



# NETGEAR<sup>®</sup>

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## ProSafe<sup>®</sup> Plus Switch Utility User Guide

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San Jose, CA 95134  
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# Getting Started

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# 1

This chapter contains the following topics:

- Installing the ProSafe Plus Switch Utility
- Discovering Switches
- Utility Features Overview
- Default Settings
- Uninstalling the Utility

## Installing the ProSafe Plus Switch Utility

To take advantage of the enhanced features on ProSafe® Plus switches you can install and use the ProSafe® Plus Switch Utility. The utility is on the Resource CD shipped with ProSafe® Plus switches.

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**Note:** The utility is only supported on MS Windows and can be installed on any Windows PC(s) on the network containing the switches to be managed.

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If an earlier version of the utility is already present on the PC, it will be replaced by the newer version. Newer versions of the utility are backwards-compatible and support all previously released ProSafe® Plus switches. If the version of the utility you are trying to install is older than the one already installed on the PC, the installation will not be performed.

### To install the utility:

1. Insert the Resource CD that came with your switch into the PC that you want to use to manage your switches. The Resource CD home page displays.

Resource CD pages, and the installation guide for the switch can be displayed in several languages. Use the pull-down menu in the upper right corner of the Resource CD home screen to select the desired language.



2. Click **Install ProSafe® Plus Utility** to install the utility program on your PC.

If the Resource CD home page does not display, your PC may have the Autorun feature disabled. You can enable your PC's Autorun feature or use the PC's file manager to navigate to the CD and double click on Autorun.exe.



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**Note:** The utility name may vary slightly between different ProSafe® Plus switch models.

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The utility uses two network programs, WinPcap and Adobe AIR, to process network commands. If not already installed on your PC, these two programs will also be installed, and will be placed in your program directory.

3. Click **Install Utility**.

This creates a NETGEAR subdirectory under the \Program Files directory on your PC. Installation then copies the utility program into the \Program Files\Netgear\ProSafe Plus Utility directory, and places a utility icon on the PC desktop.



The WinPcap and Adobe AIR programs may be used by other network applications and may already be installed on your PC. If so, a message displays asking if you want to reinstall WinPcap.

- a. Click **OK** if you think the currently installed WinPcap is an older version or might be corrupted.
  - b. Click **Cancel** if you do not want to overwrite the program already installed. Clicking Cancel will end the WinPcap portion of installation and will continue installing the remaining components
  - a. If the Adobe AIR program is already installed, an "already installed" message displays. Click **Close** to end the Adobe AIR portion of installation.
4. Installation is complete. When the **InstallShield Wizard Complete** screen displays, check the box to launch the utility or just click **Finish** if you do not want to launch the utility at this time. Use the utility icon on your desktop to launch the utility in the future.

## Discovering Switches

When the utility is launched, it immediately searches the network for ProSafe® Plus switches.

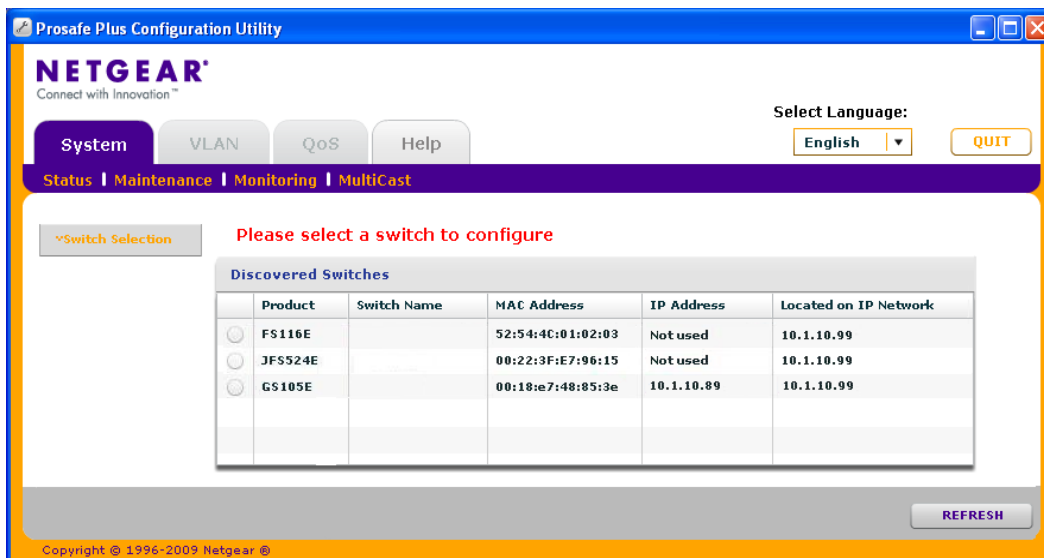
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**Note:** Local PC firewall applications such as Symantec Endpoint Protection can prevent the utility from communicating with the switches. If the utility is unable to discover your switches and you are using a local firewall, you will need to turn off the firewall function in order for discovery to work.

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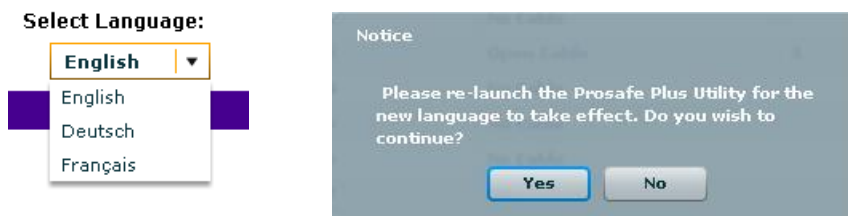
Within a few seconds the utility will discover and list all ProSafe® Plus switches in your network or in the same broadcast domain. Discovery will continue through the network until blocked by a router or firewall.

The discovered switches are displayed as shown below.



You can now select a switch to configure or display its status.

At this point you can select an alternate language for the Utility user interface. Click on the **Select Language** pull down menu and click on the desired language. You will be asked to restart the Utility to enable the selected language.





## Utility Features Overview

The utility configures switch features and provides status and support information. The features are arranged on tabs as shown in the following figure:



### System (General Configuration and Information)

**Status** - indicates which switches are present and if they are operational. If your switch supports the switch information feature you can display additional information such as IP Address, Subnet Mask, and Gateway Address.

**Maintenance** - allows you to change administrator password, reboot the switch, reset to factory default settings, and if your switch supports it, upgrade switch firmware.

**Monitoring** - displays port statistics (packets sent or received), tests cable connections, and allows you to mirror ports.

**MultiCast** - allows you to change the IGMP snooping settings.

### VLAN (Virtual LAN networks)

**Port Based** - allows you to assign ports to virtual networks.

**802.1Q** - allows you to create virtual networks using 802.1Q criteria.

### QoS (Quality of Service)

**Port based** - allows you to assign communication priorities to ports.

**802.1p based** - uses communication priorities from 802.1p tags in the data.

**Rate Limit** - allows you to set maximum data rate for the device or on some devices per port.

**Broadcast Filtering** - protects your network from broadcast packet storms that can interfere with the processing of normal data.

### Help

**Online Help** - online access to technical support information and this manual.

**About** - version and copyright information.

## Switch Settings

It is possible to make port settings that block further access to the switch you are configuring. If this occurs you can reset the switch manually to restore access. If you do this, your previous settings will be lost.

The features on each tab are explained in the following chapters:

- Chapter 2 System Configuration - describes general management features
- Chapter 3 Virtual LAN Configuration - describes how to create and configure VLAN groups
- Chapter 4 Quality of Service (QoS) - describes how to set data priorities using Global Configuration, Rate Limiting, and Broadcast filtering
- Chapter 5 Help - describes how to get online support information

## Default Settings

All ProSafe® Plus Switch features have default settings. You do not need to configure any settings in order to use the ProSafe® Plus switches. The following table lists the default values for switch settings. Shaded features are not configurable on all switches.

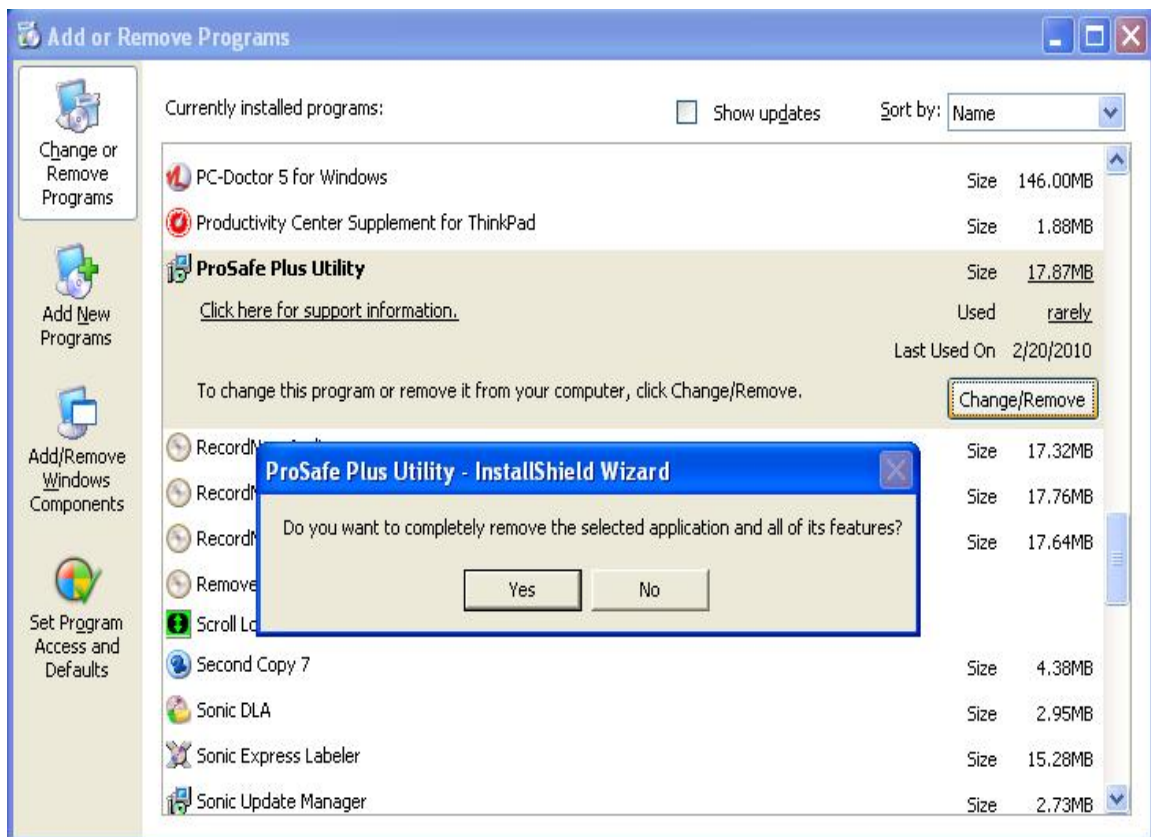
Tab	Menu	Feature	Default Value	
System	Status			
		Switch Selection	No switch selected	
		Names	All names blank	
		Passwords	"password" for all switches	
		Switch Information		
		DHCP Mode	Enabled	
		IP Address	192.168.0.239	
		Subnet Mask	255.255.255.0	
		Gateway Address	192.168.0.254	
	Maintenance			
		Change Password	All fields blank	
		Device Reboot	Unchecked	
		Factory Default	Unchecked	
		Firmware Upgrade	Filename blank	
	Monitoring			
		Port Statistics	0	
		Mirroring	Disabled	
		Cable Tester	OK or No Cable for each port	
		MultiCast		
			IGMP Snooping Status	Enabled
		VLAN ID Enabled for IGMP Snooping	1 (not configurable until VLAN is enabled)	
		Validate IGMPv3 IP header	Disabled	
		Block Unknown Multicast Address	Enabled	

Tab	Menu	Feature	Default Value
VLAN	Port Based		
		Basic	Disabled
		Advanced	Disabled
	802.1Q		
		Basic	Disabled
		Advanced	Disabled
QoS	QoS		
		Global Configuration	
		QoS Mode	802.1P based
		Rate Limit	
		Ingress	No limit
		Egress	No limit
		Broadcast Filtering	Disabled
Help	Online Help		
		Support	-
		User Guide	-
		About the Utility	-
	About the Utility	About the Utility	-

## Uninstalling the Utility

To uninstall the utility:

1. Use your PC's Add or Remove Programs command, **Start > Control Panel > Add or Remove Programs**.
2. Select ProSafe Plus Utility and click **Change/Remove**.
3. When you are asked if you want to completely remove the selected application, click **Yes**.
4. You can also remove the WinPcap and AIR programs if they are not needed by another program.



# 2 System Configuration

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# 2

This chapter contains the following topics:

- **System Features**
- **Status**
- **Maintenance**
- **Monitoring**

## System Features

The System tab lets you select a switch to manage, display general information about the switch, perform basic switch maintenance, and monitor data flow through the switch. The switch selection remains in effect until you select a different switch, or quit the utility.

System features are:

**Status** - indicates which switches are present and if they are operational.

**Maintenance** - allows you to change administrator password, reboot the switch, reset to factory default settings and if the supported by the selected switch, upgrade switch firmware.

**Monitoring** - displays port statistics (packets sent or received), tests cable connections, and allows you to mirror ports.

**MultiCast** - allows you to change the IGMP snooping settings.

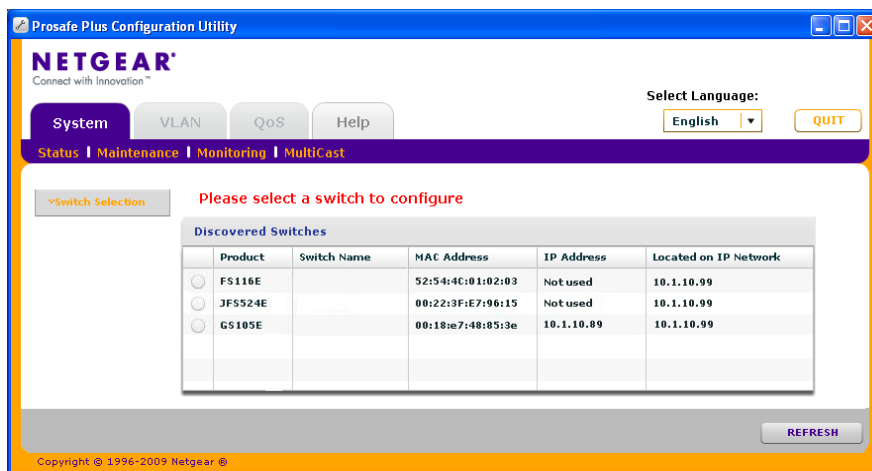


Table 2-1 Features available on the System tab.

Feature	Description
Status	
Switch Selection	Selects a switch to configure
Switch Information	Displays general information for the selected switch
Maintenance	
Change Password	Changes password for the selected switch
Device Reboot	Restarts the selected switch using configured settings
Factory Default	Restarts the selected switch with factory default settings
Firmware Upgrade	Updates the selected switch with a firmware update saved on the PC
Monitoring	
Port Statistics	Displays port network traffic for the selected switch
Mirroring	Allows a port to receive data sent to another port
Cable Tester	Checks cable connections for the ports of the selected switch
MultiCast	
IGMP snooping	Allows switch to selectively forward multicast traffic

## Status

The Status menu allows you to select a switch and display switch information.

### Switch Selection

In order to use any of the System tab features you must first select a switch. Click on the radio button for the desired switch. You will be asked to enter the password for the selected switch. The default password for all switches is “password”. When you enter the switch password and click on Login, the port status for the switch will be displayed. You can then select Switch Information for additional switch status, or select Maintenance, or Monitoring for other switch features. When you select a switch, the Status menu displays the status (up or down) of the ports on the switch and the speed of the device connected to the port. The switch automatically senses the speed of the device connected to each port.

You can assign a name to the selected switch by entering the name in the Switch Name field. The switch name can be up to 20 characters. The switch is updated with a new name when you press the Enter key before leaving the Switch Name field.

### Switch Information

The Switch Information feature displays additional information about the selected switch. This information will vary depending on the model of the selected switch. If the selected switch supports the Switch Information feature, you can use it to display or configure the IP Address, Subnet Mask, and Gateway Address.

The screenshot shows the 'Switch Information' page in the configuration utility. The interface includes a top navigation bar with tabs for 'System', 'VLAN', 'QoS', and 'Help', and a 'QUIT' button. Below the navigation bar, there are sub-tabs for 'Status', 'Maintenance', 'Monitoring', and 'MultiCast'. On the left side, there is a sidebar with 'Switch Selection' and 'Switch Information' options. The main content area displays the following information:

Switch Information	
Product Name:	GS105E
Switch Name:	WeeOne
Firmware Version:	1.00.00
DHCP Mode:	Disable <input type="checkbox"/> Refr
IP Address:	10 . 1 . 10 . 89
Subnet Mask:	255 . 255 . 255 . 0
Gateway Address:	10 . 1 . 10 . 13
MAC Address:	00:18:E7:48:85:3E

An 'APPLY' button is located at the bottom right of the form. The footer of the page reads 'Copyright © 1996-2009 Netgear ©'.



## DHCP Mode Selection

The Switch Information screen contains a field for DHCP (Dynamic Host Configuration Protocol) Mode selection. When you enable this setting the switch will obtain a network IP address from a DHCP server in the network. Each time the switch is powered on or reset, it will request an IP address from a DHCP Server in the Network. This is called a Dynamic IP address. If there is no DHCP server in the network, a time out message will be displayed. If the switch fails to retrieve an IP address from a DHCP server, a default IP address of 192.168.0.239 will be entered.

### To enable DHCP operation:

1. Select **System >Switch Information**. The Switch Information screen will display.
2. Click the list arrow in the DHCP Mode list box.
3. Select **Enable** then click **Apply**.

The IP Address, Subnet Mask, and Gateway Address fields will be disabled (greyed out).

To disable DHCP address assignment, repeat the previous procedure and select **Disable**. When you click **Apply**, you will be able to manually enter IP Address, Subnet Mask, and Gateway Address information.

## Manually Setting the IP Address Information

You can manually enter IP address and subnet mask values for the switch as well as the address of the Gateway device to be used by the switch.

### To define an IP interface information:

1. Click **System > Status > Switch Information**. The Switch Information screen displays.
2. Select **Disable** for the DHCP Mode. The IP Address, Subnet Mask, and Gateway Address fields will be enabled.
3. Enter the IP Address, Subnet Mask, and if available Gateway Address and click **Apply**.

## Maintenance

The Maintenance feature allows you to change the password for the selected switch, perform a device reboot, reset the switch to its factory default settings, or upgrade the switch firmware.

### Change Password

**To change the password for a switch:**

1. Select **System > Maintenance**. The Maintenance menu and Change Password feature will display.
2. Enter the old password (default is “password”) and the new password.
3. Click **Apply**.

### Device Reboot



**WARNING!**

**Rebooting the switch will briefly disrupt network traffic through the switch.**

**To reboot the selected switch:**

1. Select **System > Maintenance > Device Reboot**. The Device Reboot dialog will display.
2. Check the box in the Device Reboot dialog.
3. Click **Apply**.

### Reset Factory Defaults



**WARNING!**

**Resetting the factory defaults may briefly disrupt network traffic through the switch.**

**To reset the factory default settings on the selected switch:**

1. Select **System > Maintenance > Factory Default**. The Factory Default dialog will display.
2. Check the box in the Factory Default dialog.
3. Click **Apply**.

## Firmware Upgrade

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**Note:** After firmware downloading is complete, the switch will automatically reboot. This will briefly disrupt network traffic through the switch.

---

In order to upgrade switch firmware you must first download a firmware upgrade file for the selected switch from the NETGEAR support website to your PC.

### To upgrade firmware on the selected switch:

1. Select **System > Maintenance > Firmware Upgrade**.

The Firmware Upgrade dialog will display.

2. Click the **Browse** button and navigate to the location on your PC containing the firmware upgrade file.
3. Select the upgrade file and click **Apply**.

The firmware will be downloaded from your PC to the switch and the switch will automatically reboot.

## Monitoring

The Monitoring menu provides statistics on port data volume, allows you to configure port mirroring and on some switch models perform cable testing.

### Port Statistics

#### To view port statistics:

1. Select **System > Monitoring**.

The Port Statistics for the selected switch will display in bytes received, bytes sent, and packet errors.

### Port Mirroring

Port mirroring allows a port to see the data on another port.

#### To have a switch port see the data on another port:

1. Select **System > Status**, and select the switch.
2. Select **Monitoring > Mirroring** to display the Mirroring page.
3. Enable **Mirroring**.
4. Select the Source Port or ports.
5. Select the Destination Port from the pull down list.
6. Click **Apply**.

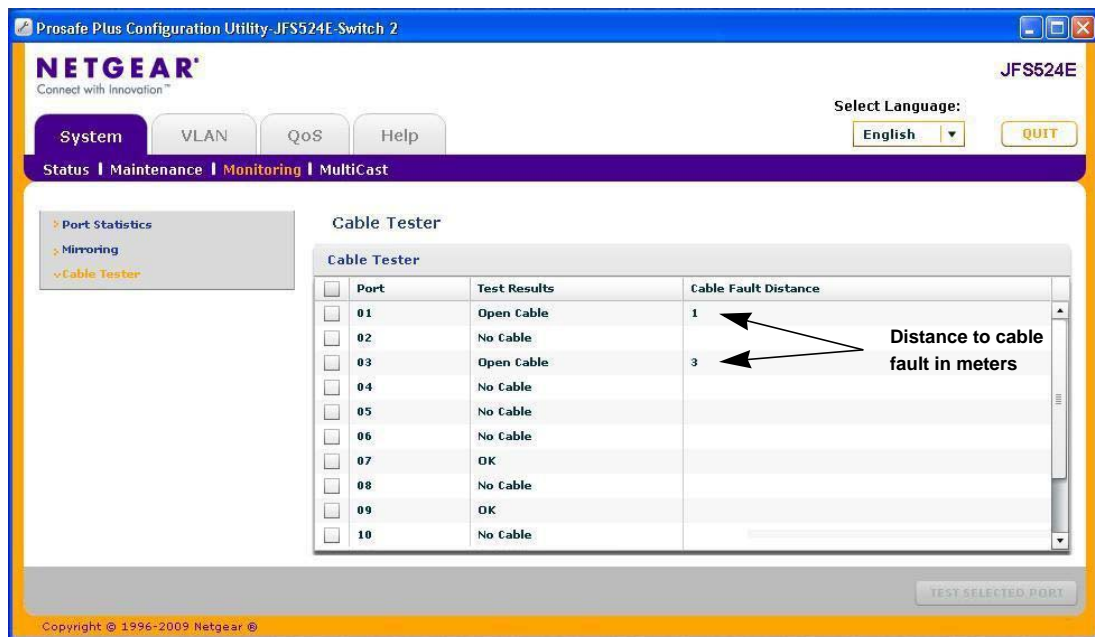
Data on the source port will now also be routed to the destination port.

## Cable Test

Some switch models have a cable testing feature that allows you to check for cable faults. If a cable fault is found on a port the cable test will give an estimate of the distance of the fault from the switch.

### To perform a cable test:

1. Click **System > Monitoring > Cable Tester**. The Cable Tester screen will display.
2. Select the port(s) to be tested and click **TEST SELECTED PORT**. The approximate distance to the cable fault will be displayed.




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**Note:** The distance to the cable fault can be up to +/- 5 meters from the actual fault.

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## MultiCast

### IGMP Snooping

Internet Group Management Protocol (IGMP) Snooping is a feature that allows a switch to forward multicast traffic intelligently on the switch. Multicast IP traffic is traffic that is destined to a host group. Host groups are identified by class D IP addresses, which range from 224.0.0.0 to 239.255.255.255. Based on the IGMP query and report messages, the switch forwards traffic only to the ports that request the multicast traffic. This prevents the switch from broadcasting the traffic to all ports and possibly affecting network performance.

To enable or disable IGMP snooping:

- Select Disable or Enable for IGMP Snooping Status and click **Apply**.

or

- You can also change the VLAN for which the IGMP Snooping to be enabled by entering a valid VLAN ID for the field "VLAN ID Enabled for IGMP Snooping"; and clicking **Apply**.

This field is greyed out if VLAN is not enabled.

#### **Validate IGMPv3 IP header:**

Some of the Network devices may not conform to the IGMPv3 standard. When 'Validate IGMPv3 IP header' option is enabled, IGMP messages are required to have TTL = 1, ToS Byte = 0xC0 (Internetwork Control), and router alert IP option (9404) set; otherwise, the packets will be ignored.

#### **Block Unknown MultiCast Address:**

When enabled, multicast packets are forwarded only to the ports that are in the Multicast group learnt from IGMP snooping. All unknown multicast packets are dropped.

# 3 Virtual LAN Configuration

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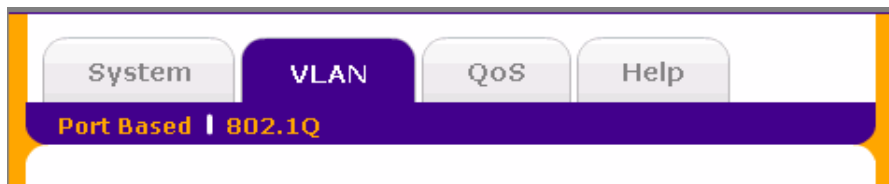
# 3

This chapter contains the following topics:

- **VLAN Overview**
- **Port Based Configuration**
- **802.1Q Based Configuration**

## VLAN Overview

Virtual LANs are made up of networked devices grouped together logically into separate networks. The Switch Configuration Utility allows you to group ports on a switch to create a virtual network made up of the devices connected to the ports. VLANs can be grouped using Port Based or 802.1Q criteria



**Port Based** - allows you to assign ports to virtual networks. Data from a port that is a member of a VLAN group will be restricted to other members of that VLAN group. This is an easy way to partition a network into private sub networks.

**802.1Q** - allows you to create virtual networks using 802.1Q criteria. When using 802.1Q VLAN configuration, you configure ports to be a part of a VLAN group. When a port receives data tagged for a VLAN group, the data will be discarded unless the port is a member of the VLAN group. This technique is useful if you need to communicate with devices outside of your local network as well as still receiving data from other ports not in your VLAN group. It requires that you know the VLAN group IDs used.



## Port Based Configuration

Port Based Virtual LAN configuration assigns ports on the selected switch to a Virtual LAN Group. The number of VLANs that can be created is limited to the number of ports on the switch. The Basic Port Based VLAN Configuration page is designed to help you to partition your network into different segments. Ports with the same ID are grouped into the same VLAN group. If all the VLAN groups share the same uplink to the Internet or servers, enter 'all' in the VLAN Group field for the port that you want to use for the uplink.

### Basic Port Based VLAN Configuration

**To assign members of a VLAN group using Basic Port-Based configuration:**

1. Select the switch.
2. Select **VLAN**. This will display the Basic Port-Based VLAN configuration page.
3. Select **Enable**. A message will display asking if you want to delete previous VLAN settings.
4. Click **Yes**. The Basic Port Based VLAN Configuration screen will display.
5. For each port to be added to the group, select the port and then the VLAN Group.
6. When you are finished adding ports to a particular VLAN Group, click **Apply**.

### Advanced Port Based VLAN Configuration

The advanced port-based configuration uses a slightly different user interface to allow you to assign ports to multiple VLAN groups.

**To assign members of a VLAN group using Advanced Port-Based Configuration:**

1. Select the switch.
2. Click on the **VLAN** tab. This will display the Port-Based VLAN configuration page.
3. Select **Advanced**. This will display the Advanced Port-Based VLAN configuration page.
4. Select **Enable**. A message will display asking if you want to delete previous VLAN settings.
5. Click **Yes**. The Advanced Port-Based VLAN configuration screen will display.
6. VLAN IDs are limited to the number of ports on the switch, 1-5 for a five port switch. Select a VLAN ID from the VLAN identifier field and check the ports that you want to add to the VLAN and click **Apply**. If you want to create more VLANs, repeat this step with another VLAN ID.

## 802.1Q Based Configuration

802.1Q VLAN configuration can be done using basic or advanced methods.

### Basic 802.1Q VLAN Configuration

In Basic 802.1Q VLAN configuration you configure ports to a VLAN Group ID (1-4093 or all).

#### To configure ports using 802.1Q criteria:

1. Select the switch.
2. Select **VLAN**. This will display the Port-Based VLAN configuration page.
3. Select **802.1Q** on the menu.
4. Select **Enable**.
5. For each port to be configured, enter the VLAN Group ID (1-4093 or all) in the field below the port.
6. When you are finished configuring ports, click **Apply**.

### Advanced 802.1Q VLAN Configuration

In Advanced 802.1Q VLAN configuration you configure ports to a VLAN Group ID (1-4093 or all). The advanced configuration feature allows you to create and update VLAN groups with additional information.

## VLAN Configuration

The VLAN Configuration feature lists the currently defined VLANs and the ports assigned to each.

#### To add VLAN groups:

1. Enter the VLAN ID (1-4094) for the VLAN you want to configure in the VLAN ID field at the bottom right of the screen and click **Add**. The new VLAN group will be displayed in the VLAN ID column.
2. Once you have created a new VLAN ID click on **VLAN Membership** to add ports to the group. See [VLAN Membership](#) on page 25.

#### To delete a VLAN group:

1. Select the boxes for the VLANs to be deleted. Selecting the box at the top of the column will select all VLAN IDs.
2. Click **Delete**. The selected VLAN groups will be deleted.

## VLAN Membership

### To add ports to a VLAN group:

1. Select **VLAN Membership** from the menu on the left. The VLAN Membership screen displays.
2. Select the VLAN group you want to configure from the VLAN Identifier pull down list
3. Check the boxes for the ports you want to add to the VLAN group. You can use the Group Operation commands to add all ports or clear the current selections.

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**Note:** Some switches allow Port Tagging on the VLAN Membership screen. See *Port Tagging* on page 25.

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4. Click on **Apply**. Return to the VLAN Configuration screen to verify your selections.

## Port PVID

A Port Default VLAN ID (PVID) is a VLAN ID tag that the switch will assign to data packets it receives that are not already addressed (tagged) for a particular VLAN group. If you have a PC on port 6 and you want it to be a part of VLAN group 2, you would configure port 6 to automatically add a PVID of 2 to all data received from the PC. This will ensure that the data from the PC on port 6 can only be seen by other members of VLAN group 2.

You can only assign one PVID to a port.

### To assign a PVID to a port:

1. Select a switch.
2. Select **VLAN > 802.1Q > Advanced > Port PVID**. The Port PVID screen displays.
3. Select the port you want to configure.
4. Enter the PVID you want to assign to the ports and click **Apply**.

## Port Tagging

Port tagging allows a port to add VLAN ID tags to data packets sent through the port. The tag identifies the VLAN that should receive the data.

Some switches allow Port Tagging to be done on the VLAN Membership screen. If so the port check boxes allow you to select **U** (un tagged) or **T** (tagged) in addition to adding the port to the VLAN group. This causes the data for an individual port to be tagged (associated) with a VLAN group.

**To tag data from ports:**

1. Click on the **VLAN** tab and then select **802.1Q > Advanced > Port Tagging**. The Port Tagging screen displays.
2. Select the ports whose data you want tagged, select the Tag Tagging Control, and click **Apply**.

**To untag data from ports:**

1. Click on the **VLAN** tab and then select **802.1Q > Advanced > Port Tagging**. The Port Tagging screen displays.
2. Select the ports whose data you want untagged, select the **UnTag Tagging Control**, and click **Apply**.

# 4 Quality of Service Configuration

---

# 4

This chapter contains the following topics:

- **QoS Overview**
- **Rate Limiting**
- **Broadcast Filtering**

## QoS Overview

There are many different classes of data that can be sent across a network. Depending on the volume of traffic on the network and the capacity of the equipment in the network, data can be delayed, or lost and retransmitted before reaching its destination. Normally this is not a problem since the data is reassembled at the destination.

If the data consists of text or numeric data to be stored on the destination computer, the user would not notice the delay. But if the data was voice, streaming video, or other delay sensitive data, delays would be undesirable. Video sequences would be jerky and voice communication would have annoying gaps.

The QoS (Quality of Service) feature in the ProSafe® Plus switches allows you to control the flow of data passing through the switch.

- **QoS** global configuration assigns priorities to data.
- **Rate Limit** sets limits on transmission rates for data passing through the switch.
- **Broadcast Filtering** blocks mass transmissions of broadcast packets from being forwarded to all ports.



All of the QoS features have default settings. It is not necessary to configure any settings in order to use the ProSafe® Plus switches.

The following table lists the default settings.

Feature	Setting
<b>Global Configuration</b>	
QoS Mode	Port based
Port Priority	Low priority for each port
<b>Rate Limit</b>	
Ingress	No limit
Egress	No limit
<b>Broadcast Filtering</b>	Disabled

## QoS Global Configuration

Global configuration allows you to assign priorities for how data will be transmitted by the switch. Priority can be assigned either by port number (Port Based) or by the type of data being transmitted (802.1p based). You would typically want to assign a low priority for normal classes of data (email, internet browsing, and ordinary data transfers) and high priority to video, voice, and other delay sensitive data.

### Port Based Priority

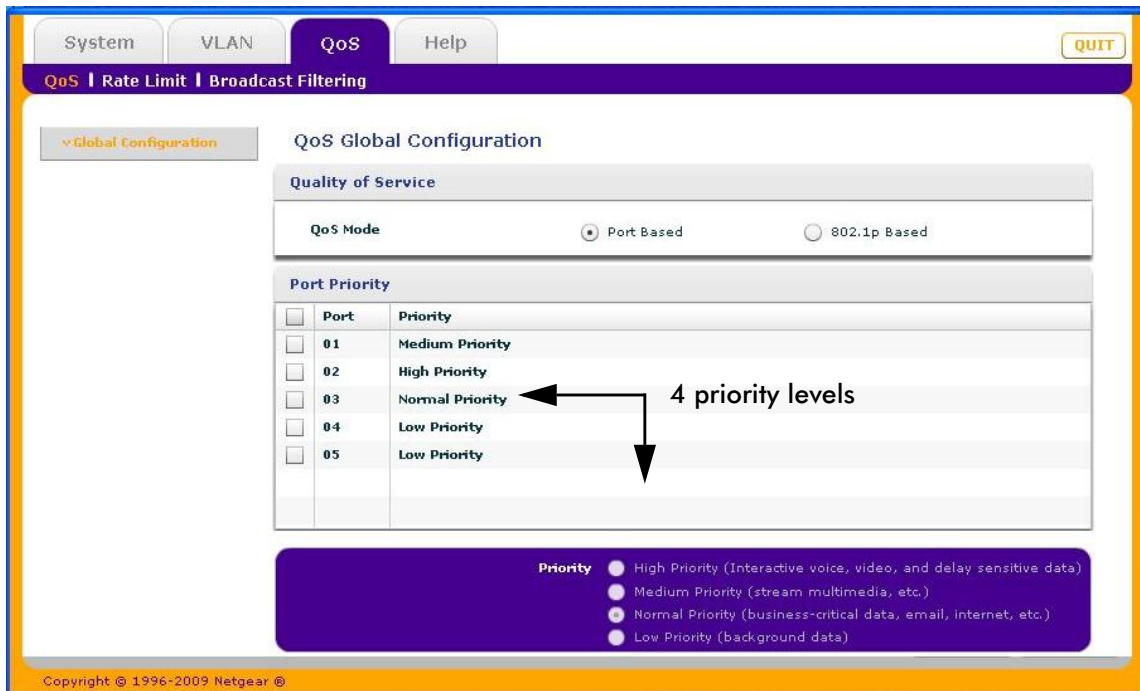
Port-based priority works by assigning a priority to all data passing through a particular port. A higher priority will transmit data with a minimum of delays. If packets arrive at several ports at the same time, the ports configured as higher priority will transmit their packets first. This means that you need to determine which ports are going to carry delay sensitive data.

Some switches allow you to select between two priority levels (High and Low). Others allow four levels (High, Medium, Normal, and Low).

The screenshot displays the QoS Global Configuration page. At the top, there are tabs for System, VLAN, QoS, and Help, with a QUIT button on the right. Below the tabs, the page title is 'QoS Global Configuration'. The main content area is divided into sections: 'Quality of Service' and 'Port Priority'. Under 'Quality of Service', the 'QoS Mode' is set to 'Port Based' (selected) and '802.1p Based' (unselected). The 'Port Priority' section contains a table with columns for 'Port' and 'Priority'. The table lists ports 01 through 07, all of which are currently set to 'Low Priority'. A legend at the bottom of the page defines the priority levels: 'Low Priority (normal data such as email, internet and etc)' and 'High Priority (video, voice and delay-sensitive data)'. An arrow points from the text '2 priority levels' to the 'Low Priority' column in the table.

Port	Priority
<input type="checkbox"/> 01	Low Priority
<input type="checkbox"/> 02	Low Priority
<input type="checkbox"/> 03	Low Priority
<input type="checkbox"/> 04	Low Priority
<input type="checkbox"/> 05	Low Priority
<input type="checkbox"/> 06	Low Priority
<input type="checkbox"/> 07	Low Priority

Priority  Low Priority (normal data such as email, internet and etc)  
 High Priority (video, voice and delay-sensitive data)



### To assign Port Based priorities:

1. Select **System** and click on the radio button for the switch you want to configure.
2. Select **QoS**. The QoS Global Configuration screen displays.
3. Select the ports that you want to have that priority.
4. Select a priority level that you want to assign from the list at the bottom of the display.
5. Click **Apply**. The selected ports will be displayed with the new priority.
6. Repeat for the remaining ports.

### 802.1p Based Priority

802.1p-based priority uses a header in the data packet that identifies the class of data in the packet (for example, voice or video). When 802.1p based priority is used, the switch reads information in the packet header to determine the priority to assign to the packet. When 802.1p Based Priority is used, all ports on the switch check the packet header and transmit the packet with a priority determined by the packet content.

### To select 802.1p Based priority:

1. Select **System** and click on the radio button for the switch you want to configure.
2. Select **QoS**. The QoS Global Configuration screen displays.
3. Select the **802.1p Based** radio button. A message will display warning you that previous QoS settings for the switch will be lost.
4. Click **Yes**. Data will now be processed based on 802.1p priority tags in the data.



## Rate Limiting

You can limit the rate at which the switch accepts incoming data and the rate that it retransmits outgoing data. you can set rate values. The rate choices vary depending on the switch model.

Rate limiting can be set for a port in addition to other QoS settings. If a port has a rate limit set, the switch will restrict the acceptance or retransmission of data to the values configured.

### To configure Rate Limiting:

1. Select **System** and click on the radio button for the switch you want to configure.
2. Select **QoS > Rate Limit**. The QoS Rate Limit screen displays.
3. Select one or more ports then select ingress and egress rates to assign.
4. Click **Apply**. The rates will be displayed opposite the selected ports.
5. Repeat for the remaining ports.

## Broadcast Filtering

A switch can be configured to block massive transmission of broadcast packets being forwarded to every port on the same VLAN. This is also known as broadcast storm protection.

Failure to block broadcast storm packets can cause a delay or halt to other data. Some switches allow you to select a Storm Control Rate for each port, others assign a predetermined Storm control rate for all ports on the switch.

### To configure Broadcast Filtering:

1. Select **System** and click the radio button for the switch you want to configure.
2. Select **QoS > Broadcast Filtering** to display the QoS Broadcast Filtering screen.
3. Select **Enable**.

If the selected switch supports configuring individual ports, a Storm control rate screen will be displayed. If the selected switch does not support individual port configuration, all of the ports will be set to a predetermined Storm control rate.

4. If the ports can be configured, select one or more ports, and the desired Storm control rate.
5. Click **Apply**.

# 5. Help

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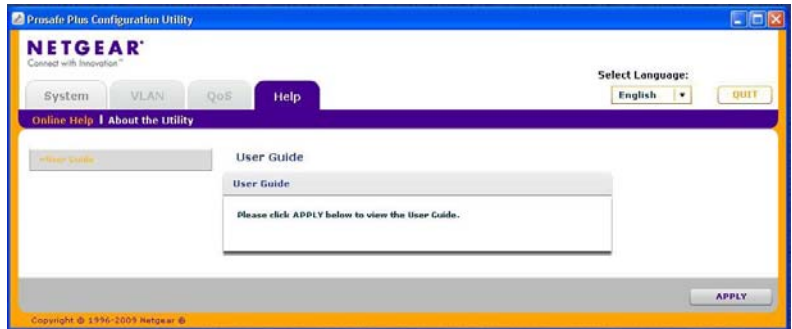
# 5

This chapter contains the following topics:

- **Online Help**

## Online Help

The Help tab provides access to the NETGEAR Support web site and to the online user guide for the ProSafe® Plus Switch Configuration Utility (the latest copy of this manual).



## User Guide

If the PC running the utility program has access to the internet, selecting **User Guide**, then clicking **Apply** will open the latest version of this user guide. You can then download a copy of the User Guide to your PC. After installing a new ProSafe® Plus Switch you should check this website for the latest version of this manual.

## Support Information

If the PC running the utility program has access to the internet, you can display the support page for a selected switch. Selecting **Support**, then clicking **Apply** will open a NETGEAR support page for the selected switch model.

The support page provides access to the NETGEAR Knowledge Base, additional documentation, downloads, and product forums for the selected product.

## About the Utility

Selecting **About the Utility** on the **Help** tab displays the utility software version for the ProSafe® Plus Configuration Utility.



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