



NETGEAR®

ProSafe® Plus Switch Utility User Guide

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ProSafe Plus Switch Utility

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Revision History

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Getting Started

1

This chapter contains the following topics:

- *Install the ProSafe Plus Switch Utility*
- *Registration Pop-Up Window*
- *Discovering Switches*
- *Utility Features Overview*
- *Uninstall the Utility*

Install 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.

The utility is supported only on Microsoft Windows. It can be installed on any Windows computer on the same network as the switches to be managed. If an earlier version of the utility is present on your computer, it is replaced by the newer version. Newer versions of the utility are backward-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 computer, the installation is not performed.

➤ **To install the utility:**

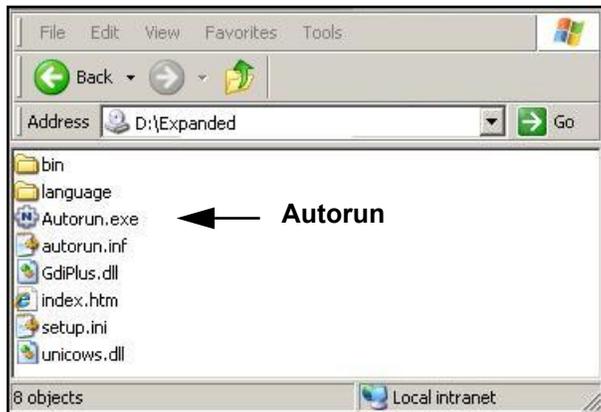
1. Insert the Resource CD that came with your switch into the computer that you want to use to manage your switches. The Resource CD home screen displays.



Resource CD screens, and the installation guide for the switch can be displayed in several languages. Use the drop-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 computer.

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



Note: The utility name might vary slightly between different ProSafe Plus switch models.

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

3. Click **Install Utility**.

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



The WinPcap and Adobe AIR programs might be used by other network applications and might already be installed on your computer. 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 ends the WinPcap portion of installation, but the remaining components are installed
 - c. 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.

Registration Pop-Up Window

The first time that you select a switch, the registration window pops up. It has three buttons:

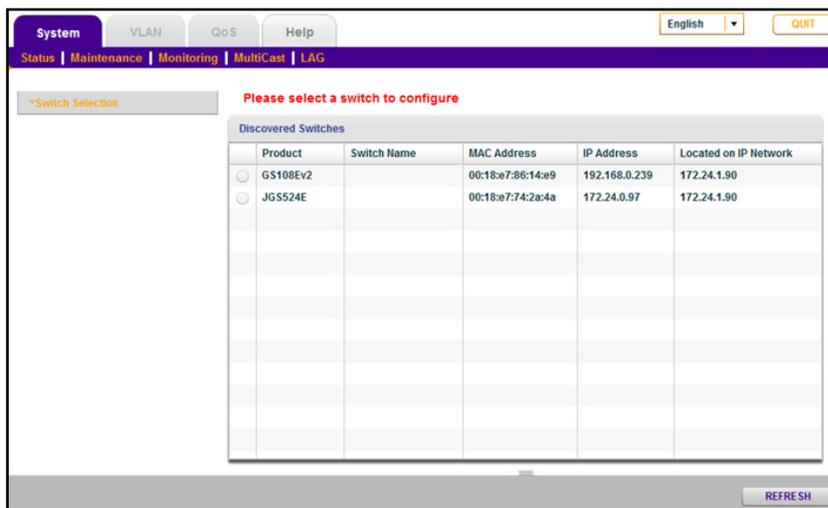
- **Turn Off**. The registration window closes. The pop-up displays again if the switch is selected 24 hours after the switch is restored to factory default settings,
- **Remind Me Later**. The registration window closes. If over 24 hours has passed, and you select the switch again, the Registration window pops up again.
- **Register Now**. If you have an internet connection, you can register your product at the NETGEAR website.

Discovering Switches

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

Local computer 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 must turn off the firewall function in order for discovery to work properly. After a few seconds the utility discovers and lists all ProSafe Plus switches in your network or in the same broadcast domain. Discovery continues through the network until blocked by a router or firewall.

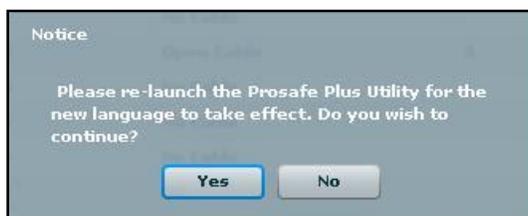
The discovered switches are displayed as shown.



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

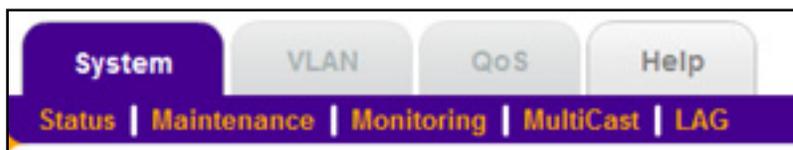
Note: To select a switch, the computer that you are using has to be on the same subnet as the switch. If you are using a standalone computer that is not on a network, you must change your computer's subnet before you can access the switch.

You can select a language for the utility user interface. In the **Select Language** drop-down list, select a language. You are 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.



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

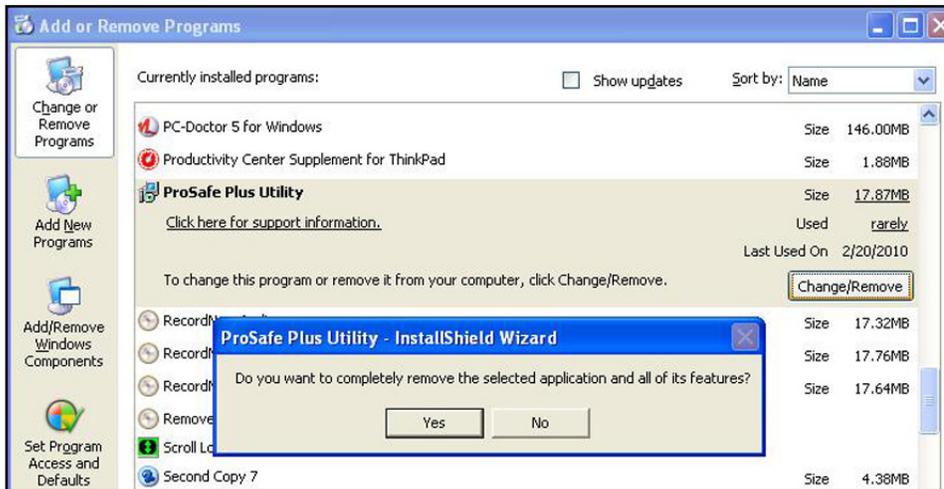
Default settings for the management features are listed in [Appendix A, Supplemental Information](#).

Note: It is possible to specify 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.

Uninstall the Utility

➤ **To uninstall the utility:**

1. Use your computer'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 remove the WinPcap and AIR programs if they are not needed by another program.

System Configuration

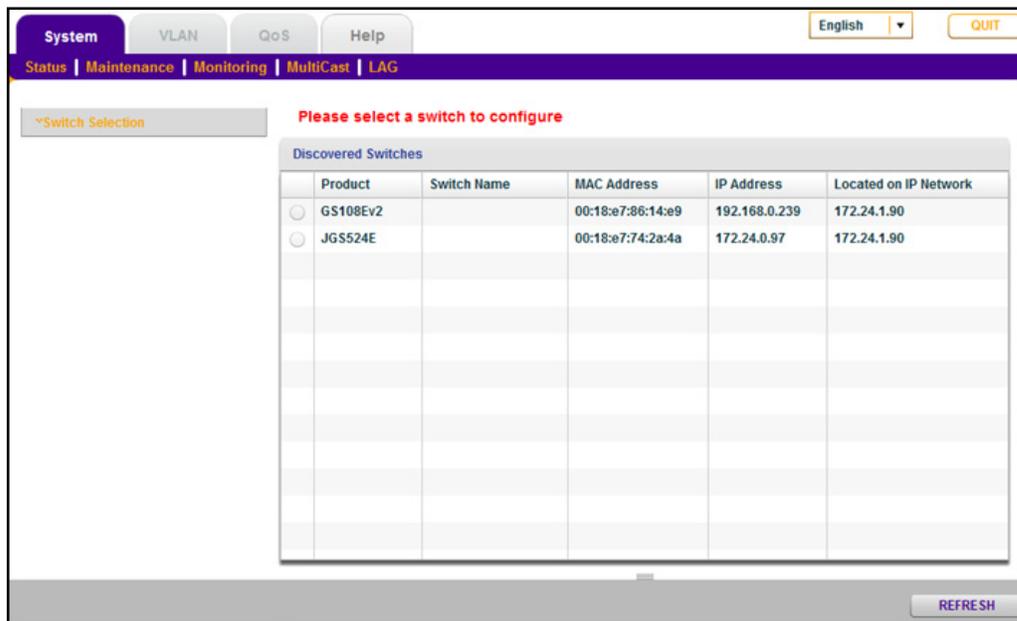
2

This chapter contains the following topics:

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

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 screenshot displays a web-based configuration interface. At the top, there are tabs for 'System', 'VLAN', 'QoS', and 'Help'. A language dropdown menu is set to 'English', and a 'QUIT' button is visible. Below the tabs, a navigation bar includes 'Status', 'Maintenance', 'Monitoring', 'MultiCast', and 'LAG'. The main content area has a 'Switch Selection' button and a red message: 'Please select a switch to configure'. A table titled 'Discovered Switches' is shown with the following data:

	Product	Switch Name	MAC Address	IP Address	Located on IP Network
<input type="radio"/>	GS108Ev2		00:18:e7:86:14:e9	192.168.0.239	172.24.1.90
<input type="radio"/>	JGS524E		00:18:e7:74:2a:4a	172.24.0.97	172.24.1.90

A 'REFRESH' button is located at the bottom right of the interface.

ProSafe Plus Switch Utility

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 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.

LAG. Allows you to enable or disable LAG (Link Aggregation Group).

Table 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 computer
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
LAG	Allow multiple Ethernet links to be combined to a single logical link. Only the JGS524E switch supports LAG.

Status

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

Switch Selection

To use any of the System tab features, you must first select a switch.

To select a switch, the computer that you are using has to be on the same subnet as the switch. If you are using a standalone computer that is not on a network, you must change your computer's subnet before you can access the switch.

➤ **To select a switch:**

1. Select the radio button for the desired switch.

You are asked to enter the password. The default password for all switches is **password**.

2. Enter the switch password and click **Login**.

The port status for the switch displays.

Please select a switch to configure

Discovered Switches

	Product	Switch Name	MAC Address	IP Address	Located on IP Network
<input checked="" type="radio"/>	GS105E		00:26:f2:b0:eb:4d	192.168.0.239	192.168.0.10
<input type="radio"/>					

Port Status

Port	Port Status	Linked Speed
01	Up	1000M
02	Down	No Speed
03	Down	No Speed
04	Down	No Speed
05	Down	No Speed

REFRESH

This screen 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 varies depending on the switch model. If the selected switch supports the Switch Information feature, you can view or set the IP address, subnet mask, and gateway address.

The screenshot shows the 'Switch Information' configuration page. On the left, there is a navigation menu with 'Switch Selection' and 'Switch Information'. The main content area is titled 'Switch Information' and contains the following fields:

- Product Name: GS105E
- Switch Name: (empty)
- MAC Address: 00:26:F2:B0:EB:4D
- Firmware Version: 1.01.25
- DHCP Mode: Enable (dropdown menu) with a Refresh checkbox
- IP Address: 192.168.0.239 (text input)
- Subnet Mask: 255.255.255.0 (text input)
- Gateway Address: 192.168.0.254 (text input)

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 obtains a network IP address from a DHCP server in the network. Each time the switch is powered on or reset, it requests 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 is displayed. If the switch fails to retrieve an IP address from a DHCP server, a default IP address of 192.168.0.239 is entered.

➤ To enable DHCP operation:

1. Select **System > Switch Information**. The Switch Information screen displays.
2. In the DHCP Mode field, select **Enable**.
3. Click **Apply**.

The IP Address, Subnet Mask, and Gateway Address fields are disabled (grayed out).

To disable DHCP address assignment, repeat the previous procedure and select **Disable**. When you click **Apply**, the IP Address, Subnet Mask, and Gateway Address information fields become active again.

Set the IP Address Information

Enter IP address and subnet mask values for the switch as well as the address of the gateway device used by the switch.

➤ **To specify IP interface information:**

1. Select **System > Status > Switch Information**. The Switch Information screen displays.
2. In the DHCP Mode field, select **Disable**. The IP Address, Subnet Mask, and Gateway Address fields are 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 screen display.
2. Enter the old password (the default is **password**) and then enter the new password.
3. Click **Apply**.

Device Reboot



WARNING:

Rebooting the switch briefly disrupts network traffic through the switch.

➤ **To reboot the selected switch:**

1. Select **System > Maintenance > Device Reboot**. The Device Reboot dialog displays.
2. Select the check box in the Device Reboot dialog.
3. Click **Apply**.

Reset Factory Defaults

**WARNING:**

Resetting the factory defaults can 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 displays.
2. Select the check box in the Factory Default dialog.
3. Click **Apply**.

Firmware Upgrade

Note: After firmware downloading is complete, the switch automatically reboots. This briefly disrupts network traffic through the switch.

To upgrade switch firmware, first download a firmware upgrade file for the selected switch from the NETGEAR support website to your computer.

➤ **To upgrade firmware on the selected switch:**

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

The Firmware Upgrade dialog displays.

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

The firmware is downloaded from your computer to the switch and the switch automatically reboots.

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, select **System > Monitoring**. The port statistics for the selected switch are displayed 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 screen.
 3. Enable **Mirroring**.
 4. Select the source port or ports.
 5. In the Destination Port drop-down list, select the port.
 6. Click **Apply**. Data on the source port will 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 gives 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 displays.
 2. Select the ports to be tested and click **TEST SELECTED PORT**. The approximate distance to the cable fault is displayed.

<input type="checkbox"/>	Port	Test Results	Cable Fault Distance (Meter)
<input type="checkbox"/>	01	OK	
<input type="checkbox"/>	02		
<input type="checkbox"/>	03		
<input type="checkbox"/>	04		
<input type="checkbox"/>	05	Open Cable	0

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

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.

You can use either of the following methods to enable or disable IGMP snooping:

- In the IGMP Snooping Status field, select **Disable** or **Enable**, and click **Apply**.
- You can also change the VLAN for which the IGMP Snooping is enabled. In the VLAN ID Enabled for IGMP Snooping field, enter a valid VLAN ID, and click **Apply**. This field is grayed out if VLAN is not enabled.

Validate IGMPv3 IP header

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

Block Unknown MultiCast Address

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

IGMP Snooping Static Router Port

You can select a port to be the dedicated IGMP snooping static router port if there is no IGMP query in the network for the switch to discover the router port dynamically. Once a port is selected as the static router port, all IGMP Join and Leave reports forward to it. If you select *any* in this field, IGMP Join and Leave packets are sent to every port of the switch. Only the GS105E switch supports the *any* setting in this field.

Static LAG (Link Aggregation Group) for JGS524E Only

LAGs allow you to combine multiple Ethernet links to a single logical link. Network devices treat the aggregation as if it were a single link, which increases fault tolerance and load sharing. Configure the LAG members before you enable the LAG.

- **To enable or disable a LAG:**
 1. Select **System > LAG > LAG Configuration**.
 2. Select the LAG ID that you want to configure.
 3. In the Admin Mode field, select **Enable** or **Disable**.
 4. Click **Apply**.

- **To add ports to be LAG members**
 1. Select **System > LAG > LAG Membership**.
 2. Go to LAG ID and select the LAG ID you want to configure.
 3. Select the ports that you want to be the LAG ID member ports.
 4. Click **Apply**.

Virtual LAN Configuration

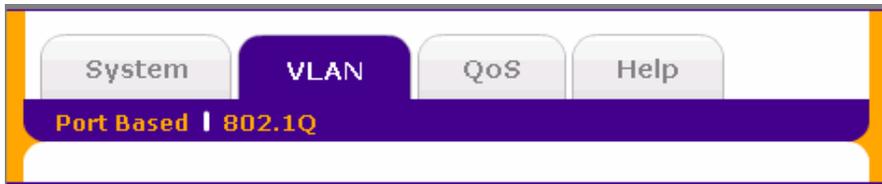
3

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. You can 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 is 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 is discarded unless the port is a member of the VLAN group. This technique is useful 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.

Basic Port Based VLAN Configuration

The Basic Port Based VLAN Configuration screen lets you partition your network into different segments. Ports with the same ID are grouped into the same VLAN group.

➤ **To assign members of a VLAN group:**

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

1. Select the switch.
2. Click the **VLAN** tab. This displays the Port-Based VLAN configuration screen.
3. Select **Advanced**. This displays the Advanced Port-Based VLAN configuration screen.
4. Select **Enable**. A message displays asking if you want to delete previous VLAN settings.
5. Click **Yes**. The Advanced Port-Based VLAN configuration screen displays.

Note: *VLAN IDs are limited to the number of ports on the switch, 1-5 for a five port switch.*

6. Select a VLAN ID from the VLAN identifier field and select the ports that you want to add to the VLAN.
7. Click **Apply**. If you want to create more VLANs, repeat these steps 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 displays the Port-Based VLAN configuration screen.
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:**

In the VLAN ID field at the bottom right of the screen, enter the VLAN ID (1-4094) for the VLAN you want to configure and click **Add**. The new VLAN group is displayed in the VLAN ID column.

7. After you have created a new VLAN ID click **VLAN Membership** to add ports to the group. See [VLAN Membership](#) on page 23.

➤ **To delete a VLAN group:**

1. Select the check boxes for the VLANs to be deleted. Selecting the check box at the top of the column selects all VLAN IDs.
2. Click **Delete**. The selected VLAN groups are 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. In the VLAN Identifier drop-down list, select the VLAN group you want to configure.
3. Select the check 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.

Note: Some switches allow Port Tagging on the VLAN Membership screen. See [Port Tagging](#) on page 23.

4. Click **Apply**.
5. 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 assigns to data packets it receives that are not already addressed (tagged) for a particular VLAN group. If you have a computer on port 6 and you want it to be a part of VLAN group 2, configure port 6 to automatically add a PVID of 2 to all data received from the computer. This ensures that the data from the computer 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 to 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 the **VLAN** tab and select **802.1Q > Advanced> Port Tagging**. The Port Tagging screen displays.
2. Select the ports whose data you want tagged,
3. Select the Tag **Tagging Control**
4. Click **Apply**.

➤ **To untag data from ports:**

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

Quality of Service

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 the QoS features have default settings. It is not necessary to configure any settings to use the ProSafe Plus switches. The following table lists the default settings.

Table 2. QoS Global Configuration Default Settings

Feature	Setting
QoS Mode	802.1p Based
Port Priority	Low priority for each port
Rate Limit	
Ingress	No limit
Egress	No limit
Broadcast Filtering	Disabled

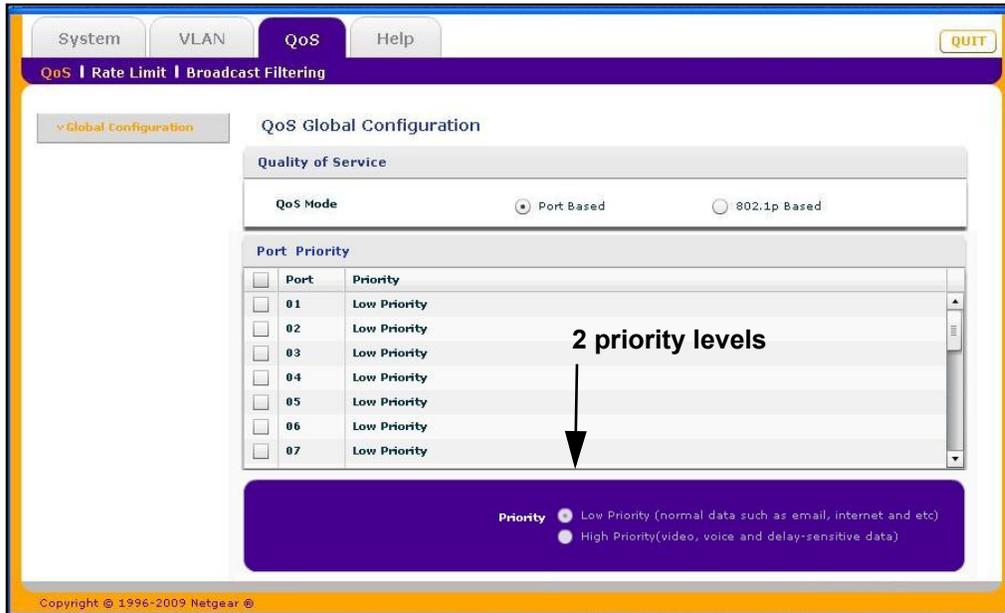
QoS Global Configuration

Global configuration allows you to assign priorities for how the switch transmits data. 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.

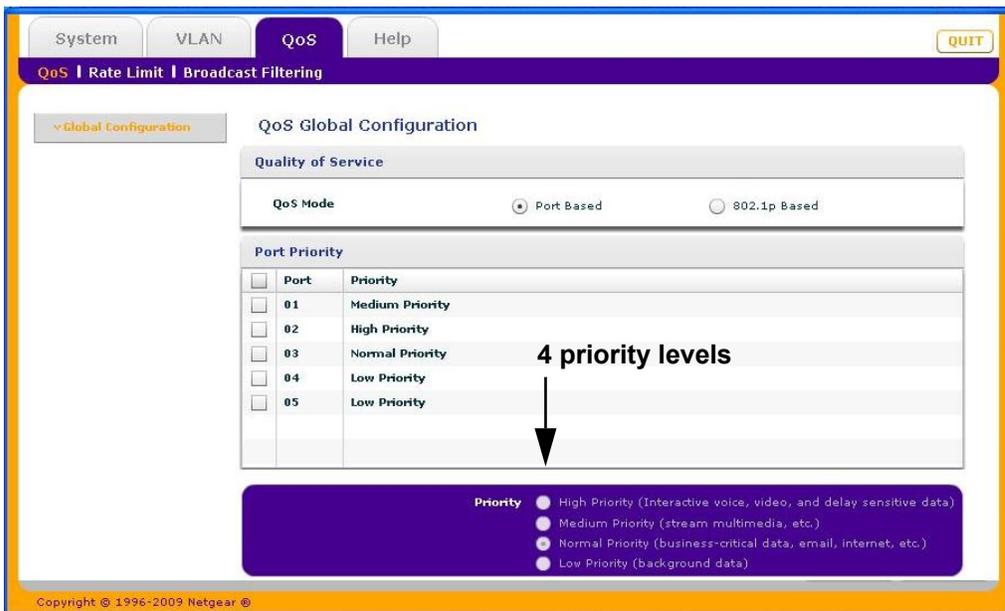
Port Based Priority

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

Some switches allow you to select between two priority levels (High and Low).



Other switches allow four levels (High, Medium, Normal, and Low).



➤ To assign Port Based priorities:

1. Select **System** and click 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 are 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 select 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 displays 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 restricts the acceptance or retransmission of data to the values configured.

➤ To configure Rate Limiting:

1. Select **System** and select 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 are 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 select 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 is displayed. If the selected switch does not support individual port configuration, all of the ports is 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**.

Help

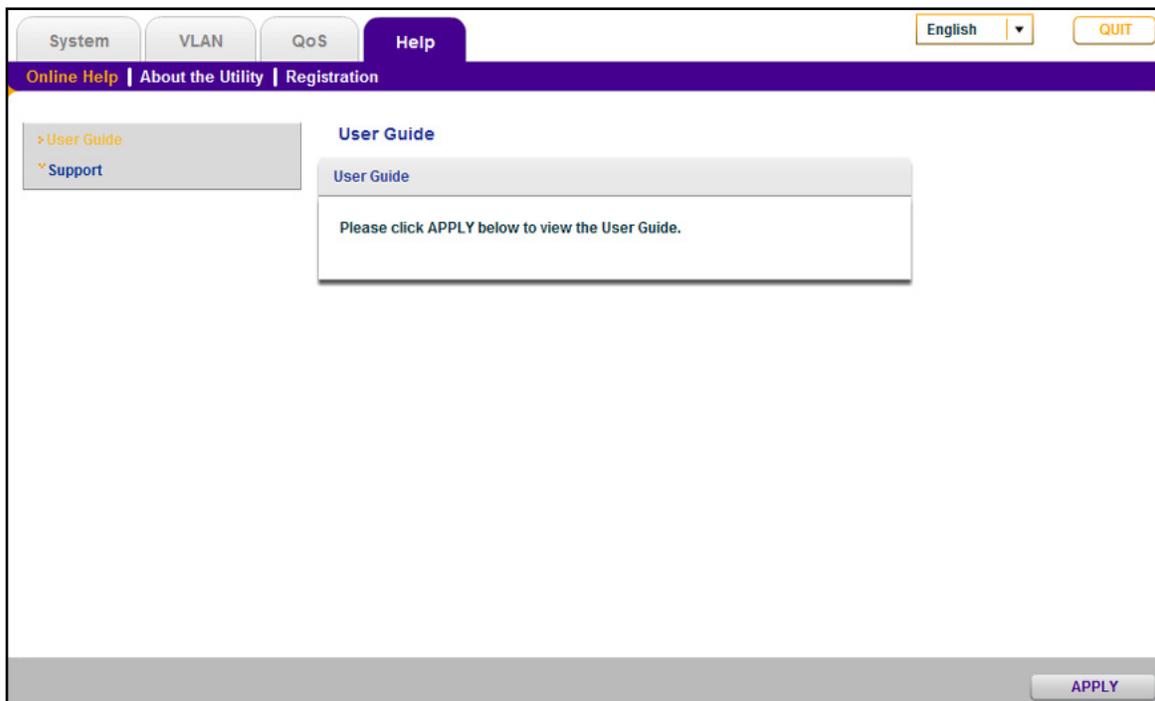
5

This chapter contains the following topics:

- [Online Help](#)
- [About the Utility](#)
- [Registration](#)

Online Help

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



User Guide

If the computer running the utility has access to the Internet, you can select **User Guide**, and click **Apply** to open the latest version of this user guide. You can then download a copy to your computer. After installing a new ProSafe Plus switch, check this website for the latest version of this manual.

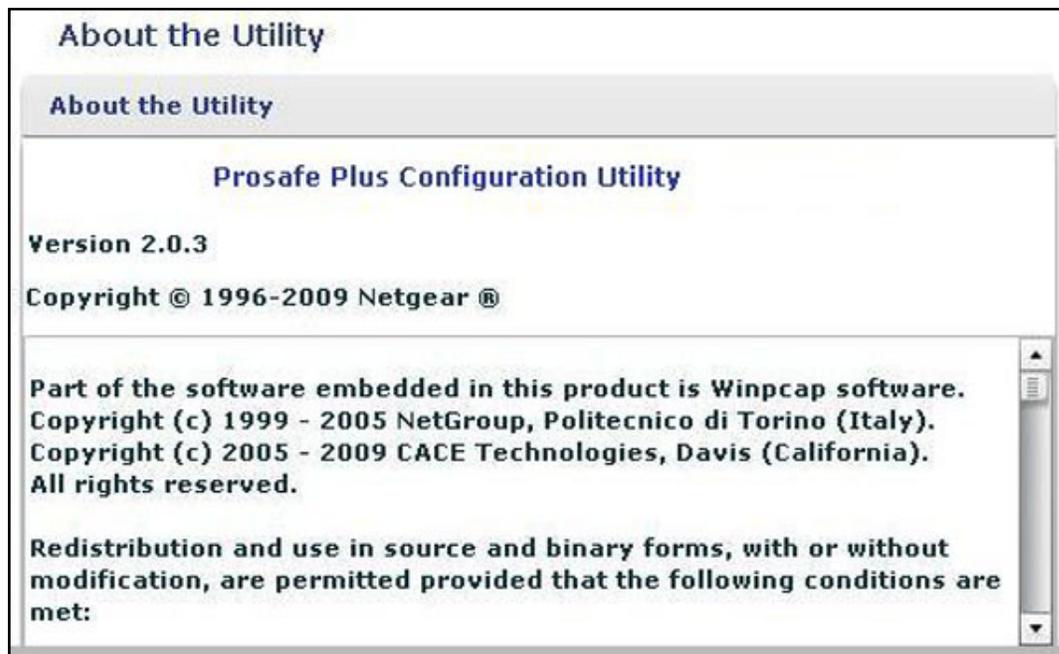
Support Information

If the computer running the utility has access to the Internet, you can display the support screen for a selected switch. Select **Support**, then click **Apply**.

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

About the Utility

Select **About the Utility** on the Help tab to view the utility software version.

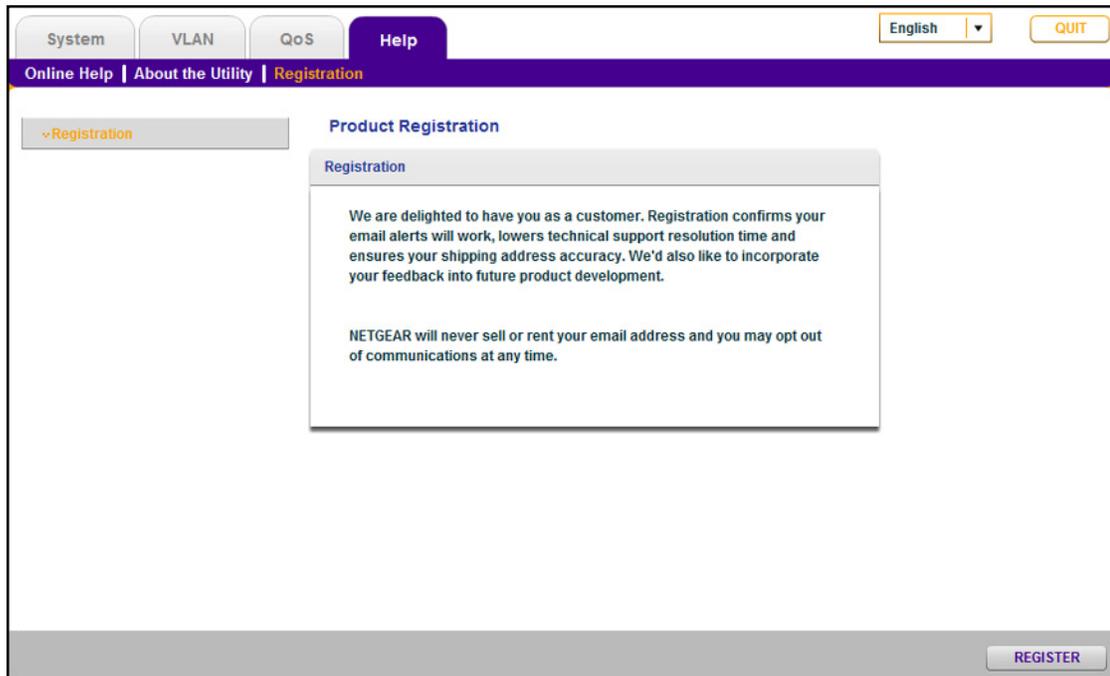


Registration

If the computer running the utility has access to the Internet, you can register your products.

➤ **To register your product:**

1. On the Help tab, select **Registration** to display the following screen:



2. Click **REGISTER**.

Your computer connects to NETGEAR product registration server.

3. Follow the on screen prompts to register your product.

Supplemental Information



This appendix covers the following topic:

- *Default Settings*

Default Settings

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

Table 3. Default Switch Settings

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	
		IGMP Snooping Static Router Port (GS105E only)	N/A (blank)	

Table 3. Default Switch Settings (continued)

Tab	Menu	Feature	Default Value
System	LAG (JGS524E only)	LAG Configuration and default value	Disabled
		LAG Membership,	N/A (blank)
VLAN	Port Based	Basic	Disabled
		Advanced	Disabled
	802.1Q		
		Basic	Disabled
	Advanced	Disabled	
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	-

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