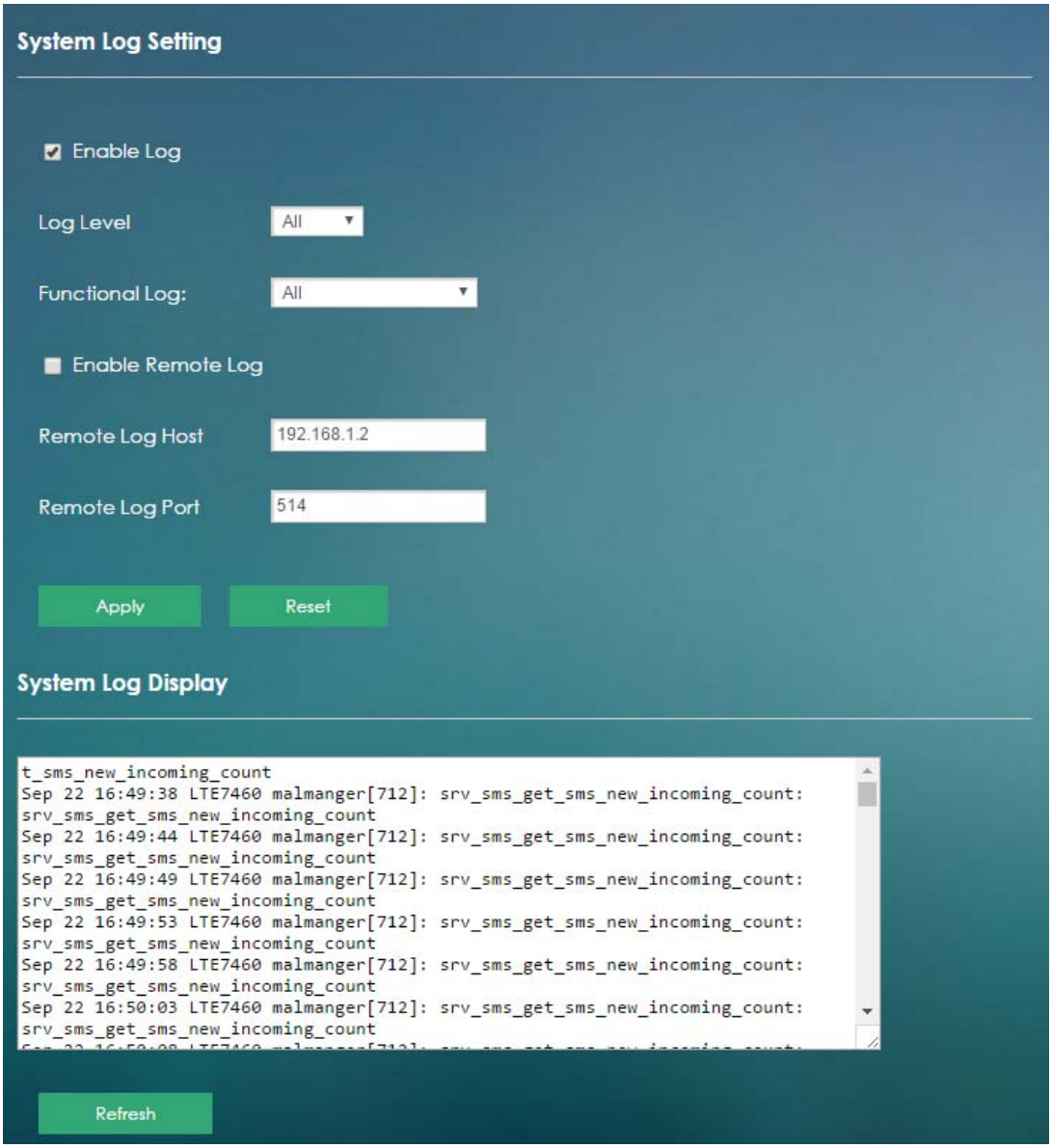
Table 41 System > Time Settings

| LABEL | DESCRIPTION |
|---|---|
| Set Automatically | Select **Prefer Cellular Service Time** to have the LTE7460-M608 get the time and date from the cellular service server.<br><br>Select **Prefer NTP server** to have the LTE7460-M608 get the time and date from the time server you specify. |
| NTP Server | |
| Time Zone | Choose the time zone of your location. This will set the time difference between your time zone and Greenwich Mean Time (GMT). |
| NTP Server 1~5 | Enter the IP address or URL of your time server. Check with your ISP/network administrator if you are unsure of this information. |
| Daylight Saving Time | |
| Enable Daylight Saving Time | Daylight saving is a period from late spring to early fall when many countries set their clocks ahead of normal local time by one hour to give more daytime light in the evening. Select this option if you use Daylight Saving Time. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |

# 9.8 The System Log Screen

Use this screen to specify which logs to display and to where the LTE7460-M608 is to send logs. To access this screen, click **System > System Log**.

**Figure 78** System > System Log




The following table describes the labels in this screen.

Table 42 System > System Log

| LABEL | DESCRIPTION |
|---|---|
| System Log | |
| Enable Log | Select the check box to enable system logging. |
| Log Level | Select the level of the logs that the LTE7460-M608 is to record and send to the syslog server.<br>The LTE7460-M608 displays and records the logs with the level equal to or higher than what you selected. |
| Functional Log | Select the function type of the logs that the LTE7460-M608 is to record and send to the syslog server. |

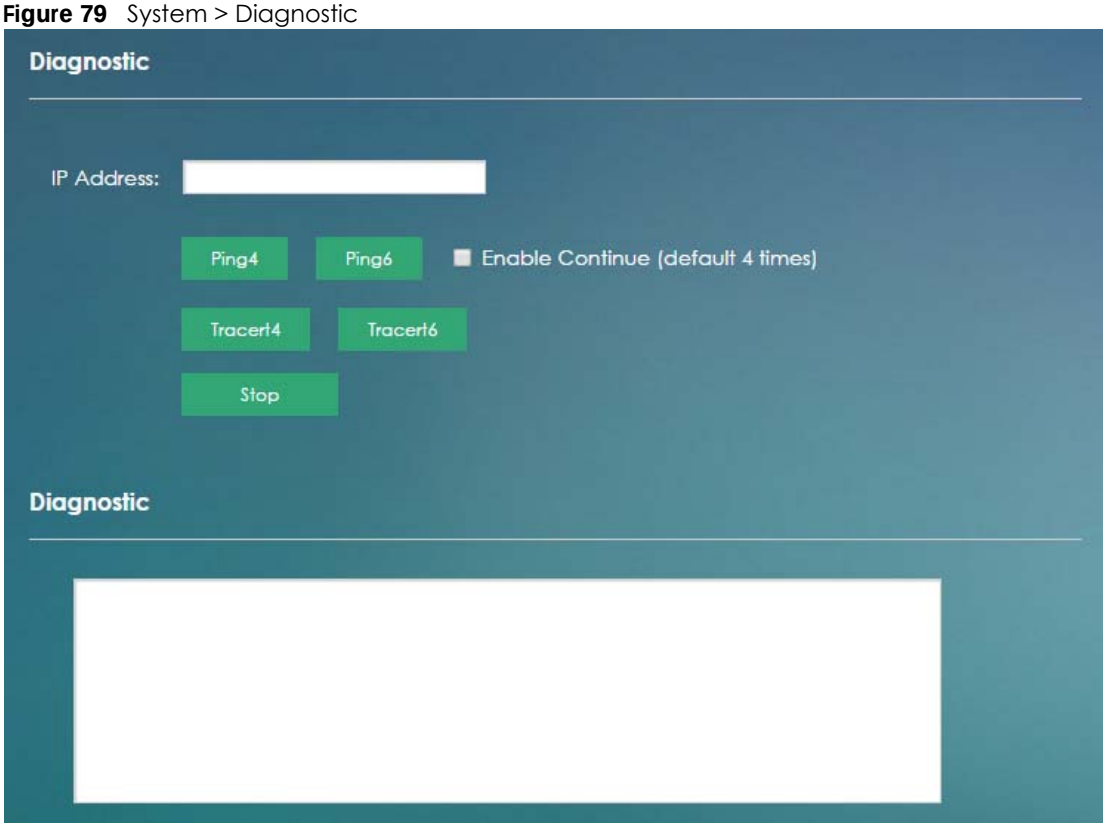
Table 42 System > System Log

| LABEL | DESCRIPTION |
|---|---|
| Enable Remote Log | Select the check box to enable syslog logging.<br>Syslog logging sends a log to an external log server. |
| Remote Log Host | Enter the domain name or IP address of the syslog server to which the LTE7460-M608 sends the logs. |
| Remote Log Port | Enter the port number of the syslog server. |
| Apply | Click **Apply** to save your changes back to the LTE7460-M608. |
| Reset | Click **Reset** to reload the previous configuration for this screen. |
| System Log Display<br>The log wraps around and deletes the old entries after it fills. Select what logs you want to see from the **Log Level** drop list. When you select a log level, the LTE7460-M608 searches through all logs of that level or higher. The screen displays the time the log message was recorded. It also displays the reason the log message was generated. | |
| Refresh | Click **Refresh** to renew the log screen. |

# 9.9 The Diagnostic Screen

Use this screen to determine if your LTE7460-M608 has a connected device to it. To access this screen, click **System > Diagnostic**.

**Figure 79** System > Diagnostic



The following table describes the labels in this screen.

Table 43 System > Diagnostic

| LABEL | DESCRIPTION |
|---|---|
| Diagnostic | |
| IP Address | Enter the IP address you want to test a connection to your LTE7460-M608. |
| Ping 4 | Type the IPv4 address of a computer that you want to ping in order to test a connection. Click **PingV4** and the ping statistics will show in the diagnostic. |
| Ping 6 | Type the IPv6 address of a computer that you want to ping in order to test a connection. Click **PingV6** and the ping statistics will show in the diagnostic. |
| Enable Continue (default 4 times) | Click this check box and the diagnostic will run continuously for **Ping 4** and **Ping 6**, this will show you the number of packets transmitted in the connection. Click **Stop** to see the diagnostic results. |
| Tracert4 | Click this button to perform the IPv4 traceroute function. This determines the path a packet takes to the specified host. |
| Tracert6 | Click this button to perform the IPv6 traceroute function. This determines the path a packet takes to the specified host. |
| Stop | Click the **Stop** button to stop the diagnostic process. |
| Diagnostic<br>This screen shows the results of the diagnostic you have selected, The diagnostic deletes previous results if you exit the Diagnostic screen or reboot your LTE7460-M608. | |

# CHAPTER 10 Troubleshooting

## 10.1 Overview

This chapter offers some suggestions to solve problems you might encounter. The potential problems are divided into the following categories.

- Power and Hardware Connections
- LTE7460-M608 Access and Login
- Internet Access
- UPnP

## 10.2 Power and Hardware Connections

### The LTE7460-M608 does not turn on.

1. Make sure the LTE7460-M608 is turned on.
2. Make sure you are using the power adaptor or cord included with the LTE7460-M608.
3. Make sure the power adaptor or cord is connected to the LTE7460-M608 and plugged into an appropriate power source. Make sure the power source is turned on.
4. Turn the LTE7460-M608 off and on.
5. If the problem continues, contact the vendor.

## 10.3 LTE7460-M608 Access and Login

### I forgot the IP address for the LTE7460-M608.

1. The default IP address is 192.168.1.1.

2 If you changed the IP address and have forgotten it, you might get the IP address of the LTE7460-M608 by looking up the IP address of the default gateway for your computer. To do this in most Windows computers, click **Start > Run**, enter **cmd**, and then enter **ipconfig**. The IP address of the **Default Gateway** might be the IP address of the LTE7460-M608 (it depends on the network), so enter this IP address in your Internet browser.

3 If this does not work, you have to reset the device to its factory defaults.

## I forgot the password.

1 The default admin password is **1234** and the default user password is **1234**.

2 If you can't remember the password, you have to reset the device to its factory defaults.

## I cannot see or access the **Login** screen in the web configurator.

1 Make sure you are using the correct IP address.
- The default IP address is 192.168.1.1.
- If you changed the IP address (Section 6.2 on page 41), use the new IP address.
- If you changed the IP address and have forgotten it, see the troubleshooting suggestions for I forgot the IP address for the LTE7460-M608.

2 Check the hardware connections, see the Quick Start Guide.

3 Make sure your Internet browser does not block pop-up windows and has JavaScript and Java enabled.

4 Reset the device to its factory defaults, and try to access the LTE7460-M608 with the default IP address.

5 If the problem continues, contact the network administrator or vendor, or try one of the advanced suggestions.

**Advanced Suggestions**

- Try to access the LTE7460-M608 using another service, such as Telnet. If you can access the LTE7460-M608, check the remote management settings and firewall rules to find out why the LTE7460-M608 does not respond to HTTP.

## I can see the **Login** screen, but I cannot log in to the LTE7460-M608.

1 Make sure you have entered the user name and password correctly. The default user name is **admin**. These fields are case-sensitive, so make sure [Caps Lock] is not on.

2 You cannot log in to the web configurator while someone is using Telnet to access the LTE7460-M608. Log out of the LTE7460-M608 in the other session, or ask the person who is logged in to log out.

3 Turn the LTE7460-M608 off and on.

4 If this does not work, you have to reset the device to its factory defaults. See Section 8.3 on page 83.

### I cannot Telnet to the LTE7460-M608.

See the troubleshooting suggestions for I cannot see or access the Login screen in the web configurator. Ignore the suggestions about your browser.

## 10.4 Internet Access

### I cannot access the Internet.

1 Check the hardware.

2 Make sure you entered your ISP account information correctly. These fields are case-sensitive, so make sure [Caps Lock] is not on.

3 Disconnect all the cables from your device, and follow the directions in the Quick Start Guide again.

4 If the problem continues, contact your ISP.

### I cannot access the Internet anymore. I had access to the Internet (with the LTE7460-M608), but my Internet connection is not available anymore.

1 Check the hardware connections.

2 Turn the LTE7460-M608 off and on.

3 If the problem continues, contact your ISP.

### The Internet connection is slow or intermittent.

1 There might be a lot of traffic on the network. If the LTE7460-M608 is sending or receiving a lot of information, try closing some programs that use the Internet, especially peer-to-peer applications.

2 Turn the LTE7460-M608 off and on.

3 If the problem continues, contact the network administrator or vendor, or try one of the advanced suggestions.

## 10.5 UPnP

When using UPnP and the LTE7460-M608 reboots, my computer cannot detect UPnP and refresh **My Network Places > Local Network**.

1 Disconnect the Ethernet cable from the LTE7460-M608's LAN port or from your computer.

2 Re-connect the Ethernet cable.

The **Local Area Connection** icon for UPnP disappears in the screen.

Restart your computer.

I cannot open special applications such as white board, file transfer and video when I use the MSN messenger.

1 Wait more than three minutes.

2 Restart the applications.

# APPENDIX A
# Customer Support

In the event of problems that cannot be solved by using this manual, you should contact your vendor. If you cannot contact your vendor, then contact a Zyxel office for the region in which you bought the device.

See *http://www.zyxel.com/homepage.shtml* and also *http://www.zyxel.com/about_zyxel/zyxel_worldwide.shtml* for the latest information.

Please have the following information ready when you contact an office.

### Required Information

- Product model and serial number.
- Warranty Information.
- Date that you received your device.
- Brief description of the problem and the steps you took to solve it.

## Corporate Headquarters (Worldwide)

### Taiwan

- Zyxel Communications Corporation
- http://www.zyxel.com

## Asia

### China

- Zyxel Communications (Shanghai) Corp.
  Zyxel Communications (Beijing) Corp.
  Zyxel Communications (Tianjin) Corp.
- http://www.zyxel.cn

### India

- Zyxel Technology India Pvt Ltd
- http://www.zyxel.in

### Kazakhstan

- Zyxel Kazakhstan
- http://www.zyxel.kz

### Korea

- Zyxel Korea Corp.
- http://www.zyxel.kr

### Malaysia

- Zyxel Malaysia Sdn Bhd.
- http://www.zyxel.com.my

### Pakistan

- Zyxel Pakistan (Pvt.) Ltd.
- http://www.zyxel.com.pk

### Philippines

- Zyxel Philippines
- http://www.zyxel.com.ph

### Singapore

- Zyxel Singapore Pte Ltd.
- http://www.zyxel.com.sg

### Taiwan

- Zyxel Communications Corporation
- http://www.zyxel.com/tw/zh/

### Thailand

- Zyxel Thailand Co., Ltd
- http://www.zyxel.co.th

### Vietnam

- Zyxel Communications Corporation-Vietnam Office
- http://www.zyxel.com/vn/vi

## Europe

### Austria

- Zyxel Deutschland GmbH
- http://www.zyxel.de

### Belarus

- Zyxel BY
- http://www.zyxel.by

### Belgium

- Zyxel Communications B.V.
- http://www.zyxel.com/be/nl/
- http://www.zyxel.com/be/fr/

### Bulgaria

- Zyxel България
- http://www.zyxel.com/bg/bg/

### Czech Republic

- Zyxel Communications Czech s.r.o
- http://www.zyxel.cz

### Denmark

- Zyxel Communications A/S
- http://www.zyxel.dk

### Estonia

- Zyxel Estonia
- http://www.zyxel.com/ee/et/

### Finland

- Zyxel Communications
- http://www.zyxel.fi

### France

- Zyxel France
- http://www.zyxel.fr

### Germany

- Zyxel Deutschland GmbH
- http://www.zyxel.de

### Hungary

- Zyxel Hungary & SEE
- http://www.zyxel.hu

### Italy

- Zyxel Communications Italy
- http://www.zyxel.it/

### Latvia

- Zyxel Latvia
- http://www.zyxel.com/lv/lv/homepage.shtml

### Lithuania

- Zyxel Lithuania
- http://www.zyxel.com/lt/lt/homepage.shtml

### Netherlands

- Zyxel Benelux
- http://www.zyxel.nl

### Norway

- Zyxel Communications
- http://www.zyxel.no

### Poland

- Zyxel Communications Poland
- http://www.zyxel.pl

### Romania

- Zyxel Romania
- http://www.zyxel.com/ro/ro

### Russia

- Zyxel Russia
- http://www.zyxel.ru

### Slovakia

- Zyxel Communications Czech s.r.o. organizacna zlozka
- http://www.zyxel.sk

### Spain

- Zyxel Communications ES Ltd
- http://www.zyxel.es

### Sweden

- Zyxel Communications
- http://www.zyxel.se

### Switzerland

- Studerus AG

- http://www.zyxel.ch/

### Turkey

- Zyxel Turkey A.S.
- http://www.zyxel.com.tr

### UK

- Zyxel Communications UK Ltd.
- http://www.zyxel.co.uk

### Ukraine

- Zyxel Ukraine
- http://www.ua.zyxel.com

## Latin America

### Argentina

- Zyxel Communication Corporation
- http://www.zyxel.com/ec/es/

### Brazil

- Zyxel Communications Brasil Ltda.
- https://www.zyxel.com/br/pt/

### Ecuador

- Zyxel Communication Corporation
- http://www.zyxel.com/ec/es/

## Middle East

### Israel

- Zyxel Communication Corporation
- http://il.zyxel.com/homepage.shtml

### Middle East

- Zyxel Communication Corporation
- http://www.zyxel.com/me/en/

## North America

### USA

- Zyxel Communications, Inc. - North America Headquarters
- http://www.zyxel.com/us/en/

## Oceania

### Australia

- Zyxel Communications Corporation
- http://www.zyxel.com/au/en/

## Africa

### South Africa

- Nology (Pty) Ltd.
- http://www.zyxel.co.za

# APPENDIX B
# Legal Information

## Copyright



## Disclaimer

ZyXEL does not assume any liability arising out of the application or use of any products, or software described herein. Neither does it convey any license under its patent rights nor the patent rights of others. ZyXEL further reserves the right to make changes in any products described herein without notice. This publication is subject to change without notice.

## Regulatory Notice and Statement

### United States of America

The following information applies if you use the product within USA area.

#### FCC EMC Statement

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

  (1) This device may not cause harmful interference, and

  (2) This device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This device has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The following information applies if you use the product with RF function within USA area.

#### FCC Radiation Exposure Statement

- This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
- This transmitter must be at least 20 cm from the user and must not be co-located or operating in conjunction with any other antenna or transmitter.

### Canada

The following information applies if you use the product within Canada area

#### Industry Canada ICES statement

CAN ICES-3 (A)/NMB-3(A)

#### Industry Canada RSS-GEN & RSS-247 statement

- This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.
- This radio transmitterhas been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

If the product with 5G wireless function operating in 5150-5250 MHz and 5725-5850 MHz , the following attention must be paid,

- The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
- For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
- The worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2(3) of RSS 247 shall be clearly indicated.

If the product with 5G wireless function operating in 5250-5350 MHz and 5470-5725 MHz , the following attention must be paid.

- For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit
- Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage; (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
- Le présent émetteur radio de modèle s'il fait partie du matériel de catégoriel) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Lorsque la fonction sans fil 5G fonctionnant en5150-5250 MHz and 5725-5850 MHz est activée pour ce produit , il est nécessaire de porter une attention particulière aux choses suivantes

- Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- Pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5 725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;
- Les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, et énoncée à la section 6.2.2 3) du CNR-247, doivent être clairement indiqués.

Lorsque la fonction sans fil 5G fonctionnant en 5250-5350 MHz et 5470-5725 MHz est activée pour ce produit , il est nécessaire de porter une attention particulière aux choses suivantes

- Pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis pour les dispositifs utilisant les bandes de 5 250 à 5 350 MHz et de 5 470 à 5 725 MHz doit être conforme à la limite de la p.i.r.e.

### Industry Canada radiation exposure statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

### Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé.Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

## European Union

The following information applies if you use the product within the European Union.

### CE EMC statement

Warning: This equipment is compliant with Class A of EN55032. In a residential environment this equipment may cause radio interference.

### Declaration of Conformity with Regard to EU Directive 1999/5/EC (R&TTE Directive)

- Compliance information for 2.4GHz and/or 5GHz wireless products relevant to the EU and other Countries following the EU Directive 1999/5/EC (R&TTE)
- This device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.

| | |
|---|---|
| Български (Bulgarian) | С настоящото ZyXEL декларира, че това оборудване е в съответствие със съществените изисквания и другите приложими разпоредбите на Директива 1999/5/ЕС. |
| Español (Spanish) | Por medio de la presente ZyXEL declara que el equipo cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE. |
| Čeština (Czech) | ZyXEL tímto prohlašuje, že tento zařízení je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/EC. |
| Dansk (Danish) | Undertegnede ZyXEL erklærer herved, at følgende udstyr udstyr overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF. |
| Deutsch (German) | Hiermit erklärt ZyXEL, dass sich das Gerät Ausstattung in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EU befindet. |
| Eesti keel (Estonian) | Käesolevaga kinnitab ZyXEL seadme seadmed vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele. |
| Ελληνικά (Greek) | ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ ZyXEL ΔΗΛΩΝΕΙ ΟΤΙ εξοπλισμός ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕC. |
| English | Hereby, ZyXEL declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. |
| Français (French) | Par la présente ZyXEL déclare que l'appareil équipements est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/EC. |

| | |
|---|---|
| Hrvatski (Croatian) | ZyXEL ovime izjavljuje da je radijska oprema tipa u skladu s Direktivom 1999/5/EC. |
| Íslenska (Icelandic) | Hér með lýsir, ZyXEL því yfir að þessi búnaður er í samræmi við grunnkröfur og önnur viðeigandi ákvæði tilskipunar 1999/5/EC. |
| Italiano (Italian) | Con la presente ZyXEL dichiara che questo attrezzatura è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE. |
| Latviešu valoda (Latvian) | Ar šo ZyXEL deklarē, ka iekārtas atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem. |
| Lietuvių kalba (Lithuanian) | Šiuo ZyXEL deklaruoja, kad šis įranga atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas. |
| Magyar (Hungarian) | Alulírott, ZyXEL nyilatkozom, hogy a berendezés megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EK irányelv egyéb elõírásainak. |
| Malti (Maltese) | Hawnhekk, ZyXEL, jiddikjara li dan tagħmir jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC. |
| Nederlands (Dutch) | Hierbij verklaart ZyXEL dat het toestel uitrusting in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EC. |
| Polski (Polish) | Niniejszym ZyXEL oświadcza, że sprzęt jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC. |
| Português (Portuguese) | ZyXEL declara que este equipamento está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/EC. |
| Română (Romanian) | Prin prezenta, ZyXEL declară că acest echipament este în conformitate cu cerinţele esenţiale şi alte prevederi relevante ale Directivei 1999/5/EC. |
| Slovenčina (Slovak) | ZyXEL týmto vyhlasuje, že zariadenia spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/EC. |
| Slovenščina (Slovene) | ZyXEL izjavlja, da je ta oprema v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/EC. |
| Suomi (Finnish) | ZyXEL vakuuttaa täten että laitteet tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. |
| Svenska (Swedish) | Härmed intygar ZyXEL att denna utrustning står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EC. |
| Norsk (Norwegian) | Erklærer herved ZyXEL at dette utstyret er I samsvar med de grunnleggende kravene og andre relevante bestemmelser I direktiv 1999/5/EF. |

### National Restrictions

- This product may be used in all EU countries (and other countries following the EU Directive 1999/5/EC) without any limitation except for the countries mentioned below:
- Ce produit peut être utilisé dans tous les pays de l'UE (et dans tous les pays ayant transposés la directive 1999/5/CE) sans aucune limitation, excepté pour les pays mentionnés ci-dessous:
- Questo prodotto è utilizzabile in tutte i paesi EU (ed in tutti gli altri paesi che seguono le direttiva 1999/5/EC) senza nessuna limitazione, eccetto per i paesii menzionati di seguito:

- Das Produkt kann in allen EU Staaten ohne Einschränkungen eingesetzt werden (sowie in anderen Staaten die der Richtlinie 1999/5/CE folgen) mit Außnahme der folgenden aufgeführten Staaten:

  In the majority of the EU and other European countries, the 2.4GHz and 5GHz bands have been made available for the use of wireless local area networks (LANs). Later in this document you will find an overview of countries in which additional restrictions or requirements or both are applicable. The requirements for any country may evolve. ZyXEL recommends that you check with the local authorities for the latest status of their national regulations for both the 2.4GHz and 5GHz wireless LANs. The following countries have restrictions and/or requirements in addition to those given in the table labeled "Overview of Regulatory Requirements for Wireless LANs".

  Belgium

  • The Belgian Institute for Postal Services and Telecommunications (BIPT) must be notified of any outdoor wireless link having a range exceeding 300 meters. Please check http://www.bipt.be for more details.

  • Draadloze verbindingen voor buitengebruik en met een reikwijdte van meer dan 300 meter dienen aangemeld te worden bij het Belgisch Instituut voor postdiensten en telecommunicatie (BIPT). Zie http://www.bipt.be voor meer gegevens.

  • Les liaisons sans fil pour une utilisation en extérieur d'une distance supérieure à 300 mètres doivent être notifiées à l'Institut Belge des services Postaux et des Télécommunications (IBPT). Visitez http://www.ibpt.be pour de plus amples détails.

  Denmark

  • In Denmark, the band 5150 - 5350 MHz is also allowed for outdoor usage.

  • I Danmark må frekvensbåndet 5150 - 5350 også anvendes udendørs.

  Italy

  • This product meets the National Radio Interface and the requirements specified in the National Frequency Allocation Table for Italy. Unless this wireless LAN product is operating within the boundaries of the owner's property, its use requires a "general authorization." Please check http://www.sviluppoeconomico.gov.it/ for more details.

  • Questo prodotto è conforme alla specifiche di Interfaccia Radio Nazionali e rispetta il Piano Nazionale di ripartizione delle frequenze in Italia. Se non viene installato all 'interno del proprio fondo, l'utilizzo di prodotti Wireless LAN richiede una "Autorizzazione Generale". Consultare http://www.sviluppoeconomico.gov.it/ per maggiori dettagli.

  Latvia

  • The outdoor usage of the 2.4 GHz band requires an authorization from the Electronic Communications Office. Please check http://www.esd.lv for more details.

  • 2.4 GHz frekvenèu joslas izmantoðanai ârpus telpâm nepiecieðama atïauja no Elektronisko sakaru direkcijas. Vairâk informâcijas: http://www.esd.lv.

  Notes:

  1. Although Norway, Switzerland and Liechtenstein are not EU member states, the EU Directive 1999/5/EC has also been implemented in those countries.

  2. The regulatory limits for maximum output power are specified in EIRP. The EIRP level (in dBm) of a device can be calculated by adding the gain of the antenna used (specified in dBi) to the output power available at the connector (specified in dBm).

### List of National Codes

| COUNTRY | ISO 3166 2 LETTER CODE | COUNTRY | ISO 3166 2 LETTER CODE |
|---|---|---|---|
| Austria | AT | Liechtenstein | LI |
| Belgium | BE | Lithuania | LT |
| Bulgaria | BG | Luxembourg | LU |
| Croatia | HR | Malta | MT |
| Cyprus | CY | Netherlands | NL |
| Czech Republic | CZ | Norway | NO |
| Denmark | DK | Poland | PL |
| Estonia | EE | Portugal | PT |
| Finland | FI | Romania | RO |
| France | FR | Serbia | RS |
| Germany | DE | Slovakia | SK |
| Greece | GR | Slovenia | SI |
| Hungary | HU | Spain | ES |
| Iceland | IS | Sweden | SE |
| Ireland | IE | Switzerland | CH |
| Italy | IT | Turkey | TR |
| Latvia | LV | United Kingdom | GB |

## Safety Warnings

- Do not use this product near water, for example, in a wet basement or near a swimming pool.
- Do not expose your device to dampness, dust or corrosive liquids.
- Do not store things on the device.
- Do not obstruct the device ventilation slots as insufficient airflow may harm your device. For example, do not place the device in an enclosed space such as a box or on a very soft surface such as a bed or sofa.
- Do not install, use, or service this device during a thunderstorm. There is a remote risk of electric shock from lightning.

- Connect ONLY suitable accessories to the device.
- Do not open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks.
- Only qualified service personnel should service or disassemble this device. Please contact your vendor for further information.
- Make sure to connect the cables to the correct ports.
- Place connecting cables carefully so that no one will step on them or stumble over them.
- Always disconnect all cables from this device before servicing or disassembling.
- Do not remove the plug and connect it to a power outlet by itself; always attach the plug to the power adaptor first before connecting it to a power outlet.
- Do not allow anything to rest on the power adaptor or cord and do NOT place the product where anyone can walk on the power adaptor or cord.
- Please use the provided or designated connection cables/power cables/ adaptors. Connect it to the right supply voltage (for example, 110V AC in North America or 230V AC in Europe). If the power adaptor or cord is damaged, it might cause electrocution. Remove it from the device and the power source, repairing the power adapter or cord is prohibited. Contact your local vendor to order a new one.
- Do not use the device outside, and make sure all the connections are indoors. There is a remote risk of electric shock from lightning.
- Caution: Risk of explosion if battery is replaced by an incorrect type, dispose of used batteries according to the instruction. Dispose them at the applicable collection point for the recycling of electrical and electronic device. For detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the store where you purchased the product.
- Use ONLY power wires of the appropriate wire gauge for your device. Connect it to a power supply of the correct voltage.
- Fuse Warning! Replace a fuse only with a fuse of the same type and rating.
- The POE (Power over Ethernet) devices that supply or receive power and their connected Ethernet cables must all be completely indoors.
- The following warning statements apply, where the disconnect device is not incorporated in the device or where the plug on the power supply cord is intended to serve as the disconnect device,

  - For permanently connected devices, a readily accessible disconnect device shall be incorporated external to the device;

  - For pluggable devices, the socket-outlet shall be installed near the device and shall be easily accessible.
- This device must be grounded. Never defeat the ground conductor or operate the device in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.
- When connecting or disconnecting power to hot-pluggable power supplies, if offered with your system, observe the following guidelines:

  - Install the power supply before connecting the power cable to the power supply.

  - Unplug the power cable before removing the power supply.

  - If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supply.

## Environment Statement

### European Union - Disposal and Recycling Information

The symbol below means that according to local regulations your product and/or its battery shall be disposed of separately from domestic waste. If this product is end of life, take it to a recycling station designated by local authorities. At the time of disposal, the separate collection of your product and/or its battery will help save natural resources and ensure that the environment is sustainable development.

Die folgende Symbol bedeutet, dass Ihr Produkt und/oder seine Batterie gemäß den örtlichen Bestimmungen getrennt vom Hausmüll entsorgt werden muss. Wenden Sie sich an eine Recyclingstation, wenn dieses Produkt das Ende seiner Lebensdauer erreicht hat. Zum Zeitpunkt der Entsorgung wird die getrennte Sammlung von Produkt und/oder seiner Batterie dazu beitragen, natürliche Ressourcen zu sparen und die Umwelt und die menschliche Gesundheit zu schützen.

El símbolo de abajo indica que según las regulaciones locales, su producto y/o su batería deberán depositarse como basura separada de la doméstica. Cuando este producto alcance el final de su vida útil, llévelo a un punto limpio. Cuando llegue el momento de desechar el producto, la recogida por separado éste y/o su batería ayudará a salvar los recursos naturales y a proteger la salud humana y medioambiental.

Le symbole ci-dessous signifie que selon les réglementations locales votre produit et/ou sa batterie doivent être éliminés séparément des ordures ménagères. Lorsque ce produit atteint sa fin de vie, amenez-le à un centre de recyclage. Au moment de la mise au rebut, la collecte séparée de votre produit et/ou de sa batterie aidera à économiser les ressources naturelles et protéger l'environnement et la santé humaine.

Il simbolo sotto significa che secondo i regolamenti locali il vostro prodotto e/o batteria deve essere smaltito separatamente dai rifiuti domestici. Quando questo prodotto raggiunge la fine della vita di servizio portarlo a una stazione di riciclaggio. Al momento dello smaltimento, la raccolta separata del vostro prodotto e/o della sua batteria aiuta a risparmiare risorse naturali e a proteggere l'ambiente e la salute umana.

Symbolen innebär att enligt lokal lagstiftning ska produkten och/eller dess batteri kastas separat från hushållsavfallet. När den här produkten når slutet av sin livslängd ska du ta den till en återvinningsstation. Vid tiden för kasseringen bidrar du till en bättre miljö och mänsklig hälsa genom att göra dig av med den på ett återvinningsställe.

## Environmental Product Declaration

**Български (Bulgarian)**

Екологична продуктова декларация

| | |
|---|---|
| RoHS | Директива 2011/65/ЕС |
| WEEE | Директива 2012/19/ЕС |
| PPW | Директива 94/62/ЕО |
| REACH | РЕГЛАМЕНТ (ЕО) № 1907/2006 |

Име/титла : Richard Hsu / Quality Management Division Senior Manager
Подпис : Дата (дд/мм/гггг): 01/10/2014

**Čeština (Czech)**

Environmentální prohlášení o produktu

| | |
|---|---|
| RoHS | Směrnice 2011/65/EU |
| WEEE | Směrnice 2012/19/EU |
| PPW | Směrnice 94/62/ES |
| REACH | Nařízení (ES) č. 1907/2006 |

Jméno/titul : Richard Hsu / Quality Management Division Senior Manager
Podpis : Datum (dd/mm/rrrr): 01/10/2014

**Dansk (Danish)**

Miljøvaredeklaration

| | |
|---|---|
| RoHS | Direktiv 2011/65/EU |
| WEEE | Direktiv 2012/19/EU |
| PPW | Direktiv 94/62/EF |
| REACH | Forordning (EF) nr. 1907/2006 |

Navn/titel : Richard Hsu / Quality Management Division Senior Manager
Underskrift : Dato (dd/mm/åååå): 01/10/2014

**Deutsch (German)**

Produkt-Umweltdeklaration

| | |
|---|---|
| RoHS | Richtlinie 2011/65/EU |
| WEEE | Richtlinie 2012/19/EU |
| PPW | Richtlinie 94/62/EG |
| REACH | VERORDNUNG (EG) Nr.1907/2006 |

Name/titel : Richard Hsu / Quality Management Division Senior Manager
Unterschrift : Datum (jjjj/mm/tt): 2014/10/01

**Eesti keel (Estonian)**

Toote keskkonnadeklaratsiooni

| | |
|---|---|
| RoHS | Direktiiv 2011/65/EL |
| WEEE | Direktiiv 2012/19/EL |
| PPW | Direktiiv 94/62/EÜ |
| REACH | MÄÄRUS (EÜ) nr 1907/2006 |

Nimi/pealkiri : Richard Hsu / Quality Management Division Senior Manager
Allkiri : Kuupäev (pp/kk/aaaa): 01/10/2014

**English**

Environmental product declaration

| | |
|---|---|
| RoHS | Directive 2011/65/EU |
| WEEE | Directive 2012/19/EU |
| PPW | Directive 94/62/EC |
| REACH | Regulation (EC) No 1907/2006 |

Name/title : Richard Hsu / Quality Management Division Senior Manager
Signature : Date (dd/mm/yyyy): 01/10/2014

**Español (Spanish)**

Declaraciones Ambientales de Producto

| | |
|---|---|
| RoHS | Directiva 2011/65/UE |
| WEEE | Directiva 2012/19/UE |
| PPW | Directiva 94/62/CE |
| REACH | REGLAMENTO (CE) nº 1907/2006 |

Nombre/título : Richard Hsu / Quality Management Division Senior Manager
Firma : Fecha (aaaa/mm/dd): 2014/10/01

**Français (French)**

Profil environnemental de produit

| | |
|---|---|
| RoHS | Directive 2011/65/UE |
| WEEE | Directive 2012/19/UE |
| PPW | Directive 94/62/CE |
| REACH | REGLEMENT (CE) N° 1907/2006 |

Nom/titre : Richard Hsu / Quality Management Division Senior Manager
Signature : Date (aaaa/mm/jj): 2014/10/01

**Hrvatski (Croatian)**

Deklaraciju o zbrinjavanju proizvoda

| | |
|---|---|
| RoHS | Direktiva 2011/65/EU |
| WEEE | Direktiva 2012/19/EU |
| PPW | Direktiva 94/62/EZ |
| REACH | Uredbe (EZ) br. 1907/2006 |

Ime/naslov : Richard Hsu / Quality Management Division Senior Manager
Potpis : Datum (dd/mm/yyyy): 01/10/2014

**Italiano (Italian)**

Dichiarazione ambientale di prodotto

| | |
|---|---|
| RoHS | Direttiva 2011/65/UE |
| WEEE | Direttiva 2012/19/UE |
| PPW | Direttiva 94/62/CE |
| REACH | REGOLAMENTO (CE) n. 1907/2006 |

Nome/titolo : Richard Hsu / Quality Management Division Senior Manager
Firma : Data (aaaa/mm/gg): 2014/10/01

**Latviešu valoda(Latvian)**

Produkta vides ietekmējuma deklarācija

| | |
|---|---|
| RoHS | Direktīva 2011/65/ES |
| WEEE | Direktīva 2012/19/ES |
| PPW | Direktīva 94/62/EK |
| REACH | Regula (EK) Nr. 1907/2006 |

Nosaukums/ tituls : Richard Hsu / Quality Management Division Senior Manager
Paraksts : Datums(dd/mm/gggg): 01/10/2014

**Lietuvių kalba (Lithuanian)**

Aplinkosauginę gaminio deklaraciją

| | |
|---|---|
| RoHS | Direktyva 2011/65/ES |
| WEEE | Direktyva 2012/19/ES |
| PPW | Direktyva 94/62/EB |
| REACH | REGLAMENTAS (EB) Nr. 1907/2006 |

Vardas/titulas : Richard Hsu / Quality Management Division Senior Manager
Parašas : Data (dd/mm/mmmm): 01/10/2014

**Magyar (Hungarian)**

Környezetvédelmi terméknyilatkozatot

| | |
|---|---|
| RoHS | 2011/65/EU Irányelve |
| WEEE | 2012/19/EU Irányelve |
| PPW | 94/62/EK Irányelve |
| REACH | 1907/2006/EK Rendelete |

Név/cím : Richard Hsu / Quality Management Division Senior Manager
Aláírás : Dátum (éééé/hh/nn): 2014/10/01

**Malti (Maltese)**

Dikjarazzjoni Ambjentali dwar il-Prodott

| | |
|---|---|
| RoHS | Direttiva 2011/65/UE |
| WEEE | Direttiva 2012/19/UE |
| PPW | Direttiva 94/62/KE |
| REACH | REGOLAMENT (KE) NRU 1907/2006 |

Isem/titolu : Richard Hsu / Quality Management Division Senior Manager
Firma : Data (ssss/xx/jj): 2014/10/01

**Nederlands (Dutch)**

Milieuproductverklaring

| | |
|---|---|
| RoHS | Richtlijn 2011/65/EU |
| WEEE | Richtlijn 2012/19/EU |
| PPW | Richtlijn 94/62/EG |
| REACH | Verordening (EG) nr. 1907/2006 |

Naam/titel : Richard Hsu / Quality Management Division Senior Manager
Handtekening : Datum (dd/mm/jaar): 01/10/2014

**Polski (Polish)**

Deklarację środowiskową produktu

| | |
|---|---|
| RoHS | Dyrektywa 2011/65/UE |
| WEEE | Dyrektywa 2012/19/UE |
| PPW | Dyrektywa 94/62/WE |
| REACH | Rozporządzenie (WE) nr 1907/2006 |

Nazwisko /tytuł : Richard Hsu / Quality Management Division Senior Manager
Podpis : Data (rrrr/mm/dd): 2014/10/01

**Português (Portuguese)**

Declaração ambiental do produto

| | |
|---|---|
| RoHS | Directiva 2011/65/UE |
| WEEE | Directiva 2012/19/UE |
| PPW | Directiva 94/62/CE |
| REACH | Regulamento (CE) n.º 1907/2006 |

Nome/título : Richard Hsu / Quality Management Division Senior Manager
Assinatura : Data (dd/mm/aaaa): 01/10/2014

**Română (Romanian)**

Declarație de mediu privind produsele

| | |
|---|---|
| RoHS | Directiva 2011/65/UE |
| WEEE | Directiva 2012/19/UE |
| PPW | Directiva 94/62/CE |
| REACH | REGULAMENTUL (CE) NR.907/2006 |

Numele/titlu : Richard Hsu / Quality Management Division Senior Manager
Semnătura : Data (zz/ll/aaaa): 01/10/2014

**Slovenčina (Slovak)**

Vyhlásenie o environmentálnom výrobku

| | |
|---|---|
| RoHS | Smernica 2011/65/EU |
| WEEE | Smernica 2012/19/EU |
| PPW | Smernica 94/62/ES |
| REACH | Nariadenie (ES) č. 1907/2006 |

Meno/titul : Richard Hsu / Quality Management Division Senior Manager
Podpis : Dátum (dd/mm/rrrr): 01/10/2014

**Slovenščina (Slovene)**

Okoljsko deklaracijo izdelka

| | |
|---|---|
| RoHS | Direktiva 2011/65/EU |
| WEEE | Direktiva 2012/19/EU |
| PPW | Direktiva 94/62/ES |
| REACH | Uredba (ES) št. 1907/2006 |

Ime/naziv : Richard Hsu / Quality Management Division Senior Manager
Podpis : Datum (dd/mm/llll): 01/10/2014

**Suomi (Finnish)**

Standardiin perustuva ympäristötuoteseloste

| | |
|---|---|
| RoHS | Direktiivi 2011/65/EU |
| WEEE | Direktiivi 2012/19/EU |
| PPW | Direktiivi 94/62/EY |
| REACH | ASETUS (EY) N:o 1907/2006 |

Nimi/otsikko : Richard Hsu / Quality Management Division Senior Manager
Allekirjoitus : Päivämäärä (pp/kk/vvvv): 01/10/2014

**Svenska (Swedish)**

Miljöproduktdeklaration

| | |
|---|---|
| RoHS | Direktiv 2011/65/EU |
| WEEE | Direktiv 2012/19/EU |
| PPW | Direktiv 94/62/EG |
| REACH | Förordning (EG) nr 1907/2006 |

Namn/titel : Richard Hsu / Quality Management Division Senior Manager
Namnteckning : Datum (dd/mm/åååå): 01/10/2014

**Ελληνικά (Greek)**

Περιβαλλοντική δήλωση προϊόντος

| | |
|---|---|
| RoHS | Οδηγία 2011/65/ΕΕ |
| WEEE | Οδηγία 2012/19/ΕΕ |
| PPW | Οδηγία 94/62/ΕΚ |
| REACH | Κανονισμοσ (ΕΚ) αριθ. 1907/2006 |

Όνομα/τίτλος : Richard Hsu / Quality Management Division Senior Manager
Υπογραφή : Ημερομηνία (ηη/μμ/εεεε): 01/10/2014

**Norsk (Norwegian)**

Miljødeklarasjon

| | |
|---|---|
| RoHS | Direktiv 2011/65/EU |
| WEEE | Direktiv 2012/19/EU |
| PPW | Direktiv 94/62/EF |
| REACH | Forordning (EF) nr. 1907/2006 |

Navn/tittel : Richard Hsu / Quality Management Division Senior Manager
Signatur : Dato (dd/mm/åååå): 01/10/2014

**台灣**

以下訊息僅適用於產品具有無線功能且銷售至台灣地區

- 第十二條 經型式認證合格之低功率射頻電機，非經許可，公司，商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
- 第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。 低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。
- 無線資訊傳輸設備忍受合法通信之干擾且不得干擾合法通信；如造成干擾，應立即停用， 俟無干擾之虞，始得繼續使用。
- 無線資訊傳設備的製造廠商應確保頻率穩定性，如依製造廠商使用手冊上所述正常操作， 發射的信號應維持於操作頻帶中

以下訊息僅適用於產品屬於專業安裝並銷售至台灣地區

- 本器材須經專業工程人員安裝及設定，始得 設置使用，且不得直接販售給一般消費者

警告使用者

- 這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

安全警告 - 為了您的安全，請先閱讀以下警告及指示：

- 請勿將此產品接近水、火焰或放置在高溫的環境。
- 避免設備接觸
  - 任何液體 - 切勿讓設備接觸水、雨水、高濕度、污水腐蝕性的液體或其他水份。
  - 灰塵及污物 - 切勿接觸灰塵、污物、沙土、食物或其他不合適的材料。
- 雷雨天氣時，不要安裝，使用或維修此設備。有遭受電擊的風險。
- 切勿重摔或撞擊設備，並勿使用不正確的電源變壓器。
- 若接上不正確的電源變壓器會有爆炸的風險。
- 請勿隨意更換產品內的電池。
- 如果更換不正確之電池型式，會有爆炸的風險，請依製造商說明書處理使用過之電池。
- 請將廢電池丟棄在適當的電器或電子設備回收處。
- 請勿將設備解體。
- 請勿阻礙設備的散熱孔，空氣對流不足將會造成設備損害。
- 請插在正確的電壓供給插座 ( 如：北美 / 台灣電壓 110V AC，歐洲是 230V AC)。
- 假若電源變壓器或電源變壓器的纜線損壞，請從插座拔除，若您還繼續插電使用，會有觸電死亡的風險。
- 請勿試圖修理電源變壓器或電源變壓器的纜線，若有毀損，請直接聯絡您購買的店家，購買一個新的電源變壓器。
- 請勿將此設備安裝於室外，此設備僅適合放置於室內。
- 請勿隨一般垃圾丟棄。
- 請參閱產品背貼上的設備額定功率。
- 請參考產品型錄或是彩盒上的作業溫度。
- 設備必須接地，接地導線不允許被破壞或沒有適當安裝接地導線，如果不確定接地方式是否符合要求可聯繫相應的電氣檢驗機構檢驗。
- 如果您提供的系統中有提供熱插拔電源，連接或斷開電源請遵循以下指導原則
  - 先連接電源線至設備連，再連接電源。
  - 先斷開電源再拔除連接至設備的電源線。
  - 如果系統有多個電源，需拔除所有連接至電源的電源線再關閉設備電源。
- 產品沒有斷電裝置或者採用電源線的插頭視為斷電裝置的一部分，以下警語將適用：
  - 對永久連接之設備， 在設備外部須安裝可觸及之斷電裝置；
  - 對插接式之設備， 插座必須接近安裝之地點而且是易於觸及的。

## About the Symbols

Various symbols are used in this product to ensure correct usage, to prevent danger to the user and others, and to prevent property damage. The meaning of these symbols are described below. It is important that you read these descriptions thoroughly and fully understand the contents.

### Explanation of the Symbols

| SYMBOL | EXPLANATION |
|---|---|
|  | Alternating current (AC):<br>AC is an electric current in which the flow of electric charge periodically reverses direction. |
|  | Direct current (DC):<br>DC if the unidirectional flow or movement of electric charge carriers. |
|  | Earth; ground:<br>A wiring terminal intended for connection of a Protective Earthing Conductor. |
|  | Class II equipment:<br>The method of protection against electric shock in the case of class II equipment is either double insulation or reinforced insulation. |

## Viewing Certifications

Go to http://www.zyxel.com to view this product's documentation and certifications.

## ZyXEL Limited Warranty

ZyXEL warrants to the original end user (purchaser) that this product is free from any defects in material or workmanship for a specific period (the Warranty Period) from the date of purchase. The Warranty Period varies by region. Check with your vendor and/or the authorized ZyXEL local distributor for details about the Warranty Period of this product. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, ZyXEL will, at its discretion, repair or replace the defective products or components without charge for either parts or labor, and to whatever extent it shall deem necessary to restore the product or components to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal or higher value, and will be solely at the discretion of ZyXEL. This warranty shall not apply if the product has been modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

### Note

Repair or replacement, as provided under this warranty, is the exclusive remedy of the purchaser. This warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular use or purpose. ZyXEL shall in no event be held liable for indirect or consequential damages of any kind to the purchaser.

To obtain the services of this warranty, contact your vendor. You may also refer to the warranty policy for the region in which you bought the device at http://www.zyxel.com/web/support_warranty_info.php.

## Registration

Register your product online to receive e-mail notices of firmware upgrades and information at www.zyxel.com for global products, or at www.us.zyxel.com for North American products.

## Open Source Licenses

This product contains in part some free software distributed under GPL license terms and/or GPL like licenses. Open source licenses are provided with the firmware package. You can download the latest firmware at www.zyxel.com. To obtain the source code covered under those Licenses, please contact support@zyxel.com.tw to get it.

# Index

## A



## C



## D



## F

## I



## L



## M

## N



## P



## Q



## R



## S



## T

## U



## W