NORTEL

Nortel Ethernet Routing Switch 5000 Series

Release Notes — Release 6.1

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New in this release

The following sections detail what's new in Nortel Ethernet Routing Switch 5000 Series Release Notes — Release 6.1.

Features

See the following sections for information about feature changes.

- "IP Flow Information Export (IPFIX) licensing" (page 10)
- "User name and password support" (page 10)
- "Extended password history" (page 10)
- "802.1X dynamic authorization extension" (page 10)
- "VLACP enhancements" (page 10)
- "Generic Filter Sets" (page 10)
- "QoS Agent operational mode" (page 10)
- "System, IP, and Layer 2 classifier elements" (page 10)
- "Nortel Automatic QoS" (page 10)
- "Stack Health Check" (page 11)
- "Stack environmental information" (page 11)
- "Stack forced mode" (page 11)
- "Quick install" (page 11)
- "IP.CFG enhancement" (page 11)
- "New NNCLI commands" (page 11)
- "SNMP Traps" (page 12)
- "ACG support for RTSP and MSTP" (page 12)
- "Broadcast/Multicast storm control" (page 12)
- "JDM support for Port Mirroring" (page 12)
- "Bootp/DHCP Relay Web management" (page 12)
- "LLDP Med Network policies" (page 12)

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Introduction

This document describes new features, hardware, upgrade alerts, known and resolved issues, and limitations for Nortel Ethernet Routing Switch 5000 Series - Release 6.1.

For information on how to upgrade Device Manager, see *Nortel Ethernet Routing Switch 5000 Series Fundamentals* (NN47205-102).

The Nortel Ethernet Routing Switch 5000 Series includes the following switch models:

- Nortel Ethernet Routing Switch 5510-24T
- Nortel Ethernet Routing Switch 5510-48T
- Nortel Ethernet Routing Switch 5520-24T-PWR
- Nortel Ethernet Routing Switch 5520-48T-PWR
- Nortel Ethernet Routing Switch 5530-24TFD
- Nortel Ethernet Routing Switch 5698-TFD
- Nortel Ethernet Routing Switch 5698-TFD-PWR
- Nortel Ethernet Routing Switch 5650-TD
- Nortel Ethernet Routing Switch 5650-TD-PWR
- Nortel Ethernet Routing Switch 5632-FD

Configurations can vary from a standalone switch to a stack of up to 8 switches. A stack can consist of any combination of switches. One of the benefits of operating Nortel Ethernet Routing Switch 5000 Series switches in a stack is management efficiency; a stack is managed with a single IP address and software is available as a single image across all models.

These release notes provide the latest information about the current software release, as well as operational issues not included in the documentation.

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For a complete list of documentation in the Nortel Ethernet Routing Switch 5000 Series suite, see *Nortel Ethernet Routing Switch 5000 Series Documentation Roadmap* (NN47200-101).

The information in this document supersedes applicable information in other documents in the suite.

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Important notices and new features

This section contains a brief synopsis of the new features in Release 6.1 and any important notices.

Navigation

- "New features in Release 6.1" (page 9)
- "Release file names" (page 12)
- "Supported software and hardware capabilities" (page 15)
- "Nortel Ethernet Routing Switch 5520 phone dongle" (page 17)
- "Ensuring Device Manager Online Help displays correctly" (page 17)
- "Additional information for the feature software license file" (page 17)
- "Upgrading software" (page 13)
- "Supported standards, MIBs, and RFCs" (page 18)

Feature document location

The following table contains a list of key software features and their location in the documentation suite.

Feature	Document
QoS Traffic Profiling	*Nortel Ethernet Routing Switch 5000 Series Configuration - Quality of Service* (NN47200-504)
SMLT configuration	*Nortel Ethernet Routing Switch 5000 Series Configuration — VLANs, Spanning Tree, and Link Aggregation* (NN47200-502)

New features in Release 6.1

Software release 6.1 provides the following new features and feature enhancements:

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IP Flow Information Export (IPFIX) licensing

IP Flow Information Export functionality is now part of the base functionality of the Ethernet Routing Switch 5000 Series. A separate license for this functionality is no longer necessary.

User name and password support

The Ethernet Routing Switch 5000 Series now features the ability to create user names and passwords for switch or stack access. This feature extends the current access method of one read-only or read-write password for switch or stack access.

Extended password history

The Ethernet Routing Switch 5000 Series now features an extended password history of up to 10 passwords.

802.1X dynamic authorization extension

The Ethernet Routing Switch 5000 Series now supports 802.1X dynamic authorization extensions. The support allows third-party devices to dynamically change VLANs or close user sessions.

VLACP enhancements

This software release incorporates several requested enhancements to VLACP functionality.

Generic Filter Sets

A generic filter set is a collection of individual classifiers, classifier blocks, and the associated actions and metering criteria. Filter sets act as a template applied to an interface based on internal or external events. Both IP and Layer 2 options are available.

QoS Agent operational mode

The operational mode of the QoS agent can now be configured globally.

System, IP, and Layer 2 classifier elements

QoS now supports additional system, IP, and Layer 2 classifier elements. Refer to the documentation for details.

Nortel Automatic QoS

Nortel Automatic QoS support provides the ability to easily identify and prioritize Nortel application traffic on Nortel data infrastructure. Nortel Automatic QoS gives users the ability to enable or disable Nortel Automatic QoS support for the whole system.

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Stack Health Check

The Stack Health Check feature provides information on the stacking state of each switch rear port. It is used to run a high-level test to monitor the rear port status for each unit, confirm the number of switching units in the stack, detect if the stack runs with a temporary base unit, and monitor the stack continuity.

Stack environmental information

This feature provides information on the status of the environment of each unit in a stack.

Stack forced mode

When you enable this feature in a stack of two switches, on the failure of a unit, the remaining switch retains the stack IP address ensuring continued management access to the remaining unit. When Stack Forced Mode is enabled if the base unit remains, then AUR, AAUR and DAUR ensures that when a replacement unit is added to the base unit it is correctly provisioned.

Quick install

This feature allows users to take the first configuration from a file found on a USB device or from a minimal configuration menu.

IP.CFG enhancement

This enhancement allows users to set IP parameters using the IP.CFG file on a USB device.

New NNCLI commands

This enhancement adds the following new commands to the NNCLI:

- `restore factory-default`
- `write memory`
- `save config`
- `serial-console`
- `no serial-console`
- `default serial-console`
- `show serial-console`
- `usb-host-port`
- `no usb-host-port`
- `default usb-host-port`
- `show usb-host-port`

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SNMP Traps

This enhancement adds SNMP Traps for RSTP, DHCP Snooping, Dynamic ARP Inspection, and IP Source Guard.

ACG support for RTSP and MSTP

This enhancement adds RTSP and MSTP support for ASCII Configuration files.

Broadcast/Multicast storm control

This enhancement extends the existing rate limiting functionality to support rate setting in packets/sec values. The feature controls the incoming broadcast/multicast traffic using three parameters: mode, type of packets and threshold.

JDM support for Port Mirroring

This enhancement extends port mirroring functionality to the Java Device Manager.

Bootp/DHCP Relay Web management

Web-based management now supports Bootp/DHCP Relay configuration.

LLDP Med Network policies

This enhancement extends LLDP Med Network policies to allow Nortel Automatic QoS to set the DSCP value sent by the Network Policy TLV for voice traffic to a value that is recognizable on ingress for increased prioritization.

Release file names

The following table describes the Nortel Ethernet Routing Switch 5000 Series software components for this release.

Table 1
Software Release 6.1 Components

File Type	Description	File Name
Standard runtime combo image software version 6.1	Standard non SSH combo image for the Ethernet Routing Switch 5000 Series	5xx0_610xxx.img
Secure runtime combo image software version 6.1	Standard SSH combo image for the Ethernet Routing Switch 5000 Series	5xx0_610xxxs.img
Standard runtime 55xx image software version 6.1	Standard non SSH 55xx image for the Ethernet Routing Switch 55xx Series	55x0_610xxx.img
Secure runtime 55xx image software version 6.1	Standard SSH 55xx image for the Ethernet Routing Switch 55xx Series	55x0_610xxxs.img
Combo diagnostic software version 6.0.0.06	ERS 5000 Combo diagnostic software	5xx0_60006_diags .bin

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Table 1
Software Release 6.1 Components (cont'd.)

File Type	Description	File Name
55xx diagnostic software version 6.0.0.06	ERS 5500 diagnostic software	55x0_60006_diags.bin
Windows JDM Version	Windows version of the Java Device Manager	jdm_6200.exe
Linux JDM Version	Linux version of the Java Device Manager	jdm_6200_linux.sh
Solaris JDM Version	Solaris version of the Java Device Manager	jdm_6200_solaris_sparc.sh
MIB Definition File	MIB Definition File	Ethernet_Routing_Switch_56xx_MIBs_6.1.0.zip

Upgrading software

The procedures in this section are used to upgrade the diagnostic and agent software. Use these procedures to upgrade to Software Release 6.1

ATTENTION
There is no upgrade path from any agent software release earlier than 6.0 to Software Release 6.1. Devices running older agent software must first be upgraded to a version of Software Release 6.0 before upgrading to Software Release 6.1. Additionally, the diagnostic software running on the device cannot be earlier than 6.0.0.6.

Navigation

- "Upgrading diagnostic software" (page 13)
- "Upgrading agent software" (page 14)

Upgrading diagnostic software

Use the following procedure for upgrading the diagnostic software image.

Step	Action
1	Access the NNCLI through a Telnet or Console connection.
2	Enter Privileged EXEC mode using the **`enable`** command.
3	Use the command **`download address <ip_address> diag <image_name> [no-reset] [usb]`** to transfer the diagnostic image to the device.

--End--

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The following table describes the parameters for this command.

Parameter	Description
address <ip_address>	The IPv4 or IPv6 address of the TFTP server on which the diagnostic image is hosted.
diag <image_name>	The name of the diagnostic image file on the TFTP server.
no-reset	This parameter specifies that the device will not reset after the upgrade is complete.
usb	This parameter specifies that the software download will occur from a USB device instead of the network. This option is only valid with the 5530-24TFD and 5600 Series devices.

The upgrade process occurs automatically without user intervention. This process deletes the contents of the flash memory and replaces it with the desired software image. Do not interrupt the download process.

When the process is complete, the device automatically resets unless the **no-reset** parameter was used. The software image initiates a self-test and returns a message when the process is complete.

During the download process the switch is not operational.

Upgrading agent software

Step	Action
1	Access the NNCLI through a Telnet or Console connection.
2	Enter Privileged EXEC mode using the **enable** command.
3	Use the command **download address <ip_address> {primary | secondary} {image <image_name> | image-if-newer <image_name> | poe_module_image <image_name>} [no-reset] [usb]** to transfer the agent image to the device.

--End--

The following table describes the parameters for this command.

Parameter	Description
address <ip_address>	The IPv4 or IPv6 address of the TFTP server on which the agent image is hosted.
primary | secondary	This parameter designates whether the image is stored in the primary or secondary image location. The default is primary.

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Parameter	Description
image <image_name> | image-if-newer <image_name> | poe_module_image <image_name>	The name of the agent image file on the TFTP server. Each option is mutually exclusive. Use the option described with the following situation: • To load the agent image under normal circumstances, use the image option. • To load the agent image only if it is newer than the current image, use the image-if-newer option. • To load the agent image if it is a PoE module image, use the poe_module_image option.
no-reset	This parameter specifies that the device will not reset after the upgrade is complete.
usb	This parameter specifies that the software download will occur from a USB device instead of the network. This option is only valid with the 5530-24TFD and 5600 Series devices.

The upgrade process occurs automatically without user intervention. This process deletes the contents of the flash memory and replaces it with the desired software image. Do not interrupt the download process.

When the process is complete, the device automatically resets unless the **`no-reset`** parameter was used. The software image initiates a self-test and returns a message when the process is complete.

During the download process the switch is not operational.

Supported software and hardware capabilities

The following table lists the known limits for the Ethernet Routing Switch 5000 Series, Release 6.1 and Device Manager.

Table 2
Supported capabilities in Ethernet Routing Switch 5000 Series switches

Feature	Maximum number supported
VLANs	256
Protocol-based VLANs	Depending on the protocol specified, the number of protocol VLANs supported at one time varies between 3–7. See *Nortel Ethernet Routing Switch 5500 Series Configuration — VLANs, Spanning Tree, and MultiLink Trunking* (NN47200-502) for more information.
Nortel SNA VLANs	One Red VLAN per switch. Nortel recommends a maximum of five Yellow VLANs, five Green VLANs, and five VoIP VLANs per switch.

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Feature	Maximum number supported
Nortel SNA ports	All ports. ***Note:*** The 5530 has two 10 Gigabit (Gb) ports. You can configure these as uplink ports only. You cannot configure these as dynamic ports.
IGMP maximum number of unique groups	240 (for Layer 2) and 1000 (for Layer 3)
EAPoL 802.1x supplicants	All ports
Number of routes (dynamic, static and local)	2000[1]
ARP records	1500
Static ARP	256
IP interfaces	256
Static routes	512
Spanning Tree Groups	8
Aggregation groups (link aggregation)	32
Ports per aggregation group	8
MAC addresses in fdb	16 Kb
OSPF areas	4 (3 areas plus area 0)
OSPF adjacencies	64
VRRP interfaces	64
ECMP	4 paths[2]
DHCP Snooping Binding table entries	512
DHCP relay forward paths	512
IP Management routes	4
PIM-SM multicast entries	Up to 500 for 55xx series Up to 1000 for 56xx series
Allow-flood IGMP multicast addresses	The maximum number of allow-flood multicast entries is determined by the number of VLANs on the device. Each entry in the allow-flood table applies to each current VLAN; if 1 entry exists in the allow-flood table and 5 VLANs are configured, then there are 5 entries programmed in hardware. Currently, the hardware limit is 4096. This limit should not be crossed. The limit for the maximum number of allow-flood addresses is 128 (1 VLAN).

[1] Total number of routes (dynamic and static) supported.
[2] Not supported on 5510 switches.

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Nortel Ethernet Routing Switch 5520 phone dongle

The part number for the Nortel Ethernet Routing Switch 5520 (5520-24T/48T-PWR) universal phone dongle is DY4311046.

Ensuring Device Manager Online Help displays correctly

Nortel supports the following two browsers for Device Manager Online Help:

- Netscape
- Internet Explorer

If you use Netscape as your Web browser, to ensure that the topics and table of contents display correctly when making a context call to on-product Help, perform the following procedure once before requesting Help on a topic:

1. Start the Netscape browser.
2. From the **Tools** menu, select **Options**. (An **Options** window opens.)
3. In the **Security and Privacy** panel of the **Options** window, click **Site Controls**. (An **Options - Site Controls** window opens.)
4. Ensure that the **Site List** tab is selected.
5. Select **Local Files** in the **Master Settings** area of the window.
6. Select **Internet Explorer** in the **Rendering Engine** area of the window.
7. Click **OK** to close the **Options - Site Controls** window.

Additional information for the feature software license file

When you create a license file to enable licensed features on an Ethernet Routing Switch 5000 Series switch with the Nortel Electronic Licensing Portal at www.nortellicensing.com, you must specify a file name. Follow the instructions on the License Certificate within the License Kit, or see *Nortel Ethernet Routing Switch 5000 Series Fundamentals* () (NN47200-104) for more information. You must use the following rules when you generate and name the file:

- A maximum of 63 alphanumeric characters
- Lowercase only
- No spaces or special characters allowed
- Underscore (_) is allowed
- The dot (.) and three-character file extension are required

For example, abcdefghijk_1234567890.lic.

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The format of the file that you upload to the license generation tool (and that contains the list of MAC addresses) must be as follows:

- ASCII file format
- One MAC address per line
- No other characters, spaces, or special characters allowed
- MAC must be in hexadecimal, capitalized format, with each pair of characters separated by colons (XX:XX:XX:XX:XX:XX)
- The file must contain the correct MAC addresses. Any incorrect MAC addresses will result in the licensed features not working on designated units.
- The number of MAC addresses must not exceed the number of MAC addresses allowed for the License Authorization Code entered for a particular file:
  - AL1016001 = 2 MAC addresses (1 stack/standalone unit)
  - AL1016002 = 20 MAC addresses (10 stacks/standalone units)
  - AL1016003 = 100 MAC addresses (50 stacks/standalone units)
  - AL1016004 = 200 MAC addresses (100 stacks/standalone units)

Supported standards, MIBs, and RFCs

This section lists the standards, MIBs, and RFCs supported by the Nortel Ethernet Routing Switch 5000 Series.

Standards

The following IEEE Standards contain information that applies to the Nortel Ethernet Routing Switch 5000 Series:

- IEEE 802.1D (Standard for Spanning Tree Protocol)
- IEEE 802.3 (Ethernet)
- IEEE 802.1Q (VLAN Tagging)
- IEEE 802.1p (Prioritizing)
- IEEE 802.1X (EAPOL)
- IEEE 802.3u (Fast Ethernet)
- IEEE 802.3z (Gigabit Ethernet)
- IEEE 802.3ab (Gigabit Ethernet over Copper)
- IEEE 802.3x (Flow Control)
- IEEE 802.3ad (Link Aggregation)
- IEEE 802.1ab (Link Layer Discovery Protocol)

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RFCs

For more information about networking concepts, protocols, and topologies, consult the following RFCs:

- RFC 791 (IP)
- RFC 894 (IP over Ethernet)
- RFC 792 (ICMP)
- RFC 793 (TCP)
- RFC 1350 (TFTP)
- RFC 826 (ARP)
- RFC 768 (UDP)
- RFC 854 (Telnet)
- RFC 951 (BootP)
- RFC 1213 (MIB-II)
- RFC 1493 (Bridge MIB)
- RFC 2863 (Interfaces Group MIB)
- RFC 2665 (Ethernet MIB)
- RFC 2737 (Entity MIBv2)
- RFC 2819 (RMON MIB)
- RFC 1757 (RMON)
- RFC 1271 (RMON)
- RFC 1157 (SNMP)
- RFC 1112 (IGMPv1)
- RFC 1945 (HTTP v1.0)
- RFC 2131 (DHCP)
- RFC 2236 (IGMPv2)
- RFC 2362 (PIM-SM)
- RFC 2865 (RADIUS)
- RFC 2674 (Q-BRIDGE-MIB)
- RFC 3410 (SNMPv3)
- RFC 3411 (SNMP Frameworks)
- RFC 3413 (SNMPv3 Applications)
- RFC 3414 (SNMPv3 USM)
- RFC 3415 (SNMPv3 VACM)

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- RFC 3412 (SNMP Message Processing)
- RFC 3576 (Dynamic Authorization Extensions to Remote Authentication Dial In User Service)

The following table lists IPv6 specific RFCs.

Standard	Description	Compliance
RFC 2460	Internet Protocol v6 (IPv6) Specification	Supported
RFC 2461	Neighbor Discovery for IPv6	Supported
RFC 2462	IPv6 Stateless Address Auto-configuration	Auto-configuration of link local addresses only
RFC 4443	Internet Control Message Protocol (ICMPv6)	Support earlier version of RFC (2463)
RFC 4301	Security Architecture for the Internet Protocol	Not supported
RFC 4291	IPv6 Addressing Architecture	Support earlier version of RFC (3513)
RFC 4007	Scoped Address Architecture	Supported
RFC 4193	Unique Local IPv6 Unicast Addresses	Not supported
RFC 4293	Management Information Base for IP	Mostly supported
RFC 4022	Management Information Base for TCP	Mostly supported
RFC 4113	Management Information Base for UDP	Mostly supported
RFC 1981	Path MTU Discovery for IPv6	Supported
RFC 2464	Transmission of IPv6 Packets over Ethernet Networks	Supported
RFC 4213	Transition Mechanisms for IPv6 Hosts and Routers	Supports dual stack. No support for tunneling yet.
RFC 3162	RADIUS and IPv6	Supported
RFC 1886	DNS Extensions to support IPv6	Supported

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Resolved issues

The following table lists the issues resolved in the current software release.

Change Request Number	Description
Q01219391	MAC Address table does not age out all MAC sources learned after the aging time has expired.
Q01331097	Traffic loss and recovering due to VRRP masters and backups not functioning as expected.
Q01426394	With nine VRRP instances and overnight traffic, a single VRRP bounce may be observed.
Q01470123	Passive static device behind a phone displayed as unknown after switch reboot.
Q01644598	VLACP Actor/Partner state change enhancements.
Q01470123-01	Passive static device behind a phone displayed as unknown after switch reboot.
Q01728560	ADAC port configuration types not defined in manual.
Q01978465	Telnet session hangs on ERS 5510-48T during an ASCII configuration download.
Q01938607	Incorrect error message displayed during software download from an unreachable server.
Q01862906	The Time Domain Reflectometer in the JDM displays an incorrect message for the Pin Short cable error.
Q01865091	MAC authorized clients are not reauthorized after a former base unit reenters the stack.
Q01943527	Inconsistency between IPv4 and IPv6 in binary configuration file.
Q01954180	Cannot disable some DHCP relay settings using JDM or SNMP.
Q01956922	Continuous IPv6 ping out stops working after 2147 ICMPv6 messages.
Q01955272	PIM OIF may not get installed on IR.
Q01954041	LLDP Med-Network-Policies Voice Tagging command issue.
Q01951600	Error performing MIB walk on 5632.

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Change Request Number	Description
Q01950311	Voice traffic is blocked on a non-base unit when ARP inspection is enabled on a VoIP VLAN.
Q01950147	The EAP-TLS or PEAP-MsChapV2 clients could be unexpectedly transitioned to the EAP Held state on a multihost enabled port.
Q01895467	Some LLDP commands fail when configuring a device with an ASCII configuration file.
Q01775378	Error message when disabling spanning tree learning.
Q01927698	PIM interfaces become disabled on a device.
Q01923408-02	Management VLAN IP address should always be used in relation to RADIUS.
Q01909890	QoS-IGMP problems with known and unknown multicast options on 56xx ports.
Q01906362	An NEAP client can change ports without a link down or age out timer event.
Q01901336	Multicast traffic not forwarded through non-local static routes.
Q01895723	Metric for external routes jumps to 127174722 when a dummy vlink is created and deleted.
Q01950071	VLACP enabling does not work in some circumstances.
Q01948343	On a pure 56xx stack, port mirroring mode XrxYtx multiplies unicast traffic on port Y in certain scenarios.
Q01946284	LLDP-Med does not work in certain circumstances
Q01946214	MAC addresses are lost when a base unit fails.
Q01945909	Some ARP, OSPF, or VRRP packets are unexpectedly mirrored when using XrxYtx mirroring mode and the monitored port is in the Management VLAN or in SMLT VLANs.
Q01947050	ADAC system message logged after a stack is reset.
Q01942783	Restoring a device with an ASCII configuration file fails when Layer 3 settings are present.
Q01863512	MAC security Lifetime setting cannot be modified from the JDM.
Q01859874	Typed commands should not be sent remotely when log level is serious or critical.
Q01860782	A message is needed to confirm the successful upload of an ASCII configuration to USB with the PUSH button.

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Known issues and limitations

Use the information in this section to learn more about known issues and limitations. Where appropriate, use the workarounds provided for these.

Known issues

See the following table for a list of known anomalies for the Ethernet Routing Switch 5000 Series release 6.1.

Change Request Number	Description
Q01943946	It may take more time than usual for traffic to re-converge (approximately 10 seconds) if a stack from the core is rebooted in a highly scaled SMLT configuration (100 VLANs).
Q02009977-01	Specifying a range of ports for non-base units using the **poe poe-shutdown port X** command may cause IP Phones connected to those ports to remain powered on in some stack configurations.
Q02006387	Changing the STG for the client VLAN when DHCP relay is configured on a Layer 3 device may cause the DHCP messages coming for the server not to be relayed in certain cases.
Q01997912	The **show ip ospf neighbor detail** command that provides detailed information for OSPF LSDB should not be run when the terminal length is set to 0.
Q02005019	ACG will fail when ports are added to VLANs if an STG was created, VLANs were added, the STG enabled and then ports added to VLANs (configuration control flexible and 1 port in 2 different VLANs).
Q02003364	OSPF, RIP, and IPFIX will not give specific error messages when QoS filters are exhausted.
Q01979384-01	HTTP connections are not displayed by the **show ipv6 tcp connection** command.
Q01984470	100 MB GBICs will be displayed as 1 GB in LLDP dot3 mac-phy-config when the link is up.
Q02012264-01	After the reboot of a non-base unit in a stack of 2 with NSNA enabled, port 1/1 may shut down. Re-enable the port manually should this situation occur.

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Change Request Number	Description
Q02014299	IPv6 traffic not destined for the switch or stack will not be processed by 5500 Series units and therefore IPv6 neighbor cache entries will not be created for the devices exchanging traffic. This behavior is different on 5600 Series units where entries are created if traffic passes them. In either instance the actual flow of IPv6 traffic is not influenced, just the contents of the neighbor cache.
Q02001870	A non-PoE phone may display as Unknown and need to be rebooted after a stack is rebooted.
Q02016370-01	If a PC is moved from behind a phone to another port or behind another phone, the PC won't age out on the old port after the aging time configuration in NSNA Fail Open. A new PC may in the old port may not be able to authenticate unless the phone is rebooted. Workaround: Remove the PC from phone 1 and wait twice the configured aging time. Move the PC to the new port or phone. This ensures the ageout timer works as configured.
Q02010212-01	Wait twice the configured MAC aging time after swapping two PCs behind 2 phones in an NSNA solution before plugging the PCs back in behind the phones.
Q02029127	Commands may not be saved in the same format between different versions of an ACG file. These format differences do not affect the overall functionality of the stored commands. Some configuration management software may identify this as a change in configuration but it is only a change in the manner in which the command is stored in the file.
Q01319058	In a Nortel SNA setup, you may experience temporary loss of Nortel SNA functionality when UDP forwarding has approached maximum capacity. Workaround: Configure a filter on the port that connects to the SNAS (or depending on your configuration, on the port connected to the switch that, in turn, connects to the SNAS) to isolate Nortel SNA SSCP traffic received by the CPU. Use the following CLI commands to configure a filter: • **qos ip-element <element_id> src-ip <ip_address/mask>** • **qos classifier <value> set-id <value> element-type ip element-id <value>** • **qos action <value> update-1p <value>** • **qos policy <value> port <port_list> clfr-type class clfr-id <value> in-profile-action <action_id> prec <value>**
Q01918300	VRRP may intermittently bounce when multiple protocols are configured on upstream routers with traffic and large routing updates.

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Change Request Number	Description
Q02007132	When the maximum of 10 DHCP clients are binded by IP Source Guard on MLT/LACP ports, if those ports go down, several IPSG binding table full messages will be logged. This is an incorrect behavior.
Q02021564-01	Syslog messages and traps for full DHCP Snooping and IP Source Guard binding tables are logged and sent twice.
Q02020938	After booting to default setttings the syslog will display the message **`ASCII failed at line 1`**. This can be ignored. This only happens after a boot to default settings and not during a normal operation or reset of the switch. This does not affect subsequent ASCII downloads. The successful application of configurations can be confirmed using the **`show logging`** command. The bogus message will be the first in chronological order.
Q01945335	Port mirroring mode XrxYtx on a 56XX device does not mirror broadcast, multicast and unknown unicast traffic if the X and Y mirrored ports are in different MLTs."
Q02024644	The MAC security learning ports and security lists will present a display issue on 56xx units after upgrading to Release 6.1.
Q01893906	PIM will not function properly if the sender stops traffic and the SDR and DDR are on the same device.
Q02004055	There is current no command to disable the **`metric`** and **`route-type`** options for the **`route-map <route_name> match`** command and no command to disable the **`ip preference`**, **`metric`**, and **`metric-type`** options for the **`route-map <route_name> set`** command.
Q02000149	Multiple TDR tests in a short period of time over 100 MB links in a stack may cause a link down on Distributed MLT / Distributed LAG links. Also, multiple TDR test in a short period of time over 100 MB IST links may stop traffic permanently over the IST / SMLT setup.
Q02015511	If the UBP set is configured and the QoS agent is disabled when an EAP / Non EAP user authenticates, several log messages displaying **`QoS support is currently disabled`** will be produced.
Q02009524	On a stack with 55xx units with all QoS filters or masks used, when ADAC tries to use another QoS mask / filter (unavailable because of exhausted resources), there is a **`commitFailed 1`** message displayed. The correct message is displayed in case of a 56xx or 55xx standalone device.

The following table lists known Ethernet Routing Switch 5000 Series considerations:

Table 3
Ethernet Routing Switch 5000 Series considerations

Item	Description
1	Some terminal programs can cause the Console Interface to crash if you enter a RADIUS secret containing the character “k”. The issue has been reproduced using Tera Term Pro (version 2.3), as well as Minicom (version 2.1) on a Linux system.

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Table 3
Ethernet Routing Switch 5000 Series considerations (cont'd.)

Item	Description
2	Nortel recommends that you avoid using MAC security on a trunk (MLT).
3	Failed attempts to log in (using TACACS+ authentication and accounting) are not stored in the accounting file.
4	When switches are in MSTP mode and connected using a trunk (MLT), and at least one MSTI is configured, the switch can return an incorrect STPG root if you change the mode to STPG and reset the switches.
5	When you use the JDM/Web to configure and add VLAN ports to an STG other than the default STG, STG membership of the port may change. In that case, the new STG participation of that port will be disabled. Workaround: Enable participation of the ports in the new STG after you enable the STG.
6	On the 5530-24TFD, the following (NT-OCP) SFPs cannot be inserted side by side (that is, in neighboring slots) because of the SFP size. The SFPs are listed as manufacturer part number/Nortel part number: • TRP-G1H5BC470N4 / AA1419025 • TRP-G1H5BC490N4 / AA1419026 • TRP-G1H5BC510N4 / AA1419027 • TRP-G1H5BC530N4 / AA1419028 • TRP-G1H5BC550N4 / AA1419029 • TRP-G1H5BC570N4 / AA1419030 • TRP-G1H5BC590N4 / AA1419031 • TRP-G1H5BC610N4 / AA1419032 • TRP-G1H7BC470N4 / AA1419033 • TRP-G1H7BC490N4 / AA1419034 • TRP-G1H7BC510N4 / AA1419035 • TRP-G1H7BC530N4 / AA1419036 • TRP-G1H7BC550N4 / AA1419037 • TRP-G1H7BC570N4 / AA1419038 • TRP-G1H7BC590N4 / AA1419039 • TRP-G1H7BC610N4 / AA1419040
7	While downloading the image file, you may receive the following error message: "Error reading image file." Workaround: Typically, this issue can be resolved by simply restarting the image download. If this does not resolve the issue, Nortel recommends that you try an alternate method to download the image to the switch (that is, the Web Interface).

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Table 3
Ethernet Routing Switch 5000 Series considerations (cont'd.)

Item	Description
8	When a remote server log is configured and the remote logging is enabled, the CLI audit task sends messages to the syslog server regardless of the logging level.
9	The IPFIX sampling data rate cannot be changed because of a related hardware limitation.

10	Release 5.1 introduces a Demo License, which enables OSPF, ECMP, VRRP, SMLT, and IPFIX, or any combination thereof for a period of 30-days. At the end of the 30-day trial period, the features will be disabled, with the exception of SMLT. Due to the manner in which SMLT is implemented through cabling, and the fact that Spanning Tree Protocol needs to be disabled, a loop would be formed on the network if SMLT was disabled as a feature. Therefore, the following actions will take place to minimize the potential network impact.
	
	Three traps are sent.
	
	• The first trap is sent five days prior to expiration of the license.
	`Trap: bsnTrialLicenseExpiration: Trial license 1 will expire in 5 day(s).`
	• The second trap is sent one day prior to the expiration of the license.
	`Trap: bsnTrialLicenseExpiration: Trial license 1 will expire in 1 day(s).`
	• The last trap is sent upon termination of the license.
	`Trap: bsnTrialLicenseExpiration: Trial license 1 has expired.`
	
	At this point, all license features are disabled except SMLT. SMLT will remain enabled until there is a stack/unit reset. Once the stack/unit is reset, the feature will be disabled, and a loop will be formed if there has been no intervention to remove/disable the ports participating in the IST.
	
	Therefore, Nortel recommends that upon receiving the first trap that the administrator begin to manually disable that feature and ensure that any cabling loop is removed.

11	When you configure IPFIX to work with NetQoS, Nortel recommends that you disable the SNMP polling by NetQoS device. To do this, remove the community string associated with the ERS 5500 Series switch on NetQoS device.
12	Nortel recommends that you do not enable IP Source Guard on trunk ports.
13	Nortel recommends that you do not enable Critical-IP functionality with VRRP in an SMLT environment.

VLACP issue

It has been found that in some situations, using VLACP on the Ethernet Routing Switch 5500/5600 the switches will remove a link from service due to variations in the arrival time of VLACP messages (VLACP PDUs) from the far end. The issue may exist between the Ethernet Routing Switch

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5500/5600 and Ethernet Routing Switch 8300/8600 when running short timers and default timeout interval of 3 time-outs. The Ethernet Routing Switch 5500/5600 switches maintain a rolling history of the last 3 received VLACP PDUs and calculate the time variance across and between these VLACP messages. If the time variance of the last 3 VLACP PDUs falls outside predefined thresholds, the Ethernet Routing Switch 5500/5600 will remove the link from service.

As a workaround, customers should increase the VLACP timeout value from the default value of 3 to 5 or more. This will stop the Ethernet Routing Switch 5500/5600 switches from taking the link down due to the above mentioned variations in VLACP timing. It should be noted that even though the timeout value has been set to 5, due to the sampling function, if variance occurs outside the threshold for any 3 consecutive VLACP PDUs then the link will be removed from service until VLACP can re-establish a correctly timed communication. However, a value of 5 has been determined to be sufficient for this workaround.

Port or ifIndex offset issue

Use **`switch_type ERS5500`** at the SNAS for standalone switches or stacks that will continue to run Software Release 6.0.

Filter resource consumption

Various Ethernet Routing Switch 5000 Series applications consume filter resources. These filter resources are a combination of masks and filters, sometimes also referred to as rules. A filter specifies the bit pattern to match, while a mask specifies the bit position to be matched and the evaluation precedence of the filters. Some applications (for instance, BaySecure, Port Mirroring, IGMP) require a set number of masks and filters enable them.

The following table summarizes the applications that require mask and filter resources.

Table 4
Mask and filter requirements for applications

Application	Category	Masks required	Filters required
Ethernet Routing Switch 5500 Series			
Broadcast ARP and ARP Inspection	Non QoS	1	1
DHCP Relay or DHCP Snooping or NSNA DHCP	Non QoS	1	2
QoS (default untrusted policy)	QoS	2	2

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Application	Category	Masks required	Filters required
QoS (trusted policy)	QoS	1	19
QoS (NTonNT)	QoS	1	4
IGMP	Non QoS	2	10
Port Mirroring (MAC-based)	Non QoS	2	2
EAP Authetication (EAPoL packet filter)	Non QoS	1	1
BaySecure (ERS5520/30 only)	Non QoS	1	32
EAP MHMA Allowed Clients (5520/30)	Non QoS	1	32
IPFIX	Non QoS	1	1
QoS Interface Applications	QoS	17	17
NSNA MAC Intruder	Non QoS	1	32
NSNA (R/Y/G filters)	QoS	5	8
ADAC	Non QoS	1	1
RIP	Non QoS	1	1
UDP Bcast	Non QoS	1	1
VRRP	Non QoS	1	3
OSPF	Non QoS	1	3
IP Source Guard	Non QoS	1	10
Ethernet Routing Switch 5600 Series			
Broadcast ARP and ARP Inspection	Non QoS	1	1
DHCP Relay or DHCP Snooping or NSNA DHCP	Non QoS	1	2
QoS (default untrusted policy)	QoS	2	2
QoS (DAPP with status tracking)	QoS	1	1
QoS (NTonNT)	QoS	1	4
Port Mirroring (MAC-based)	Non QoS	1	2
EAP Authetication (EAPoL packet filter)	Non QoS	1	2
IPFIX	Non QoS	1	1

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Application	Category	Masks required	Filters required
NSNA MAC Intruder	Non QoS	1	32
NSNA (R/Y/G filters)	QoS	5	8
ADAC	Non QoS	1	1
RIP	Non QoS	1	1
UDP Bcast	Non QoS	1	1
VRRP	Non QoS	1	3
OSPF	Non QoS	1	3
IP Source Guard	Non QoS	1	11
PIM	Non QoS	1	1

On the Ethernet Routing Switch 5500 Series switches, each port has 16 masks and 128 filters available. By default, 1 mask and 1 filter are statically consumed by the system for ARP filtering, leaving 15 available masks and 127 available filters for QoS and other non QoS applications to configure dynamically.

On the Ethernet Routing Switch 5600 Series switches, the resources are shared across group of ports. Each group of ports has 16 masks and 256 filters available for each mask. By default, the system statically consumes one mask and one filter for ARP filtering on all ports, leaving 15 available masks for each group and 255 available filters for each mask and group for QoS and other non QoS applications to configure dynamically.

Masks and filters inventory check

You can use the **`show qos diag`** command to assess the current filter resource usage for each port on the Ethernet Routing Switch 5000 Series switches. The **`show qos diag`** command displays the number of QoS masks and filters and non-QoS masks and filters consumed on each port. You can determine whether an application that requires filter resources can be enabled on a port by verifying that the number of available masks and filters meet the mask and filter requirements of that particular application.

On the Ethernet Routing Switch 5500 Series switches, the available masks and filters available on a port can be determined by adding the total number of QoS and non QoS masks in use and the total number QoS and non QoS filters in use on a port and then subtracting that number from 16 masks and 128 filters, respectively.

On the Ethernet Routing Switch 5600 Series switches, the output of the **`show qos diag`** allows you to count the unused masks to determine the number of available masks for a particular port. The 5600 Series switches

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share resources across a group of ports. The filters used by QoS or non QoS applications on a port for a specific mask determine the available filters for that mask for all ports from that group.

On the Ethernet Routing Switch 5600 Series switches, you can determine the number of the filters available for a mask from a group of ports by adding the total number of QoS and Non QoS filters in use and subtracting that number from 256. If the number of filters in use for a mask is equal to 256, that mask cannot be used on other ports from the same group.

On the Ethernet Routing Switch 5500 Series switches, to enable IP Source Guard on a port requires 1 mask and 10 filters. To verify that IP Source Guard can be enabled on port 5, you can view the **show qos diag** output display and determine that port 5 is currently using a total of 4 masks (QoS plus non-QoS) and 5 filters (QoS plus non-QoS). This means that 12 masks and 123 filters are available for use, which meets the IP Source Guard requirement of 1 mask and 10 filters. The following figure shows the **show qos diag** display before enabling IP Source Guard on port 5.

Figure 1
show qos diag before

```
5510-48T(config-if)#show qos diag

                                                  Non QoS  Non QoS  Non QoS
           Masks   Filters   Meters  Counters     Masks    Filters   Meters
Unit/Port Consumed Consumed Consumed Consumed    Consumed Consumed  Consumed
--------- -------- -------- -------- --------    -------- --------  --------
1/1       2        2        0        2           2        3         0
1/2       2        2        0        2           2        3         0
1/3       2        2        0        2           2        3         0
1/4       2        2        0        2           2        3         0
1/5       2        2        0        2           2        3         0
1/6       2        2        0        2           2        3         0
1/7       2        2        0        2           2        3         0
1/8       2        2        0        2           2        3         0
1/9       2        2        0        2           2        3         0
1/10      2        2        0        2           2        3         0
1/11      2        2        0        2           2        3         0
1/12      2        2        0        2           2        3         0
1/13      2        2        0        2           2        3         0
1/14      2        2        0        2           2        3         0
1/15      2        2        0        2           2        3         0
1/16      2        2        0        2           2        3         0
1/17      2        2        0        2           2        3         0
1/18      2        2        0        2           2        3         0
```

The following figure shows the **show qos diag** display after enabling IP Source Guard on port 5.

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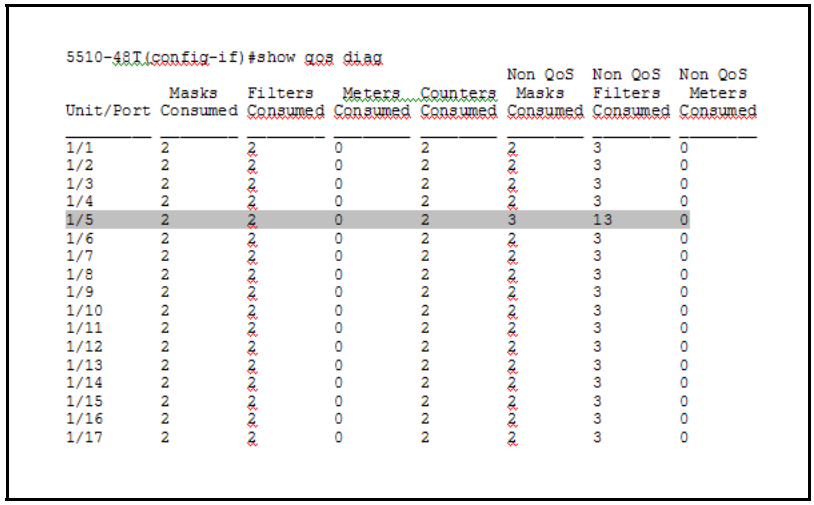
Figure 2
show qos diag after

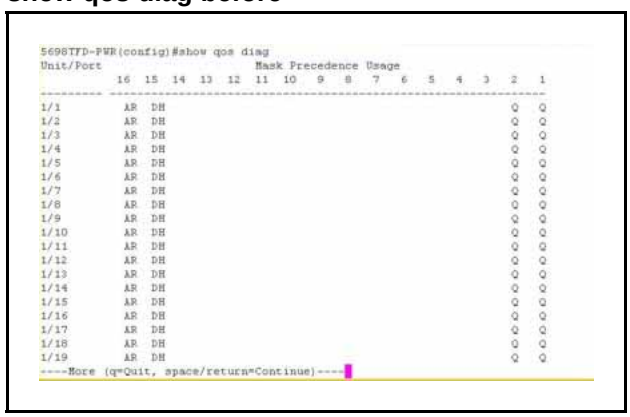


```
5510-48T(config-if)#show qos diag

                                                    Non QoS  Non QoS  Non QoS
           Masks    Filters   Meters   Counters     Masks    Filters   Meters
Unit/Port Consumed Consumed  Consumed Consumed     Consumed Consumed  Consumed
--------- -------- --------- -------- ---------    -------- --------- --------
1/1       2        2         0        2            2        3         0
1/2       2        2         0        2            2        3         0
1/3       2        2         0        2            2        3         0
1/4       2        2         0        2            2        3         0
1/5       2        2         0        2            3        13        0
1/6       2        2         0        2            2        3         0
1/7       2        2         0        2            2        3         0
1/8       2        2         0        2            2        3         0
1/9       2        2         0        2            2        3         0
1/10      2        2         0        2            2        3         0
1/11      2        2         0        2            2        3         0
1/12      2        2         0        2            2        3         0
1/13      2        2         0        2            2        3         0
1/14      2        2         0        2            2        3         0
1/15      2        2         0        2            2        3         0
1/16      2        2         0        2            2        3         0
1/17      2        2         0        2            2        3         0
```

On the Ethernet Routing Switch 5600 Series switches, to enable IP Source Guard on a port requires 1 mask and 11 filters. To verify that IP Source Guard can be enabled on port 5, you can view the **`show qos diag`** output display and determine that port 5 is currently using a total of 4 masks (QoS plus non-QoS). IP Source Guard uses the next available mask and from the output display, you can see that there are 256 filters available for mask 14, which meets the IP Source Guard requirement of 1 mask and 11 filters. The following figures show the **`show qos diag`** display before enabling IP Source Guard on port 5.

Figure 3
show qos diag before



```
5698TFD-PWR(config)#show qos diag
Unit/Port                    Mask Precedence Usage
          16  15  14  13  12  11  10  9   8   7   6   5   4   3   2   1
--------- ---------------------------------------------------------------
1/1       AR  DH                                                   Q   Q
1/2       AR  DH                                                   Q   Q
1/3       AR  DH                                                   Q   Q
1/4       AR  DH                                                   Q   Q
1/5       AR  DH                                                   Q   Q
1/6       AR  DH                                                   Q   Q
1/7       AR  DH                                                   Q   Q
1/8       AR  DH                                                   Q   Q
1/9       AR  DH                                                   Q   Q
1/10      AR  DH                                                   Q   Q
1/11      AR  DH                                                   Q   Q
1/12      AR  DH                                                   Q   Q
1/13      AR  DH                                                   Q   Q
1/14      AR  DH                                                   Q   Q
1/15      AR  DH                                                   Q   Q
1/16      AR  DH                                                   Q   Q
1/17      AR  DH                                                   Q   Q
1/18      AR  DH                                                   Q   Q
1/19      AR  DH                                                   Q   Q
----More (q=Quit, space/return=Continue)----
```


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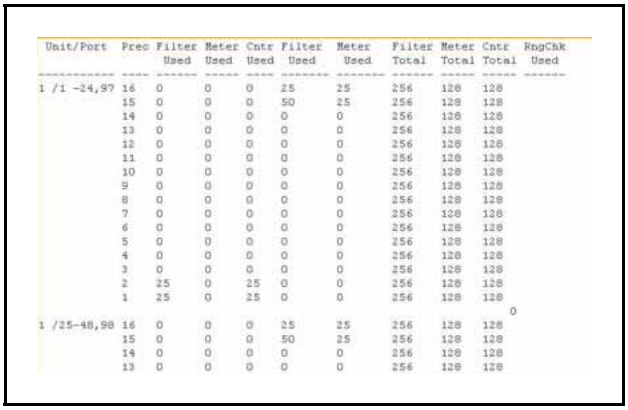
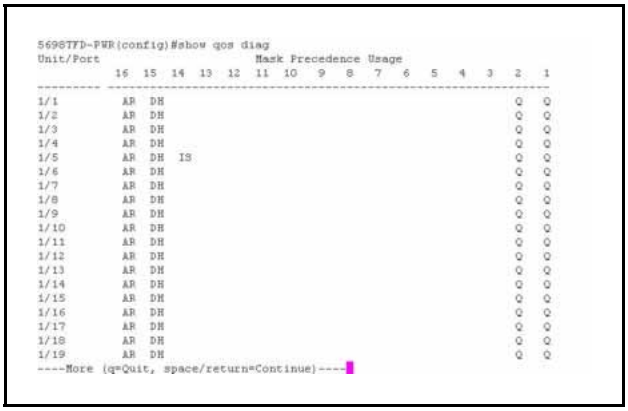
Figure 4
show qos diag before continued



```
 Unit/Port  Prec Filter Meter Cntr Filter  Meter   Filter Meter Cntr  RngChk
                Used  Used  Used  Used    Used    Total  Total Total Used
---------- ---- ------ ----- ---- ------- ------- ------ ----- ----- ------
1 /1 -24,97 16   0      0     0    25      25     256    128   128
            15   0      0     0    50      25     256    128   128
            14   0      0     0    0       0      256    128   128
            13   0      0     0    0       0      256    128   128
            12   0      0     0    0       0      256    128   128
            11   0      0     0    0       0      256    128   128
            10   0      0     0    0       0      256    128   128
            9    0      0     0    0       0      256    128   128
            8    0      0     0    0       0      256    128   128
            7    0      0     0    0       0      256    128   128
            6    0      0     0    0       0      256    128   128
            5    0      0     0    0       0      256    128   128
            4    0      0     0    0       0      256    128   128
            3    0      0     0    0       0      256    128   128
            2    25     0     25   0       0      256    128   128
            1    25     0     25   0       0      256    128   128
                                                                 0
1 /25-48,98 16   0      0     0    25      25     256    128   128
            15   0      0     0    50      25     256    128   128
            14   0      0     0    0       0      256    128   128
            13   0      0     0    0       0      256    128   128
```

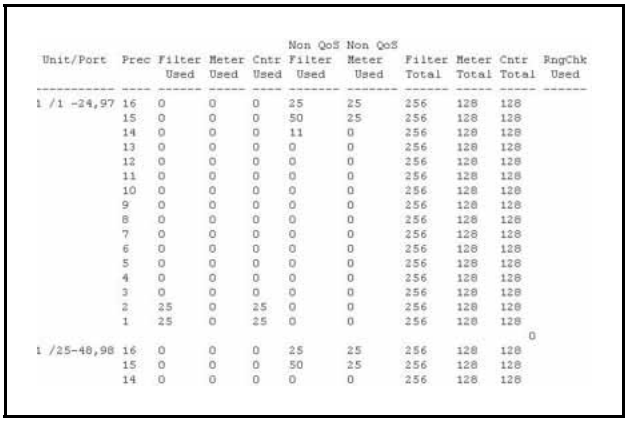
The following figures show the **`show qos diag`** display after enabling IP Source Guard on port 5.

Figure 5
show qos diag after



```
5698TFD-PWR(config)#show qos diag
Unit/Port                        Mask Precedence Usage
          16  15  14  13  12  11  10   9   8   7   6   5   4   3   2   1
--------- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
1/1       AR  DH                                                   Q   Q
1/2       AR  DH                                                   Q   Q
1/3       AR  DH                                                   Q   Q
1/4       AR  DH                                                   Q   Q
1/5       AR  DH  IS                                               Q   Q
1/6       AR  DH                                                   Q   Q
1/7       AR  DH                                                   Q   Q
1/8       AR  DH                                                   Q   Q
1/9       AR  DH                                                   Q   Q
1/10      AR  DH                                                   Q   Q
1/11      AR  DH                                                   Q   Q
1/12      AR  DH                                                   Q   Q
1/13      AR  DH                                                   Q   Q
1/14      AR  DH                                                   Q   Q
1/15      AR  DH                                                   Q   Q
1/16      AR  DH                                                   Q   Q
1/17      AR  DH                                                   Q   Q
1/18      AR  DH                                                   Q   Q
1/19      AR  DH                                                   Q   Q
----More (q=Quit, space/return=Continue)----
```

Figure 6
show qos diag after continued



```
                                        Non QoS Non QoS
 Unit/Port  Prec Filter Meter Cntr Filter  Meter   Filter Meter Cntr  RngChk
                Used  Used  Used  Used    Used    Total  Total Total Used
---------- ---- ------ ----- ---- ------- ------- ------ ----- ----- ------
1 /1 -24,97 16   0      0     0    25      25     256    128   128
            15   0      0     0    50      25     256    128   128
            14   0      0     0    11      0      256    128   128
            13   0      0     0    0       0      256    128   128
            12   0      0     0    0       0      256    128   128
            11   0      0     0    0       0      256    128   128
            10   0      0     0    0       0      256    128   128
            9    0      0     0    0       0      256    128   128
            8    0      0     0    0       0      256    128   128
            7    0      0     0    0       0      256    128   128
            6    0      0     0    0       0      256    128   128
            5    0      0     0    0       0      256    128   128
            4    0      0     0    0       0      256    128   128
            3    0      0     0    0       0      256    128   128
            2    25     0     25   0       0      256    128   128
            1    25     0     25   0       0      256    128   128
                                                                 0
1 /25-48,98 16   0      0     0    25      25     256    128   128
            15   0      0     0    50      25     256    128   128
            14   0      0     0    0       0      256    128   128
```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QoS Interface Security Application

The QoS Interface Security application targets a number of common network attacks. Support includes ARP spoofing prevention, DHCP snooping, DHCP spoofing prevention, detection for the common worms SQLSlam and Nachia; and the Denial of Service (DoS) attacks Xmas, TCP SynFinScan, TCP FtpPort, and TCP DnsPort. Due to the lack of filter resources (i.e. masks) to enable the QoS Interface Security application as a whole, you can select individual security applications.

This application only runs on the Ethernet Routing Switch 5500 Series switches.

The following table summarizes the mask and filter resource requirements for individual QoS Interface Security applications.

Table 5
Mask and filter resource requirements

QoS Interface Security Application	Masks required	Filters required
ARP Spoofing Prevention	5	5
DHCP Snooping	1	1
DHCP Spoofing Prevention	2	2
DoS SQL Slam	1	1
DoS Nachia	1	1
DoS Xmas	1	1
DoS TCP SynFinScan	1	1
DoS TCP FtpPort	2	2
Dos TCP DnsPort	2	2
QoS BPDU blocker interface	1	1

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Nortel Ethernet Routing Switch 5000 Series

Release Notes — Release 6.1

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