AVAYA

Avaya G350 Media Gateway

CLI Reference

The equipment described in this document may contain Class 1 LASER Device(s). These devices comply with the following standards:

- EN 60825-1, Edition 1.1, 1998-01
- 21 CFR 1040.10 and CFR 1040.11.

The LASER devices used in Avaya equipment typically operate within the following parameters:

Typical Center Wavelength	Maximum Output Power
830 nm - 860 nm	-1.5 dBm
1270 nm - 1360 nm	-3.0 dBm
1540 nm - 1570 nm	5.0 dBm

Luokan 1 Laserlaite

Klass 1 Laser Apparat

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposures. Contact your Avaya representative for more laser product information.

Electromagnetic Compatibility (EMC) Standards

This product complies with and conforms to the following international EMC standards and all relevant national deviations:

Limits and Methods of Measurement of Radio Interference of Information Technology Equipment, CISPR 22:1997 and EN55022:1998.

Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement, CISPR 24:1997 and EN55024:1998, including:

- Electrostatic Discharge (ESD) IEC 61000-4-2
- Radiated Immunity IEC 61000-4-3
- Electrical Fast Transient IEC 61000-4-4
- Lightning Effects IEC 61000-4-5
- Conducted Immunity IEC 61000-4-6
- Mains Frequency Magnetic Field IEC 61000-4-8
- Voltage Dips and Variations IEC 61000-4-11

Power Line Emissions, IEC 61000-3-2: Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions.

Power Line Emissions, IEC 61000-3-3: Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.

Federal Communications Commission Statement

Part 15:

> **Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.**

Part 68: Answer-Supervision Signaling

Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 rules. This equipment returns answer-supervision signals to the public switched network when:

- answered by the called station,
- answered by the attendant, or
- routed to a recorded announcement that can be administered by the customer premises equipment (CPE) user.

This equipment returns answer-supervision signals on all direct inward dialed (DID) calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered.
- A busy tone is received.
- A reorder tone is received.

Avaya attests that this registered equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

REN Number

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

This equipment complies with Part 68 of the FCC rules. On either the rear or inside the front cover of this equipment is a label that contains, among other information, the FCC registration number, and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

For G350 and G700 Media Gateways:

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the rear of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. The digits represented by ## are the ringer equivalence number (REN) without a decimal point (for example, 03 is a REN of 0.3). If requested, this number must be provided to the telephone company.

For all media gateways:

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed 5.0. To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

REN is not required for some types of analog or digital facilities.

Means of Connection

Connection of this equipment to the telephone network is shown in the following tables.

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Off premises station	OL13C	9.0F	RJ2GX, RJ21X, RJ11C
DID trunk	02RV2-T	0.0B	RJ2GX, RJ21X
CO trunk	02GS2	0.3A	RJ21X
	02LS2	0.3A	RJ21X
Tie trunk	TL31M	9.0F	RJ2GX
Basic Rate Interface	02IS5	6.0F, 6.0Y	RJ49C
1.544 digital interface	04DU9-BN	6.0F	RJ48C, RJ48M
	04DU9-IKN	6.0F	RJ48C, RJ48M
	04DU9-ISN	6.0F	RJ48C, RJ48M
120A4 channel service unit	04DU9-DN	6.0Y	RJ48C

For G350 and G700 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Ground Start CO trunk	02GS2	1.0A	RJ11C
DID trunk	02RV2-T	AS.0	RJ11C
Loop Start CO trunk	02LS2	0.5A	RJ11C
1.544 digital interface	04DU9-BN	6.0Y	RJ48C
	04DU9-DN	6.0Y	RJ48C
	04DU9-IKN	6.0Y	RJ48C
	04DU9-ISN	6.0Y	RJ48C
Basic Rate Interface	02IS5	6.0F	RJ49C

For all media gateways:

If the terminal equipment (for example, the media server or media gateway) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact the Technical Service Center at 1-800-242- 2121 or contact your local Avaya representative. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. It is recommended that repairs be performed by Avaya certified technicians.

The equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

This equipment, if it uses a telephone receiver, is hearing aid compatible.

Canadian Department of Communications (DOC) Interference Information

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

Installation and Repairs

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Declarations of Conformity

United States FCC Part 68 Supplier's Declaration of Conformity (SDoC)

Avaya Inc. in the United States of America hereby certifies that the equipment described in this document and bearing a TIA TSB-168 label identification number complies with the FCC's Rules and Regulations 47 CFR Part 68, and the Administrative Council on Terminal Attachments (ACTA) adopted technical criteria.

Avaya further asserts that Avaya handset-equipped terminal equipment described in this document complies with Paragraph 68.316 of the FCC Rules and Regulations defining Hearing Aid Compatibility and is deemed compatible with hearing aids.

Copies of SDoCs signed by the Responsible Party in the U. S. can be obtained by contacting your local sales representative and are available on the following Web site: http://www.avaya.com/support.

All Avaya media servers and media gateways are compliant with FCC Part 68, but many have been registered with the FCC before the SDoC process was available. A list of all Avaya registered products may be found at: http://www.part68.org by conducting a search using "Avaya" as manufacturer.

European Union Declarations of Conformity

$C\epsilon$

Avaya Inc. declares that the equipment specified in this document bearing the "CE" (*Conformité Européenne*) mark conforms to the European Union Radio and Telecommunications Terminal Equipment Directive (1999/5/EC), including the Electromagnetic Compatibility Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC).

Copies of these Declarations of Conformity (DoCs) can be obtained by contacting your local sales representative and are available on the following Web site: http://www.avaya.com/support.

Japan

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

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About this Book

Overview

The *Avaya G350 Media Gateway CLI Reference* describes the commands used to configure and manage the G350 Media Gateway after it is already installed. For installation instructions, refer to *Installation of the Avaya G350 Media Gateway*, 555-245-104.

Audience

The information in this book is intended for use by Avaya technicians, provisioning specialists, business partners, and customers.

Using this book

This book describes how to use the G350 Command Line Interface (CLI) and provides a reference to the CLI commands. Each command description contains:

- The command name
- A short description of the purpose of the command
- The following sections:

    — **Syntax** - This section describes the correct syntax for the command.

    — **Parameters** - This section lists and describes elements of the command syntax, such as parameters, their definitions, and allowed values.

    — **User Level** - This section shows the lowest access level for which the command is accessible. There are three access levels: User (read-only), Configure (read-write), and Supervisor (admin).

    — **Context** - This section shows the contexts from which the command can be executed.

    — **Example** - This section provides an example of the use of a command, and, where applicable, the output display. This section does not appear if the syntax and output are simple.

    — **Output Fields** - This section describes the fields in the command output, if applicable.

Conventions

The following are the conventions used in this book to represent syntax and examples:

Display Type	Description
`Screen Display text`	Text represented in this format is displayed by the CLI.
User entered text	Text represented in this format is entered by the user.
Variable	This format indicates a variable argument as it is entered by the user.
Variable in text	This format indicates a variable argument discussed in the Parameters section.
[]	Syntax elements grouped by square brackets are optional.
|	Syntax elements separated by a pipe are mutually exclusive. Choose one of the elements separated by the pipe.
{}	These braces are used to group syntax elements, where necessary, to eliminate ambiguity in the syntax. For example, if a keyword and an argument together constitute one of a set of mutually exclusive elements, the keyword and argument are grouped with braces and separated from the other options with a pipe.

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You can download the latest version of the *Avaya G350 Media Gateway CLI Reference* from the Avaya Web site. You must have access to the Internet, and a copy of Acrobat Reader must be installed on your personal computer.

Avaya makes every effort to ensure that the information in this book is complete and accurate. However, information can change after we publish this book. Therefore, the Avaya Web site might also contain new product information and updates to the information in this book. You can also download these updates from the Avaya Web site.

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1   Access the Avaya web site at http://www.avaya.com/support.
2   On the left side of the page, click **Product Documentation**.

    The system displays the Welcome to Product Documentation page.
3   On the right side of the page, type **555-245-202,** and then click **Search**.

    The system displays the Product Documentation Search Results page.

4   Scroll down to find the latest issue number, and then click the book title that is to the right of the latest issue number.

5   On the next page, scroll down and click one of the following options:

— **PDF Format** to download the book in regular PDF format

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Related resources

For more information on the Avaya G350 Media Gateway and related features, see the following books:

Title	Number
Overview of the Avaya G350 Media Gateway	555-245-201
Installation of the Avaya G350 Media Gateway	555-245-104
Upgrade and Service Guide for the Avaya G350 Media Gateway	555-245-106
Administration of the Avaya G350 Media Gateway	555-245-501
Avaya G350 Media Gateway Glossary	555-245-301
Quick Start for Hardware Installation for the Avaya G350 Media Gateway	03-300148
Maintenance of the Avaya G350 Media Gateway	555-245-105

Technical assistance

Avaya provides the following resources for technical assistance.

Within the US

For help with:

- Feature administration and system applications, call the Avaya DEFINITY Helpline at 1-800-225-7585

- Maintenance and repair, call the Avaya National Customer Care Support Line at 1-800-242-2121

- Toll fraud, call Avaya Toll Fraud Intervention at 1-800-643-2353

International

For all international resources, contact your local Avaya authorized dealer for additional help.

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Ensure that you mention the name and number of this book, *Avaya G350 Media Gateway CLI Reference*, 555-245-202.

1 User Levels and Contexts

The G350 Command Line Interface (CLI) consists of commands that are divided into logical contexts. These contexts enable you to view and configure the G350 Media Gateway more efficiently. A context can be a particular interface of the media gateway, or it can be a specific function with all its related commands.

The contexts you can enter and the commands you can access, depend on the user level from which you log in to the CLI.

For example, you can use all **show** commands in User mode. To configure the Avaya G350 Media Gateway, you must be in Supervisor or Privileged mode.

The following figure illustrates the relationship between the user levels and the contexts.

Figure 1: Relationship between User Levels and Contexts
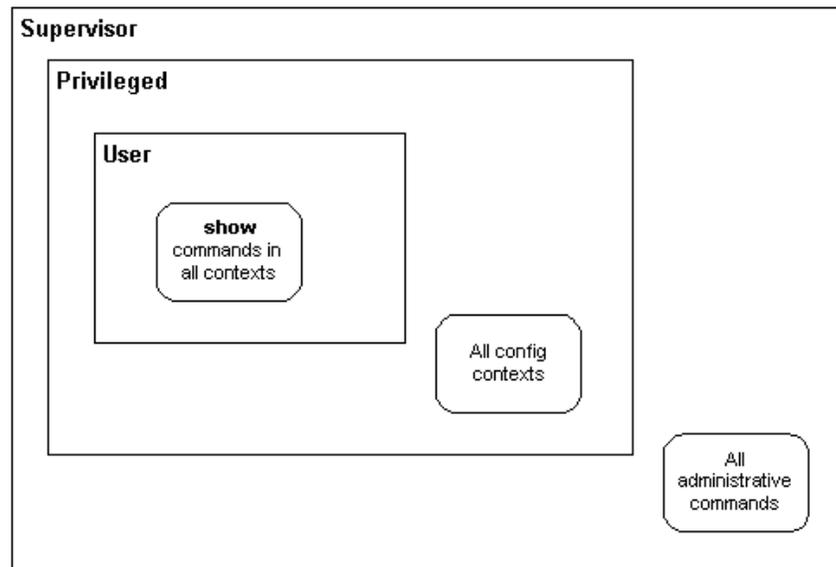
After logging in, type **tree** to see a list of all the commands that are accessible at your user level. Type **help** to see the list of commands available in the current context.

User Levels

The following are the user levels that control access to the various parts of the CLI:

Level	Access	Description
User	read-only	User level is a general access level used to display system parameter values. This level complies with the Read Only restrictions level.
Privileged	read-write	Privileged level is used to access configuration options. This level complies with the Read and Write restrictions level.
Supervisor	admin	Supervisor level is used for highly secured operations, such as adding a new user account, showing the PPP chap secret, and setting the device policy manager source.

Contexts

The CLI is divided into various contexts from which sets of related commands can be entered. Contexts are nested in a hierarchy, with each context accessible from another context, called the parent context. The top level of the CLI tree is called the root context. Commands that can be executed from any context in the system are listed as having the *general* context.

Interface contexts

Each interface has its own context in the CLI, which you use to manage the interface. The set of commands related to an interface are only accessible from its interface context. For example, in order to configure a Loopback interface, you must first enter the Loopback context. You enter the Loopback context using the interface command with an interface identifier such as `interface loopback 1.`

When an interface has only one sub-interface, the commands for the sub-interface are available from the context of the parent interface. This is called unified configuration. When there are multiple sub-interfaces, you must enter the context of a particular sub-interface in order to configure the sub-interface.

For example, when you create a new VLAN interface 1, the sub-interface VLAN 1.0 is also created. In this case, you can execute sub-interface context commands such as `ip admin-state` from the parent context. If you add a second sub-interface VLAN 1.1, then you can only execute sub-interface commands from the context of the sub-interface.

If you are in Supervisor or Privileged mode, you can enter any of the following interface contexts:

- Interface Console
- Interface USB
- Interface Fast Ethernet
- Interface VLAN
- Interface Serial

- Interface Loopback
- Interface Tunnel

Entering an Interface

You enter an interface context using the **interface** command, followed by the type of interface, and the interface specification. For the Console interface there is no interface specification.

Interface types include:

- FastEthernet
- Serial
- VLAN
- Loopback
- Console
- USB
- Tunnel

An interface is specified with the following syntax:

interface_num[.ip_interface] [if_link_type]

For a complete discussion of the **interface** command syntax, see the **interface** command description.

Command line prompts

The command line prompt is always prefixed with the hostname of the media gateway. If the media gateway is registered, then the prompt is hostname-media_gateway_number. Otherwise, the prompt is hostname-???.

The root context prompt reflects the logged-in user level.

- The Supervisor level prompt always ends with (super)#
- The Privileged level prompt ends with #
- The User level prompt ends with >

As you change contexts, the command line prompt changes to reflect the context path. For example, when you enter the access-control-list configuration context as a Privileged user, the prompt reads (ACL 330)#.

To enter a context from another context:

- Enter the name of the context. The prompt changes to indicate the context entered.

To leave a context:

- Enter **exit**. The user returns to the parent context.

Available contexts

The following table describes all the contexts in the CLI. The Context column provides the command to type in order to enter the context. The CLI prompt column is the prompt that you see once you have entered the context.

Table 1: List of CLI Contexts

Context	Description	CLI prompt
(Log in as User)	Root Read Only context	`>`
(Log in as Privileged User)	Root Read Write context	`#`
(Log in as Supervisor)	Root Admin context	`(super)#`
Interface Console	Configuring the Console interface	`(if:Console)#`
Interface USB	Configuring the USB interface	`(if:USB-Modem)#`
Interface Serial	USP, E1/T1	`(if:serial 2/1)#`
Interface loopback	The loopback virtual interface	`(if:loopback 1.0)#`
Interface VLAN	G350 interfaces to VLANs	`(if:vlan 1)#`
Interface FastEthernet	An Ethernet port connected directly to the router	`(if:fastEthernet 20/1)#`
Interface Tunnel	A GRE tunnel interface. A GRE tunnel is a virtual point-to-point link between two routers at two ends of an Internet cloud.	`(if:Tunnel 1)#`
Banner login	For editing a text message that appears before users login	`(super/login)#`
Banner post login	For editing a text message that appears after users login	`(super/post-login)#`
Router OSPF	OSPF routing protocol configuration	`(router:ospf)#`
Router RIP	RIP routing protocol configuration	`(router:rip)#`
ip QoS-list <list#>	QoS policy list	`(QoS 401)#`
rule <rule#>	QoS policy list entry	`(QoS 401/rule 4)#`
composite-operation <cot#>	QoS policy list match action	`(QoS 401/CompOp 2)#`
dscp-table <table#>	QoS policy list DSCP to CoS map	`(QoS 401/dscp 63)#`
ip Access-Control-List <list#>	Security Access list	`(ACL 301)#`

1 of 2

Table 1: List of CLI Contexts

Context	Description	CLI prompt
ip-rule <rule#>	Security ACL entry	`(ACL 301/rule 4)#`
composite-operation <cot#>	Security ACL match action	`(ACL 301/CompOp 2)#`
map-class frame-relay <name>	Create a QoS template	`(map-class)#`
		2 of 2

2   CLI Commands

About the CLI

The Replace variable w/ ProductName CLI is accessible directly via the serial console port, remotely via Telnet, or via the modem PPP interface. The CLI is command-line driven and does not have any menus. The CLI commands available, and the functions of those commands, depend on the context you are in when you issue the command. For a complete discussion of contexts, refer to Contexts on page 26.

This chapter lists all the CLI commands for the G350 Media Gateway.

Logging in to the CLI

To login to the CLI, you need a username and a password. Initially, there is only one user named `root` (with password `root`) on the system. It is recommended to change the root user password to prevent unauthorized entry into the system. The root user has Administrative privileges. You can add more users with the **username** command.

When you open the CLI interface, you are prompted for a username. Enter the username and press **ENTER**. Enter your password at the password prompt, and press **ENTER**. Once you have logged in, you can execute all the CLI commands that are permitted at your user level. For a full discussion of user levels, refer to User Levels on page 26.

Using the CLI

To activate a configuration option, type the desired command at the prompt and press **ENTER**.

Using Help

You can use the built-in Help feature to display the list of commands that are available to you. Type **help** to see the list of available commands in the present context. Type **help** followed by a word or part of a word to see a list of all commands starting with that word. For example, type **help show** to see a list of all commands using **show**. Type **tree** to see the full list of commands available at the current permission level.

Using auto-complete

If you are unsure of the spelling of a command, use the auto-complete feature. Type the first few letters of the command and then press the **TAB** key. The system completes the command automatically. If more than one command begins with those letters, the system displays a list of commands matching those letters.

Abbreviating commands

You can abbreviate commands or parts of commands in the CLI. As long as the abbreviation uniquely identifies a command, the system executes that command. If the abbreviation is ambiguous, the system displays a list of possible matches.

For example, typing **sh ban login** is the same as typing **show banner login**. However, typing **show m** matches more than one command and is not executed. Instead the system displays a list such as:

```
Ambiguous Command.  Possible commands are:
map-class   mediaserver  mg         mgc         mm          module
```

Alphabetical listing of CLI commands

area

Use the **area** command to configure the area ID of a router. Use the **no** form of the command to delete the area ID.

Syntax

[no] area *area_id* **[stub]**

Parameters

Parameter	Description	Possible Values	Default Value
area_id	The IP address		
stub	Configure a stub area		

User level

read-write

Context

Router OSPF

Example

To configure an area for this OSPF interface with IP address 192.168.49.1:

```
G350-001(router:ospf)# area 192.168.49.1
```

To configure a stub area for this OSPF interface with IP address 176.1.13.12:

```
G350-001(router:ospf)# area 176.1.13.12 stub
```

To remove the area with IP address 192.168.49.1:

```
G350-001(router:ospf)# no area 192.168.49.1
```

arp

Use the **arp** command to add a permanent entry to the Address Resolution Protocol (ARP) cache. Use the **no** form of this command to remove either a static entry or a dynamically learned entry from the ARP cache.

Syntax

arp *ip_address mac_address*

no arp *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	IP address of the station		
mac_address	Corresponding MAC address for this station		

User level

read-write

Context

general

Example

To add a permanent entry for station 192.168.7.8 to the ARP cache:

```
G350-001# arp 192.168.7.8 00:40:0d:8c:2a:01
```

To remove an entry from the ARP cache for the station 192.168.13.76:

```
G350-001# no arp 192.168.13.76
```

arp timeout

Use the **arp timeout** command to configure the amount of time, in seconds, that an entry remains in the ARP cache. Entering the **arp timeout** command without a *seconds* parameter will display the current timeout value. Use the **no** form of this command to restore the default value (four hours).

Syntax

arp timeout [*seconds***]**

no arp timeout

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The number of seconds that an entry remains in the ARP cache	60 – 604800	14400

User level

read-write

Context

general

Example

To set the ARP timeout to one hour:

```
G350-001# arp timeout 3600
```

To restore the default value for ARP timeout:

```
G350-001# no arp timeout
```

async mode interactive

Use the **async mode interactive** command to enter modem mode every time the proprietary modem cable is plugged into the Console port.

Syntax

async mode interactive

User level

read-write

Context

Interface: Console

async mode terminal

Use the **async mode terminal** command to disable interactive mode on the Console.

Syntax

async mode terminal

User level

read-write

Context

Interface: Console

async modem-init-string

Use the **async modem-init-string** command to change the default modem initialization string. Use the **no** form of the command to return the modem initialization string to its default value.

Syntax

async modem-init-string *modem_string*

no async modem-init-string

Parameters

Parameter	Description	Possible Values	Default Value
modem_ string	The modem initialization string		

User level

admin

Context

Interface: Console, USB-modem

Example

To set the modem initialization string to 'AT&FE0Q0V0X0&D2N0S37=6':

```
G350-001(super-if:Console)# async modem-init-string AT&FE0Q0V0X0&D2N0S37=6
```

async modem-type

Use the **async modem-type** command to set the type of modem being used. This command also sets the default modem parameter values such as default initialization string and escape sequence for the specified type of modem. Use the **no** form of the command to return modem type to its default value of `MultiTech-ZBA`.

> **NOTE:**
> If modem-type is specified as `none`, the system connects the PPP stack to the console port.

Syntax

async modem-type *modem_type*

no async *modem_type*

Parameters

Parameter	Description	Possible Values	Default Value

modem_type	The type of modem being used	`MultiTech-ZBA,`
		`USR-Sportster,`
		`null`	

User level

admin

Context

Interface: Console

Example

To set the modem type to USR-Sportster:

```
G350-001(super-if:Console)# async modem-type USR-Sportster
```

async reset-modem

Use the **async reset-modem** command to reset the connected modem.

Syntax

async reset-modem

User level

read-write

Context

Interface: Console

async reset-modem

Use the **async reset-modem** command to reset the USB modem. This command resets the PPP stack, deactivates the DTR signal, issues an ATZ (reset) command to the USB modem, and reissues the Init string sequence.
You can perform this command from within an active PPP session to close the session and allow the USB modem to accept a new call.

Syntax

async reset-modem

User level

read-write

Context

Interface: USB-modem

autoneg

Use the **autoneg** command to set the port speed and duplex to auto-negotiation mode for the external Fast Ethernet port. Use the **no** form of this command to disable auto-negotiation mode.

Syntax

[no] autoneg

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3)

backup delay

Use the **backup delay** command to set the time to wait before switching to the backup interface, in case of failure.

Syntax

backup delay *failure_delay secondary_disable_delay*

Parameters

Parameter	Description	Possible Values	Default Value
failure_ delay	The delay before switching to the backup interface, in seconds	0 - 3600	0
secondary_ disable_ delay	The delay before reverting to the primary interface, in seconds	0 - 3600	0

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3), Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR L2, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP FR L2, USP PPP L2, USP PPP L2-L3), Tunnel (L2, L2-L3)

Example

To switch over immediately to the backup interface, in case of failure, and pause 60 seconds before reverting to the primary interface:

```
G350-001(if:FastEthernet 10/2)# backup delay 0 60
```

backup interface

Use the **backup interface** command to set a backup interface for the current interface.

Syntax

backup interface *interface_type interface_number*

Parameters

Parameter	Description	Possible Values	Default Value
interface_ type	The type of interface	Serial, FastEthernet	
interface_ number	The interface number		

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3), Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR L2, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP FR L2, USP PPP L2, USP PPP L2-L3), Tunnel (L2, L2-L3)

Example

To specify that Serial interface 2/1:1 is a backup interface for the current interface:

```
G350-001(if:Serial 2/1:2)# backup interface Serial 2/1:1
```

bandwidth

Use the **bandwidth** command to set the bandwidth parameter manually for this interface. Use the **no** form of this command to restore the bandwidth parameter to its default value. The manually specified bandwidth value overrides the dynamically calculated bandwidth during route cost calculations.

Syntax

bandwidth *kilobits*

no bandwidth

Parameters

Parameter	Description	Possible Values	Default Value
kilobits	The bandwidth for the interface in kilobits per second	`1 – 10000000`	`2048` (for Frame Relay)

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR L2, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3, USP FR L2), Fast Ethernet (L2, L2-L3), VLAN (L2, L2-L3), Loopback (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To manually set the bandwidth for the VLAN interface to 100 KB/s:

```
G350-001(if:Vlan 1)# bandwidth 100
```

banner login

Use the **banner login** command to enter the login banner configuration mode. Use the **no** form of this command to set the login banner to its default value. The login banner displays before the user is prompted for the login name. To enter text for the login banner, refer to the command <u>line</u> on page 172.

> **NOTE:**
> Before creating a new banner, delete the current banner using the **no banner login** command.

Syntax

[no] banner login

User level

admin

Context

general

Example

To enter login banner configuration mode:

```
G350-001(super)# banner login

G350-001(super/login)#
```

banner post-login

Use the **banner post-login** command to enter the post-login banner configuration mode. The post-login banner displays after the user has logged in successfully. Use the **no** form of this command to set the post-login banner to its default value. To enter text for the post-login banner, refer to the command line on page 172.

> **NOTE:**
> Before creating a new banner, delete the current banner using the **no banner post-login** command.

Syntax

[no] banner post-login

User level

admin

Context

general

Example

To enter the post-login banner configuration mode:

```
G350-001(super)# banner post-login

G350-001(super/post-login)#
```

bc out

Use the **bc out** command to configure the committed burst size in bits, for the outbound direction. Use the **no** form of this command to return the committed burst size to its default value.

> **NOTE:**
> The time interval used in the frame relay meter is: (BC/CIR)*1000, where BC is the committed burst size, and CIR is the committed information rate. The minimum time interval is 10ms, and the device will prevent setting the BC and CIR in a way that violates this minimum.

Syntax

bc out *bits*

no bc out

Parameters

Parameter	Description	Possible Values	Default Value
bits	The committed burst size in bits	8 – 39999999	7000

User level

read-write

Context

map-class frame-relay

Example

To configure outbound BC to be 64 Kbit:

```
G350-001(map-class)# bc out 64000
```

be out

Use the **be out** command to configure the excess burst size in bits, for the outbound direction. Use the **no** form of this command to return the excess burst size to its default value.

> **NOTE:**
> The Excess Information Rate (EIR) is equal to: (BC+BE)/Tc/1000, where Tc is the Frame Relay meter time interval in mSec, BC is the committed burst rate and BE is the excess burst size.

Syntax

be out *bits*

no be out

Parameters

Parameter	Description	Possible Values	Default Value
bits	The excess burst size in bits	0 – 39999999	7000

User level

read-write

Context

map-class frame-relay

Example

To configure outbound BE to be 64 Kbit:

```
G350-001(map-class)# be out 64000
```

busyout voip-dsp

Use the **busyout voip-dsp** command to put the VoIP engine in busyout (not available) state for a Bit Transfer Rate test. For related VoIP testing commands, refer to the commands <u>test voip-dsp</u> on page 389, and <u>release voip-dsp</u> on page 191.

> **NOTE:**
> Status changes made during the test create SNMP traps.

Syntax

busyout voip-dsp

User level

read-write

Context

general

cablelength long

Use the **cablelength long** command to configure transmit and receive levels for a cable longer than 655 feet. Use the no form of the command to restore the transmit and receive levels to their default values.

Syntax

cablelength long *rx_level tx_level*

no cablelength long

Parameters

Parameter	Description	Possible Values	Default Value
rx_level	The receive sensitivity	`gain26,` `gain36`	`gain26`
tx_level	The transmit attenuation	`-15db,` `-22.5db,` `-7.5db,` `0db`	`0db`

User level

read-write

Context

Interface: Controller (T1)

Example

To set the receive and transmit values for the cable to gain36 and -7.5db:

```
G350-001(controller:5/1)# cablelength long gain36 -7.5db
```

cablelength short

Use the **cablelength short** command to configure transmit levels for a cable of length 655 feet or shorter. Use the **no** form of the command to restore the transmit level to its default value.

> **NOTE:**
> The transmit attentuation is configured using the loop length.

Syntax

cablelength short *tx_value*

Parameters

Parameter	Description	Possible Values	Default Value

tx_value	The transmit level	`133ft,`
		`266ft,`
		`399ft,`
		`533ft,`
		`655ft`
			`133ft`

User level

read-write

Context

Interface: Controller (T1)

Example

To set the transmit value for the cable to 399ft:

```
G350-001(controller:5/1)# cablelength short 399ft
```

capture buffer-mode

Use the **capture buffer-mode** command to specify the type of buffer used by the packet sniffer.

Syntax

capture buffer-mode {non_cyclic | cyclic}

Parameters

Parameter	Description	Possible Values	Default Value
non_cyclic	Linear buffer that is used until it is filled up		
cyclic	Circular buffer that overwrites the oldest records when it is filled up. Use a cyclic buffer to store the most recent history of packet activity.		

User level

read-write

Context

general

Example

```
G350-001# capture buffer-mode cyclic
```

capture buffer-size

Use the **capture buffer-size** command to specify the maximum size of the packet sniffing buffer.

> **NOTE:**
> To activate the change in buffer size, you must run copy running-config startup-config, and reboot the device.

Syntax

capture buffer-size *buffer_size*

Parameters

Parameter	Description	Possible Values	Default Value
buffer_size	The maximum size of the packet sniffing buffer.	256-10000 (Kbytes)	1000

User level

read-write

Context

general

Example

```
G350-001# capture buffer-size 2000
```

capture filter-group

Use the **capture filter-group** command to apply the specified filter to the packet sniffer. When a capture filter is applied, packets must match the criteria for a rule whose action is 'capture' in order to be saved to the buffer.

Syntax

capture filter-group *capture_list_id*

Parameters

Parameter	Description	Possible Values	Default Value
capture_list_id	The capture list number to apply	500–599	

User level

read-write

Context

general

Example

```
G350-001# capture filter-group 501
```

capture interface

Use the capture interface command to specify the interface on which to run the packet sniffing service. Use the **no** form of the command to run packet sniffing on all routing interfaces.

Syntax

capture interface *interface_name*

no capture interface

Parameters

Parameter	Description	Possible Values	Default Value
interface_name	The name of the interface on which to run packet sniffing. If the interface name contains spaces, it must be enclosed in quotes.		

User level

read-write

Context

general

Example

```
G350-001> capture interface ''FastEthernet 10/2''
```

capture max-frame-size

Use the **capture max-frame-size** command to specify the maximum number of bytes captured for each packet by the packet sniffer.

Syntax

capture max-frame-size *max_frame_size*

no capture max-frame-size

Parameters

Parameter	Description	Possible Values	Default Value
max_frame_size	The maximum number of bytes captured for each packet by the packet sniffer.	14 – 4096	128

User level

read-write

Context

general

Example

```
G350-001# capture max-frame-size 68
```

capture start

Use the **capture start** command to start the packet sniffing service.

> **NOTE:**
> The capture start command resets the buffer before starting the sniffer.

> **NOTE:**
> In order to upload a capture file, you must first stop the packet sniffing service.

Syntax

capture start

User level

read-write

Context

general

Examples

If the packet sniffing service has been enabled by the administrator:

```
G350-001> capture start
Starting the packet sniffing process
```

If the packet sniffing service has not been enabled by the administrator:

```
G350-001> capture start
The sniffing service is not available.
To re-enable, use the 'capture-service' command in supervisor mode.
```

capture stop

Use the **capture stop** command to stop the packet sniffing service.

> **NOTE:**
> This command is not saved in the startup configuration file.

> **NOTE:**
> In order to upload a capture file, you must first stop the packet sniffing service.

Syntax

capture stop

User level

read-write

Context

general

Examples

If the packet sniffing service has been enabled by the administrator:

```
G350-001> capture stop
110 packets captured.
```

If the packet sniffing service has not been enabled by the administrator:

```
G350-001> capture stop
The Packet sniffing process is not running.
```

capture-service

Use the **capture-service** command to enable the packet sniffing service. Use the **no** form of the command to disable the packet sniffing service. By disabling the service, the administrator can prevent users with read-write access from starting packet sniffing.

> **NOTE:**
> This command can only be executed by an admin user connected via the console port.

Syntax

[no] capture-service

User level

admin

Context

general

Example

To enable packet sniffing:

```
G350-001> capture-service
Packet sniffing service enabled
```

To disable packet sniffing:

```
G350-001> no capture-service
Packet sniffing service disabled
```

channel-group

Use the **channel-group** command to create a channel group logical interface for a PPP or Frame Relay session. Use the form of the command to delete a channel group.

> **NOTE:**
> If you issue this command with an existing channel number, the timeslots you specify will replace any that already exist.

Syntax

channel-group *channel_number* **timeslots** *ts_list* **speed** *speed_value*

no channel-group *channel_number*

Parameters

Parameter	Description	Possible Values	Default Value

channel_ number	The ID number to identify the channel group	For T1:
		`0 – 23`
		For E1:
		`0 – 30`	

ts_list	The time slots to include in this channel group. Values can be separated either by a "–" for a range, or by commas for a list.	For T1:
		`1 – 24`
		For E1:
		`1 – 31`	

speed_ value	The acceptable speed values	`56, 64`	`56`

User level

read-write

Context

Interface: Controller

Example

To create a new channel group number 2, with time slots 5, 6, and 8 and speed of 56:

```
G350-001(controller:5/1)# channel-group 2 timeslots 5-6,8 speed 56
```

cir out

Use the **cir out** command to configure the Committed Information Rate in bits per second, for the outbound direction. Use the **no** form of this command to return the CIR to its default value.

> **NOTE:**
> This command fails if the map class is currently associated with a DLCI.

Syntax

cir out *cir*

no cir out

Parameters

Parameter	Description	Possible Values	Default Value
cir	The CIR in bits per second	`0 – 39999999`	`56000`

User level

read-only

Context

map-class frame-relay

Example

To configure outbound CIR to be 64 Kbps:

```
G350-001(map-class)# cir out 64000
```

clear arp-cache

Use the **clear arp-cache** command to delete all dynamic entries from the ARP cache.

Syntax

clear arp-cache [*interface*|*vlan_id*|*ip_address*[*mask*]]

Parameters

Parameter	Description	Possible Values	Default Value
interface	The interface name for which to delete entries		
vlan_id	The VLAN ID for which to delete entries	1 – 3071	
ip_address	The host IP address to clear		
mask	The IP mask of the subnet to clear		

User level

read-write

Context

general

Example

To flush all ARP entries:

```
G350-001# clear arp-cache

Flushing all arp entries
Flushed 22 ARP entries.
```

To flush ARP entries for an interface named "FastEthernet 10/2":

```
G350-001# clear arp-cache "fastethernet 10/2"

Flushing ARP cache entries on ifName fastethernet 10/2
Flushed 1 ARP entries.
```

To flush ARP entries for one host address:

```
G350-001# clear arp-cache 156.16.11.32

Flushing ARP cache entry of host 156.16.11.32
Flushed 0 ARP entries.
```

To flush a range of ARP entries belonging to one subnet:

```
G350-001# clear arp-cache 156.3.2.33 255.255.255.0

Flushing ARP cache entries in the range [156.3.2.33, 255.255.255.0]
Flushed 0 ARP entries.
```

clear cam

Use the **clear cam** command to delete all entries from the Contents Address Memory (CAM) table.

Syntax

clear cam

User level

read-write

Context

general

Example

To clear the CAM table:

```
G350-001# clear cam

CAM table cleared.
```

clear capture-buffer

Use the **clear capture-buffer** command to clear the packet sniffing buffer.

Syntax

clear capture-buffer

User level

read-write

Context

general

Example

```
G350-001> clear capture-buffer
Done!
```

clear controller counters

Use the **clear controller counters** command to reset the controller counters.

Syntax

clear controller counters *controller_number*

Parameters

Parameter	Description	Possible Values	Default Value
controller_ number	The controller module number and port number		

User level

read-only

Context

general

Example

To clear counters for controller 3, port 1:

```
G350-001# clear controller counters 3/1
```

clear counters

Use the **clear counters** command to clear counters for the selected interface or the entire device.

Syntax

clear counters [*interface_type interface_identifier*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_type	The type of interface		

interface_identifier	The interface number. The format varies depending on the value of interface_type:
	
	For FastEthernet: `module/port`
	
	For Serial: `module/port:channel-group`
	
	For Vlan: `Vlan id`
	
	For LoopBack: `Loopback number`
		For FastEthernet: `10/2`
		
		For Serial(USP): `2/1`
		
		For Serial (DS1):
		  module/port: `2/1`
		  channel-group:
		    E1: `0-30`
		    T1: `0-23`
		
		For VLAN: `1-3071`
		
		For Loopback: `1-99`	

User level

read-write

Context

general

Example

To clear counters on interface "Vlan 1":

```
G350-011# clear counters Vlan 1
```

clear fragment

Use the **clear fragment** command to clear the fragment database and restore its default values.

> **NOTE:**
> No IP reassembly is performed on packets in transit through the router.

Syntax

clear fragment

User level

read-write

Context

general

clear frame-relay counters

Use the **clear frame-relay counters** command to clear the Frame Relay counters.

Syntax

clear frame-relay counters [interface *interface_name*]

Parameters

Parameter	Description	Possible Values	Default Value
interface	Keyword specifying that the counters should be cleared on the specified interface		
interface_ name	The name of the interface		

User level

read-only

Context

general

Example

To clear the Frame Relay counters:

```
G350-001> clear frame-relay counters
```

To clear a specific Frame Relay interface's counters:

```
G350-001> clear frame-relay counters interface "Serial 4/1.100"
```

clear ip route

Use the **clear ip route** command to delete all the dynamic routing entries from the routing table.

Syntax

clear ip route * | {*ip_addr* [*ip_mask*]}

Parameters

Parameter	Description	Possible Values	Default Value
*	Clear the entire routing table.		
ip_addr	The IP address of a specific dynamic routing entry to clear		
ip_mask	The IP mask of a specific dynamic routing subnet to clear		

User level

read-write

Context

general

Example

To clear the entire routing table:

```
G350-001# clear ip route *
```

To clear a range of entries:

```
G350-001# clear ip route 192.168.49.1 255.255.255.0
```

clear ip rtp header-compression

Use the **clear ip rtp header-compression** command to clear IP RTP header compression statistics either for all enabled interfaces or for a specific interface. To clear IP RTP compression statistics for all enabled interfaces, do not enter an interface type and number.

> **NOTE:**
> There is no renegotiation of parameters.

Syntax

clear ip rtp header-compression [*interface_type interface_number*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ type	The type of interface		
interface_ number	The interface number		

User level

read-only

Context

general

Example

To clear header compression statistics for all interfaces:

```
G350-001# clear ip rtp header-compression
```

clear ip tcp header-compression

Use the **clear ip tcp header-compression** command to clear TCP compression statistics either for all enabled interfaces or for a specific interface. To clear TCP compression statistics for all enabled interfaces, do not enter an interface type and number.

Syntax

clear ip tcp header-compression [*interface_type interface_number*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ type	The type of interface		
interface_ number	The interface number		

User level

read-only

Context

general

Example

To clear TCP compression statistics for all enabled interfaces:

```
G350-001> clear ip tcp header-compression
```

clear ip traffic

Use the **clear ip traffic** command to clear the IP counters.

Syntax

clear ip traffic

User level

read-only

Context

general

clear logging file

Use the **clear logging file** command to delete the message log file being stored in non-volatile memory (NVRAM), including the history log, and open a new, empty log file.

Syntax

clear logging file

User level

read-write

Context

general

Example

To delete the message log:

```
G350-001# clear logging file

Done!
```

clear logging server

Use the **clear logging server** command to delete the specified Syslog message server from the Syslog server table.

Syntax

clear logging server {*ip_address* | *hostname*}

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The IP address of the Syslog server		
hostname	The name of the Syslog server host		

User level

read-write

Context

general

Example:

To delete the Syslog message server with IP address 176.15.4.25:

```
G350-001# clear logging server 176.15.4.25
```

clear mgc list

Use the **clear mgc list** command to remove entries from the Media Gateway Controller list. Multiple entries can be removed together, by specifying a list of IP addresses separated by commas. If no arguments are provided, all entries are removed.

Syntax

clear mgc list [*ipaddress1*,…]

Parameters

Parameter	Description	Possible Values	Default Value
ipaddress1	The IP address of a call controller		

User level

read-only

Context

general

Example

To remove two Media Gateway Controllers from the list, with IP addresses of 132.236.73.2 and 177.13.2.45:

```
G350-001(super)# clear mgc list 132.236.73.2, 177.13.2.45
```

clear port mirror

Use the **clear port mirror** command to delete a port mirroring pair.

Syntax

clear port mirror *source_module/source_port dest_module/dest_port*

Parameters

Parameter	Description	Possible Values	Default Value
source_ module	The module number of the source (mirrored) port		
source_ port	The port number of the source (mirrored) port		
dest_ module	The module number of the destination port		
dest_port	The port number of the destination port		

User level

read-write

Context

general

Example

To disable the mirroring of port 5/1 by port 5/3:

```
G350-001# clear port mirror 5/1 5/3
```

clear port static-vlan

Use the **clear port static-vlan** command to delete statically configured VLANs from the port.

Syntax

clear port static-vlan *module/port_range vlan_id*

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port_range	The port number or range of port numbers		
vlan_id	The VLAN ID to remove		

User level

read-write

Context

general

Example

To remove VLAN 5 from port 3/10:

```
G350-001# clear port static-vlan 3/10 5

VLAN 5 is unbound from port 3/10
```

clear radius authentication server

Use the **clear radius authentication server** command to clear the primary or secondary RADIUS server IP address.

Syntax

clear radius authentication server {primary|secondary}

Parameters

Parameter	Description	Possible Values	Default Value
primary	Keyword specifying to clear the primary RADIUS server		
secondary	Keyword specifying to clear the secondary RADIUS server		

User level

admin

Context

general

Example

To clear the secondary RADIUS authentication server:

```
G350-001# clear radius authentication server secondary
```

clear screen

Use the **clear screen** command to clear the current terminal display.

Syntax

clear screen

User level

read-only

Context

general

clear snmp trap

Use the **clear snmp trap** command to clear an entry from the SNMP trap receiver table.

Syntax

clear snmp trap {*rcvr_addr*|all}

Parameters

Parameter	Description	Possible Values	Default Value
rcvr_addr	The IP address of the trap receiver (the SNMP management station) to remove		
all	Keyword used to clear all entries in the SNMP trap receiver table		

User level

read-write

Context

general

Example

To remove the SNMP trap server with IP address 192.122.173.82 from the table:

```
G350-001# clear snmp trap 192.122.173.82

SNMP trap receiver deleted.
```

clear ssh-client known-hosts

Use the **clear ssh-client known-hosts** command to clear the SSH known-host file content. This command is used to unlock the man-in-the-middle attack prevention mechanism, and allow SCP server authentication after an SCP server public key change.

Syntax

clear ssh-client known-hosts

User level

admin

Context

general

Example

```
G350-001(super)# clear ssh-client known-hosts

Done!
```

clear sync interface

Use the **clear sync interface** command to disassociate a previously specified interface as the primary or secondary clock synchronization source.

> **NOTE:**
> The primary interface must be disassociated before the secondary interface is disassociated.

Syntax

clear sync interface {primary | secondary}

Parameters

Parameter	Description	Possible Values	Default Value
primary	Keyword specifying the primary clock synchronization source		
secondary	Keyword specifying the secondary clock synchronization source		

User level

read-write

Context

general

Example

To disassociate the interface that is specified as the primary clock synchronization source:

```
G350-001# clear sync interface primary
```

clear utilization cpu

Use the **clear utilization cpu** command to disable CPU utilization measurements.

Syntax

clear utilization cpu *module*

Parameters

Parameter	Description	Possible Values	Default Value
module	The module for which to disable CPU utilization measurements		

User level

read-write

Context

general

Example

To disable CPU utilization measurements for Module #10:

```
G350-001# clear utilization cpu 10
```

clear vlan

Use the **clear vlan** command to delete an existing VLAN and its interface. When you clear a VLAN, all ports assigned to that VLAN are returned to the default VLAN.

Syntax

clear vlan *vlan_id* | {**name** *vlan_name*}

Parameters

Parameter	Description	Possible Values	Default Value
vlan_id	The VLAN number		
name	Keyword specifying to identify the VLAN by the VLAN name.		
vlan_name	The VLAN name. If you wish to enter a name which includes spaces, you must enclose the entire name in quotation marks, for example "new york".		

User level

read-write

Context

general

Example

To delete VLAN 100:

```
G350-001# clear vlan 100

This command will assign all ports on vlan 100 to their default in the entire
management domain - do you want to continue (Y/N)?  y

VLAN 100 deletion successful
```

clock source

Use the **clock source** command to configure the clock source for an E1/T1 controller. Use the **no** form of the command to return the clock source to the default value of line.

Syntax

clock source {line | internal}

no clock source

Parameters

Parameter	Description	Possible Values	Default Value
line	Keyword that specifies to use an external clock		
internal	Keyword that specifies to synchronize to the internal clock		

User level

read-write

Context

Interface: Controller

Example

To specify that controller number 5 uses an external clock:

```
G350-001(controller:5/1)# clock source external
```

composite-operation

Use the **composite-operation** command to edit the specified composite operation. If the composite operation does not exist, it is created.

Syntax

composite-operation *index*

Parameters

Parameter	Description	Possible Values	Default Value
index	The composite operation number	12 – 19	

User level

read-write

Context

ip access-control-list/ip-rule, ip capture-list/ip-rule, ip qos-list, ip qos-list/dscp-table, ip qos-list/ip-rule

Example

To enter configuration mode for composite operation 13:

```
G350-001(QoS 440)# composite-operation 13

G350-001(QoS 440/CompOp 13)#
```

controller

Use the **controller** command to enter configuration mode for a specific controller.

Syntax

controller {e1 | t1} *module_number/port_number*

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The module number to configure		
port_ number	The port to configure		

User level

read-write

Context

general

Example

To enter configuration mode for a T1 controller on port 5/1:

```
G350-001# controller t1 5/1
```

cookie

Use the **cookie** command to set the cookie for the current list.

Syntax

cookie *cookie_number*

Parameters

Parameter	Description	Possible Values	Default Value
cookie_ number	The ID number of the cookie	0 – 268435455	

User level

read-write

Context

ip access-control-list, ip qos-list, ip capture-list, ip pbr-list

Example

To specify the cookie for QoS list 440 as 257:

```
G350-001(QoS 440)# cookie 257
```

copy capture-file ftp

Use the **copy capture-file ftp** command to upload the packet sniffing buffer to a file using the ftp protocol.

> **NOTE:**
> You must stop the packet sniffing service using the **capture stop** command before you can upload the buffer.

Syntax

copy capture-file ftp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The file name on the FTP server		
ip	The IP address of the FTP server		

User level

read-write

Context

general

Example

To upload the packet sniffing buffer to the g350.cap file on the FTP server at IP address 135.64.10.33:

```
G350-001# copy capture-file ftp g350.cap 135.64.10.33
```

copy capture-file scp

Use the **copy capture-file scp** command to upload the packet sniffing buffer to a file using the scp secure file transfer protocol.

> **NOTE:**
> You must stop the packet sniffing service using the **capture stop** command before you can upload the buffer.

Syntax

copy capture-file scp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The file name on the FTP server		
ip	The IP address of the FTP server		

User level

read-write

Context

general

Example

To upload the packet sniffing buffer to the g350.cap file on the FTP server at IP address 135.64.10.33:

```
G350-001# copy capture-file scp g350.cap 135.64.10.33
```

copy capture-file tftp

Use the **copy capture-file tftp** command to upload the packet sniffing buffer to a file using the tftp protocol.

> **NOTE:**
> You must stop the packet sniffing service using the **capture stop** command before you can upload the buffer.

Syntax

copy capture-file tftp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The file name on the TFTP server		
ip	The IP address of the TFTP server		

User level

read-write

Context

general

Example

To upload the packet sniffing buffer to the g350.cap file on the TFTP server at IP address 135.64.10.33:

```
G350-001# copy capture-file tftp g350.cap 135.64.10.33
```

copy ftp EW_archive

Use the **copy ftp EW_archive** command to download Avaya G350 Manager software from an FTP server. The FTP command prompts for the username and password after the command is entered.

Syntax

copy ftp EW_archive *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The file name on the FTP server		
ip	The IP address of the FTP server		

User level

read-write

Context

general

Example

To download the g350.img file from the FTP server at IP address 135.64.10.33, using login dan:

```
G350-001# copy ftp EW_archive g350.img 135.64.10.33

Username: dan
Password:
```

copy ftp module

Use the **copy ftp module** command to download firmware from an FTP server into a media module. The FTP command prompts for the username and password after the command is entered.

Syntax

copy ftp module *module_number filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The Media Module number		
filename	The file name on the FTP server		
ip	The IP address of the FTP server		

User level

read-write

Context

general

Example

To download the firmware file, mm.img, into media module 3 from the FTP site at IP address 135.64.10.33 using login dan:

```
G350-001# copy ftp module 3 mm.img 135.64.10.33
Username: dan
Password:
```

copy ftp startups-config

Use the **copy ftp startup-config** command to download a configuration file from an FTP server. The command prompts for the username and password.

> **NOTE:**
> After you download the configuration file, the new configuration is not active until you reset the device.

Syntax

copy ftp startup-config *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The file name on the FTP server		
ip	The IP address of the FTP server		

User level

read-write

Context

general

Example

To download the configuration file, g350.img, from the FTP server at IP address 135.64.10.33 using login dan:

```
G350-001# copy ftp startup-config g350.img 135.64.10.33
Username: dan
Password:

G350-001# reset
```

copy ftp SW_imageA

Use the **copy ftp SW_imageA** command to download a software image from an FTP server into Bank A. The command prompts for the username and password.

Syntax

copy ftp SW_imageA *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	File name on the FTP server		
ip	IP address of the FTP server		

User level

read-write

Context

general

Example

To download the software image file, g350.img, from the FTP site at IP address 135.64.10.33 using login dan:

```
G350-001# copy ftp SW_imageA g350.img 135.64.10.33
Username: dan
Password:
```

copy ftp SW_imageB

Use the **copy ftp SW_imageB** command to download a software image from an FTP server into Bank B. The command prompts for the username and password.

Syntax

copy ftp SW_imageB *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	File name on the FTP server		
ip	IP address of the FTP server		

User level

read-write

Context

general

Example

To download the software image file, g350.img, from the FTP site at IP address 135.64.10.33 using login dan:

```
G350-001# copy ftp SW_imageB g350.img 135.64.10.33
Username: dan
Password:
```

copy running-config ftp

Use the **copy running-config ftp** command to upload the current configuration to a file on an FTP server. The command prompts for the username and password. Uncommitted changes to the configuration are included.

> **NOTE:**
> After you change the configuration, run the **copy running-config startup-config** command to save the changes. If you do not save the changes, the device loses the changes when you reset it.

Syntax

copy running-config ftp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	File name to create on the FTP server		
ip	IP address of the FTP server		

User level

read-write

Context

general

Example

To upload the current configuration to the g350.cfg file on the ftp server at IP address 135.64.10.33 using login dan:

```
G350-001# copy running-config ftp c:\config_files\router1.cfg 135.64.10.33
Username: dan
Password:
```

copy running-config scp

Use the **copy running-config scp** command to upload the current configuration using the SCP secure protocol. The command prompts for the username and password. Uncommitted changes to the configuration are included.

> **NOTE:**
> After you change the configuration, run the **copy running-config startup-config** command to save the changes. If you do not save the changes, the device loses the changes when you reset it.

Syntax

copy running-config scp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	File name to create on the SCP server		
ip	IP address of the SCP server		

User level

read-write

Context

general

Example

```
G350-001# copy running-config scp c:\config_files\router1.cfg 192.168.49.10
Username: dan
Password:
```

copy running-config startup-config

Use the **copy running-config startup-config** command to commit the current configuration to NVRAM.

Syntax

copy running-config startup-config

User level

read-write

Context

general

Example

```
G350-001# copy running-config startup-config

Beginning copy operation ................... Done!
```

copy running-config tftp

Use the **copy running-config tftp** command to upload the current configuration to a file on a TFTP server. Uncommitted changes to the configuration are included.

To use this command, you need to have an active TFTP server. If Avaya Network Manager is running, you do not require an additional TFTP server.

> **NOTE:**
> After you change the configuration, run the **copy running-config startup-config** command to save the changes. If you do not save the changes, the device loses the changes when you reset it.

Syntax

copy running-config tftp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	Name of file to create on TFTP server		
ip	IP address of TFTP server		

User level

read-write

Context

general

Example

To upload the current configuration to the g350.cfg file on the TFTP server at IP address 135.64.10.33:

```
G350-001# copy running-config tftp g350.cfg 135.64.10.33
```

copy scp startup-config

Use the **copy scp startup-config** command to download a startup-config file using the SCP secure protocol. The command prompts for the username and password. Uncommitted changes to the configuration are not included.

> **NOTE:**
> After you change the configuration, run the **copy running-config startup-config** command to save the changes. If you do not save the changes, the device loses the changes when you reset it.

Syntax

copy scp startup-config *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	Name of file to create on SCP server		
ip	IP address of SCP server		

User level

read-write

Context

general

Example

```
G350-001# copy scp startup-config c:\config_files\router1.cfg 192.168.49.10
```

copy startup-config ftp

Use the **copy startup-config ftp** command to upload the current configuration to a file on an FTP server. The command prompts for the username and password. Uncommitted changes to the configuration are not included.

> **NOTE:**
> After you change the configuration, run the **copy running-config startup-config** command to save the changes. If you do not save the changes, the device loses the changes when you reset it.

Syntax

copy startup-config ftp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	Name of file to create on the FTP server		
ip	IP address of the FTP server		

User level

read-write

Context

general

Example

To upload the current configuration to the g350.cfg file on the FTP server at IP address 135.64.10.33:

```
G350-001# copy startup-config ftp g350.cfg 135.64.10.33
```

copy startup-config scp

Use the **copy startup-config scp** command to upload the current configuration to a file on an SCP server. The command prompts for the username and password. Uncommitted changes to the configuration are not included.

> **NOTE:**
> After you change the configuration, run the **copy running-config startup-config** command to save the changes. If you do not save the changes, the device loses the changes when you reset it.

Syntax

copy startup-config scp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	Name of file to create on the SCP server		
ip	IP address of the SCP server		

User level

read-write

Context

general

Example

To upload the current configuration to the router1.cfg file on the SCP server at IP address 192.168.49.10:

```
G350-001# copy startup-config scp c:\config_files\router1.cfg 192.168.49.10
```

copy startup-config tftp

Use the **copy startup-config tftp** command to upload the current configuration to a file on a TFTP server. Uncommitted changes to the configuration are not included.

To use this command, you need to have an active TFTP server. If Avaya Network Manager is running, you do not require an additional TFTP server.

> **NOTE:**
> After you change the configuration, run the **copy running-config startup-config** command to save the changes. If you do not save the changes, the device loses the changes when you reset it.

Syntax

copy startup-config tftp *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	Name of file to create on TFTP server		
ip	IP address of TFTP server		

User level

read-write

Context

general

Example

To upload the current configuration to the g350.cfg file on the TFTP server at IP address 135.64.10.33:

```
G350-001# copy startup-config tftp g350.cfg 135.64.10.33
```

copy tftp EW_archive

Use the **copy tftp EW_archive** command to download the media gateway manager application into the media gateway via TFTP.

To use this command, you need to have an active TFTP server, and to create a file into which to download the data. If Avaya Network Manager is running, you do not require an additional TFTP server.

Syntax

copy tftp EW_archive *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The manager image file name (full path)		
ip	The IP address of the host		

User level

read-write

Context

general

Example

To download the media gateway manager software, with filename of mgr.cfg, from the TFTP server located at IP address 192.168.49.10:

```
G350-001# copy tftp EW_archive c:\G350\mgr.cfg 192.168.49.10
```

copy tftp module

Use the **copy tftp module** command to download a new version of module software into a particular media module from a saved file, via TFTP.

To use this command, you need to have an active TFTP server, and to create a file into which to download the software. If Avaya Network Manager is running, an additional TFTP server is not required.

> **NOTE:**
> Perform the **nvram initialize** command prior to the **copy tftp module** command.

Syntax

copy tftp module *module_number filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The module number		
filename	The file name, including the full path		
ip	The IP address of the TFTP server		

User level

read-write

Context

general

Example

To download the software file mm1.cfg for media module 5 from the TFTP server 192.168.49.10:

```
G350-001# copy tftp module 5 c:\config\mm1.cfg 192.168.49.10
```

copy tftp startup-config

Use the **copy tftp startup-config** command to copy the media gateway configuration from the saved TFTP file to the Startup Configuration NVRAM.

To use this command, you need to have an active TFTP server, and to create a file into which to download the data. If Avaya Network Manager is running, an additional TFTP server is not required.

Syntax

copy tftp startup-config *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The file name, including the full path		
ip	The IP address of the host		

User level

read-write

Context

general

Example

To copy the configuration file router1.cfg from the TFTP server 192.168.49.10 into the startup configuration:

```
G350-001# copy tftp startup-config c:\G350\router1.cfg 192.168.49.10
```

copy tftp SW_imageA

Use the **copy tftp SW_imageA** command to update the software image in Bank A of the media gateway.

To use this command, you need to have an active TFTP server, and to create a file into which to download the data. If Avaya Network Manager is running, an additional TFTP server is not required.

Syntax

copy tftp SW_imageA *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The file name, including the full path		
ip	IP address of the host		

User level

read-write

Context

general

Example

To download the software file imgA.bin from the TFTP server 149.49.36.200 into boot bank A:

```
G350-001# copy tftp SW_imageA c:\imgA.bin 149.49.36.200

Beginning download operation ...
This operation may take a few minutes...
Please refrain from any other operation during this time.
```

copy tftp SW_imageB

Use the **copy tftp SW_imageB** command to update the software image in Bank B of the media gateway.

To use this command, you need to have an active TFTP server, and to create a file into which to download the data. If Avaya Network Manager is running, an additional TFTP server is not required.

Syntax

copy tftp SW_imageB *filename ip*

Parameters

Parameter	Description	Possible Values	Default Value
filename	The file name, including the full path		
ip	IP address of the host		

User level

read-write

Context

general

Example

To download the software file imgB.bin from the TFTP server 149.49.36.200 into boot bank B:

```
G350-001# copy tftp SW_imageB c:\imgB.bin 149.49.36.200

Beginning download operation ...
This operation may take a few minutes...
Please refrain from any other operation during this time.
```

cos

Use the **cos** command to set the priority value for the current composite operation. Use the **no** form of the command to reset the priority to the default value of `no-change`.

Syntax

cos {*priority* **| no-change}**

no cos

Parameters

Parameter	Description	Possible Values	Default Value
priority	The priority value of the composite operation	0 – 8	
no-change	Keyword indicating that the priority is not changed		

User level

read-write

Context

ip qos-list composite-operation

Example

To set the priority for composite operation 12 to 3:

```
G350-001(QoS 440/CompOp 12)# cos 3
```

crypto key generate

Use the **crypto key generate** command to generate an SSH host key pair. You must generate the host key pair before the SSH service can be used. Stations that are currently active receive a warning message that the device public key has changed.

> **NOTE:**
> This command does not close active sessions.

> **NOTE:**
> This command can take several minutes to run (depending on CPU speed).

Syntax

crypto key generate dsa [key-size *bit-number*]

Parameters

Parameter	Description	Possible Values	Default Value
bit-number	The number of bits in the key	512-2048	1024

User level

admin

Context

general

Example

```
G350-001(super)# crypto key generate

Generating DSA key, This command may take a few minutes

......

Key was created.

Key version: SSH2, DSA

Key Fingerprint: dd:60:59:fa:e0:47:b8:db:e3:1c:17:8d:4c:14:9a:0f root@avaya
```

de pre-mark

Use the **de pre-mark** command to specify the threshold, in percents of CIR, to begin marking non-high-priority packets (0-5) over the BC (committed burst) level and under the BE (excess burst) level as Delete Eligible (DE) packets. Use the **no** form of the command to return the threshold to its default value.

Syntax

de pre-mark *threshold_percent*

no de pre-mark

Parameters

Parameter	Description	Possible Values	Default Value
threshold_percent	The threshold percent	1 – 100	100 (no pre-mark)

User level

read-write

Context

map-class frame-relay

de-buffer-size

Use the **de-buffer-size** command to set the buffer size for frames marked as drop-eligible. Use the **no** form of the command to return the drop-eligible buffer to its default size.

Syntax

de-buffer-size *size*

no de-buffer-size

Parameters

Parameter	Description	Possible Values	Default Value
size	The drop-eligible (DE) buffer size, in packets		

User level

read-write

Context

Interface: Serial (DS1 FR L2, USP FR L2)

Example

To set the buffer size for drop-eligible frames to 200 packets:

```
G350-001(if:Serial 5/1:1)# de-buffer-size 200
```

default-metric

Use the **default-metric** command to set the default metric of redistributed routes for the OSPF protocol. Use the **no** form of this command to restore the default value.

Syntax

default-metric *default_metric*

no default-metric

Parameters

Parameter	Description	Possible Values	Default Value
default_ metric	The default metric of redistributed routes	1-65535	20

User level

read-write

Context

Router-OSPF

Example

To set the default metric for redistributed routes to 50:

```
G350-001(router:ospf)# default-metric 50
```

default-metric

Use the **default-metric** command to set the default metric of redistributed routes for the RIP protocol. Use the **no** form of this command to restore the default value.

Syntax

default-metric *default_metric*

no default-metric

Parameters

Parameter	Description	Possible Values	Default Value
default_ metric	The interface RIP route metric value	1–16	1

User level

read-write

Context

Router-RIP

Example

To set the default metric for redistributed routes to 5:

```
G350-001(router:rip)# default-metric 5
```

default-metric

Use the **default-metric** command to set the interface Routing Information Protocol (RIP) route metric value. Use the **no** form of this command to restore the default value.

Syntax

default-metric *number*

no default-metric

Parameters

Parameter	Description	Possible Values	Default Value
number	The interface route metric value	1-15	1

User level

read-write

Context

Interface: Loopback (L2-L3, L3), Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), Fast Ethernet (L3, L2-L3), VLAN (L2-L3, L3), Tunnel (L2-L3, L3)

Example

To set the default metric to 10:

```
G350-001(if:FastEthernet 10/2)# default-metric 10
```

description

Use the **description** command to configure a description for the current interface. Use the **no** form of this command to clear the description of the current interface.

Syntax

description *string*

no description

Parameters

Parameter	Description	Possible Values	Default Value
string	The description of the interface		

User level

read-write

Context

Interface: serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2-L3, USP PPP L2, USP FR L2), FastEthernet (L2, L2-L3), VLAN (L2, L2-L3), Loopback (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To specify the description for the VLAN 3 interface as "Marketing VLAN":

```
G350-001(if:Vlan 3)# description "Marketing VLAN"
```

destination-ip

Use the **destination-ip** command to specify the destination IP address of packets to which the current rule applies. Use the **no** form of the command to specify that the current rule will apply to all packets that do *not* have this destination IP address.

Syntax

[no] destination-ip {host *ip*} | any | {*ip wildcard*}

Parameters

Parameter	Description	Possible Values	Default Value
host	Keyword that specifies the current rule applies to a single host IP address		
ip	The destination IP address of the rule		
any	Keyword that specifies the current rule applies to any address		
wildcard	The range of IP addresses of the rule. The zero bits in the wildcard correspond to bits in the IP address that remain fixed. The one bits in the wildcard correspond to bits in the IP address that can vary. Note that this is the opposite of how bits are used in a netmask.		

User level

read-write

Context

ip capture-list/ip-rule, ip access-control-list/ip-rule, ip pbr-list/ip-rule, ip qos-list/ip-rule

Example

To specify that rule 22 applies to all packets having destination IP address 135.64.104.102:

```
G350-011(QoS 460/rule 22)# destination-ip host 135.64.104.102
```

To specify that rule 17 applies to packets whose destination IP address is in the range of 176.13.0.0 through 176.13.255.255:

```
G350-011(QoS 460/rule 17)# destination-ip 176.13.0.0 0.0.255.255
```

dir

Use the **dir** command to show the files that have been downloaded to the media gateway using the Replace variable w/ ProductName Download interface and the SNMP MIB.

Syntax

dir

User level

read-only

Context

general

Example

To display a list of downloaded files:

```
G350-001> dir

M# file            ver num  file type    file location  file description
-- ----            -------- ----------   ------------   ----------------
1  MM714           53       SW RT Image  Nv-Ram         MM714 - image
2  MM710           8        SW RT Image  Nv-Ram         MM710 - image
4  MM712           0        SW RT Image  Nv-Ram         MM712 - image
5  MM722           51       SW RT Image  Nv-Ram         MM722 - image
6  MM312           50       SW RT Image  Nv-Ram         MM312 - image
7  Analog          0        SW RT Image  Nv-Ram         Analog - image
10 startup-config  N/A      Startup Conf Nv-Ram         Startup Config
10 running-config  N/A      Running Conf Ram            Running Config
10 G350-A          0.11.1   SW Component Flash Bank A   Software Image Bank A
10 G350-B          0.15.0   SW RT Image  Flash Bank B   Software Image Bank B
10 G350            N/A      SW Web Image Nv-Ram         EmWeb application
10 G350-Booter     21.12.0  SW BootImage Nv-Ram         Booter Image
```

disconnect ssh

Use the **disconnect ssh** command to disconnect an existing SSH session.

Syntax

disconnect ssh *session_id*

Parameters

Parameter	Description	Possible Values	Default Value
session_id	The number of the SSH session to disconnect		

User level

admin

Context

general

distribution-list

Use the **distribution-list** command to apply a distribution policy rule for incoming or outgoing routing information in route updates. Use the **no** form of this command to deactivate the rule.

Syntax

[no] **distribution-list** *access_list_number type* [*interface_type interface_number\protocol*]

Parameters

Parameter	Description	Possible Values	Default Value
access_list_ number	The number of the access list	`1-99`	
type	The type of the access list	`in, out`	
interface_ type	The interface type		
interface_ number	The interface number		
protocol	The protocol. This parameter is only relevant for outgoing list entries.	`static, ospf`	

User level

read-write

Context

Router: rip

Example

To apply distribution policy rule 10 to incoming router updates on the VLAN 1 interface:

```
G350-001(router:rip)# distribution-list 10 in "Vlan 1"
```

To apply distribution policy rule 20 to outgoing router updates on the Serial 2/1:1 interface:

```
G350-001(router:rip)# distribution-list 20 out "Serial 2/1:1":
```

To apply distribution policy rule 40 to outgoing router updates from OSPF:

```
G350-001(router:rip)# distribution-list 40 out ospf
```

dscp

Use the **dscp** command to specify the DSCP value that is set by the current policy operation. Use the **no** form of the command to specify that the current operation sets the DSCP value to the default.

Syntax

dscp {*dscp_value* | no-change}

no dscp

Parameters

Parameter	Description	Possible Values	Default Value
dscp_value	The DSCP value	0-63	
no-change	The DSCP value is left unchanged		

User level

read-write

Context

ip qos-list composite-operation, ip capture-list ip-rule, ip pbr-list ip-rule

> **NOTE:**
> In ip-rule context, this command tests packets to see if they match the specified DSCP value, but does not change the DSCP value.

Example

To specify that composite operation 17 sets the DSCP value of packets to 55:

```
G350-001(QoS 440/CompOp 17)# dscp 55
```

dscp-table

Use the **dscp-table** command to enter the DSCP table entry context for a particular DSCP value for the current QoS list. If the specified DSCP table entry does not exist, the system creates it.

Syntax

dscp-table *dscp_value*

Parameters

Parameter	Description	Possible Values	Default Value
dscp_value	The specific DSCP value to configure	`0-63`	

User level

read-write

Context

ip qos-list, capture-list

Example

To enter configuration mode for DSCP table entry 21:

```
G350-001(QoS 440)# dscp-table 21
```

ds-mode

Use the **ds-mode** command to specify the mode of the controller.

> **NOTE:**
> When you change the ds-mode, you must copy the running configuration to the startup configuration and reset the device.

Syntax

ds-mode {e1|t1}

Parameters

Parameter	Description	Possible Values	Default Value
e1	Keyword specifying to set the mode to E1		
t1	Keyword specifying to set the mode to T1		

User level

admin

Context

general

Example

To set the controller to operate in E1 mode:

```
G350-001(super)# ds-mode t1
```

To change ds-mode, copy the running configuration to the start-up configuration file, and reset the device.

duplex

Use the **duplex** command to control the duplex setting for the current interface.

> **NOTE:**
> This command functions only in **no autoneg** mode.

Syntax

duplex {full|half}

Parameters

Parameter	Description	Possible Values	Default Value
full	Keyword indicating that the interface is set to full duplex		
half	Keyword indicating that the interface is set to half duplex		

User level

read-only

Context

Interface: FastEthernet (L2, L2-L3)

Example

To specify full duplex for the FastEthernet interface:

```
G350-001(super-if:FastEthernet 1.1)# duplex full
```

dynamic-cac

Use the **dynamic-cac** command to set the dynamic CAC bearer bandwidth limit for the current interface. You can also specify an activation priority for the interface. In case more than one interface with a BBL value is up, the G350 reports the BBL of the interface with the highest activation priority.

Syntax

dynamic-cac *bbl* [*activation_priority*]

Parameters

Parameter	Description	Possible Values	Default Value
bbl	The bearer bandwidth for the current interface	`0 - 100,000,000 Kbits/sec`	`-1`
activation_ priority	The priority value of this interface	`1-255`	`50`

User level

read-write

Context

Interface: serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2-L3, USP PPP L2), FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3)

encapsulation

Use the **encapsulation** command to set the encapsulation mode for a serial interface. By default, the serial interface has PPP encapsulation. Use the **no** form of this command, which has no parameters, to return to the default.

Use the **encapsulation frame-relay** option to create a frame-relay interface of the IETF (RFC1490/RFC2427) type. This command deletes the PPP interface associated with the current serial interface. The PPP interface cannot be deleted if at least one IP interface is defined on it. Instead, the following message appears, "You cannot update this L2 interface since L3 interfaces are defined on it."

Syntax

encapsulation {ppp | frame-relay}

no encapsulation

Parameters

Parameter	Description	Possible Values	Default Value
ppp	Keyword indicating that the encapsulation be set to PPP		
frame-relay	Keyword indicating that the encapsulation be set to Frame Relay		

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR L2, USP PPP L2, USP PPP L2-L3, USP FR L2)

Example

To create a Frame-Relay interface:

```
G350-001(if:Serial 2/1:1)# encapsulation frame-relay
```

erase startup-config

Use the **erase startup-config** command to reset the NVRAM parameters to the factory default values. This command is an alias for the command nvram initialize on page 183.

Syntax

erase startup-config

User level

read-write

Context

general

exit

Use the **exit** command to exit the current context. If you are in the root context, the **exit** command logs you out of the system.

Syntax

exit

User level

read-only

Context

all

Example

To exit the rule 22 configuration context, and then the access-control-list 330 context:

```
G350-001(ACL 330/ip rule 22)# exit

G350-001(ACL 330)# exit

G350-001#
```

fair-queue-limit

Use the **fair-queue-limit** command to specify the maximum number of packets that can be queued in the weighted fair queue. The allowable upper limit depends on the bandwidth configured for the interface.

Syntax

fair-queue-limit *size*

Parameters

Parameter	Description	Possible Values	Default Value
size	The maximum number of packets that can be queued in the weighted fair queue		

User level

admin

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP FR L2, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3) - when traffic shaping is configured

Example

```
G350-001(super-if:FastEthernet 10/2)# fair-queue-limit 500
```

fair-voip-queue

Use the **fair-voip-queue** command to enable the fair voip queue scheduler on the current interface. The fair voip queue scheduler provides more fair service for data packets, and improves response time for

interactive data applications (such as Telnet). Use the **no** form of the command to disable the fair voip queue scheduler on the current interface, and return to the default queueing mode.

> **NOTE:**
> This command and voip-queue are mutually exclusive, and cannot both appear in a configuration script.

Syntax

[no] fair-voip-queue

User level

admin

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP FR L2, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3) - when traffic shaping is configured

Example

```
G350-001(super-if:FastEthernet 10/2)# fair-voip-queue

Done!
```

fdl

Use the **fdl** command to define the type of Facility Data Link loopback that the remote line is requested to enter. Use the **no** form of the command to disable FDL.

> **NOTE:**
> This command can only be used when ESF framing is defined.

Syntax

fdl *fdl_mode*

no fdl

Parameters

Parameter	Description	Possible Values	Default Value
fdl_mode	The FDL type	ansi, att, both	

User level

read-write

Context

Interface: Controller (T1)

Example

To set the FDL type to ansi:

```
G350-001(controller:5/1)# fdl ansi
```

fragment chain

Use the **fragment chain** command to set the maximum number of fragments that can comprise a single IP packet destined to the router. Use the **no** form of this command to set the fragment chain to its default value.

> **NOTE:**
> No IP reassembly is performed on packets in transit through the router.

Syntax

fragment chain *chain_limit*

no fragment chain

Parameters

Parameter	Description	Possible Values	Default Value
chain_ limit	The maximum number of fragments that can comprise a single IP packet	2 – 2048	64

User level

read-write

Context

general

Example

To set the maximum number of fragments for a single IP packet to 30:

```
G350-001# fragment chain 30
```

fragment size

Use the **fragment size** command to set the maximum number of fragmented IP packets to reassemble at any given time. Use the **no** form of this command to set the fragment size to its default value.

> **NOTE:**
> No IP reassembly is performed on packets in transit through the router.

Syntax

fragment size *database_limit*

no fragment size

Parameters

Parameter	Description	Possible Values	Default Value
database_ limit	The maximum number of packets undergoing re-assembly at any given time	0-200	100

User level

read-write

Context

general

Example

To set the maximum number of packets to reassemble to 150:

```
G350-001# fragment size 150
```

fragment timeout

Use the **fragment timeout** command to set the maximum number of seconds to reassemble a fragmented IP packet destined to the router. Use the **no** form of this command to set the fragment timeout to its default value.

> **NOTE:**
> No IP reassembly of packets in transit through the router is performed.

Syntax

fragment timeout *timeout*

no fragment timeout

Parameters

Parameter	Description	Possible Values	Default Value
timeout	The maximum number of seconds to reassemble an IP packet	5-120	10

User level

read-write

Context

general

Example

To set the maximum time to reassemble packets to be 30 seconds:

```
G350-001# fragment timeout 30
```

frame-relay class-dlci

Use the **frame-relay class-dlci** command to associate a Virtual Channel with a named QoS or Traffic shaping template (map-class). Traffic shaping only works if it is enabled on the frame relay interface.

Use the **no** form of this command to return to the default map class.

> **NOTE:**
> The VC must exist and be associated with the sub-interface.

Syntax

[no] frame-relay class-dlci *DLCI_number map_class_name*

Parameters

Parameter	Description	Possible Values	Default Value
DLCI_number	The VC Data Link Channel Identifier	16-1007	
map_class_ name	The name of a user defined map class default - the default map class		

User level

read-write

Context

Interface: Serial (DS1 FR-SUB L2, DS1 FR-SUB L2-L3)

Example

To associate Virtual Channel number 17 with the map-class frame-relay named "myVoIpClass":

```
G350-001(super-if:Serial 2/1:1)#frame-relay class-dlci 17 myVoIpClass
```

frame-relay interface-dlci

Use the **frame-relay interface-dlci** command to associate a frame relay Virtual Channel with this interface. This VC will be in the primary role (that is, will determine the operational status of the interface).

Use the **no** form of this command to delete the association of the VC and the sub-interface. To replace the currently configured interface-DLCI, use the **no** form of the command.

Syntax

[no] frame-relay interface-dlci *DLCI_number*

Parameters

Parameter	Description	Possible Values	Default Value
DLCI_number	The Virtual Channel Data Link Channel Identifier	16-1007	

User level

read-write

Context

Interface: Serial (DS1 FR-SUB L2, DS1 FR-SUB L2-L3)

Example

The following example will create and associate DLCI number 17 with the current sub-interface. This VC will carry all traffic (if no priority dlci-group is defined for this interface), and will be in the primary role.

```
G350-001(super-if:Serial 2/1:1)# frame-relay interface-dlci 17
```

frame-relay lmi-n391dte

Use the **frame-relay lmi-n391dte** command to set the number of status enquiry intervals that pass before issuing a full status enquiry message.

Use the **no** form of this command to set the number of status enquiry intervals to its default.

Syntax

[no] frame-relay lmi-n391dte *polling_interval*

Parameters

Parameter	Description	Possible Values	Default Value
polling_ interval	Interval in seconds	1–255	6

User level

read-write

Context

Interface: Serial (DS1 FR L2, USP FR L2)

Example

To set the number of seconds between status enquiry messages to 17 seconds:

```
G350-001(if:Serial 2/1:1)# frame-relay lmi-n391dte 17
```

frame-relay lmi-n392dte

Use the **frame-relay lmi-n392dte** command to set the maximum number of unanswered status enquiries the equipment accepts before declaring the interface down.

Use the **no** form of this command to revert to the default value.

Syntax

[no] frame-relay lmi-n392dte *threshold*

Parameters

Parameter	Description	Possible Values	Default Value
threshold	Error threshold value	1–10	3

User level

read-write

Context

Interface: Serial (DS1 FR L2, USP FR L2)

Example

To set the maximum number of unanswered status enquiries allowed to 5:

```
G350-001(if:Serial 2/1:1)# frame-relay lmi-n392dte 5
```

frame-relay lmi-n393dte

Use the **frame-relay lmi-n393dte** command to set the number of status polling intervals over which the error threshold is counted (the monitored event count). To set the error threshold, refer to frame-relay lmi-n392dte on page 103. In other words, if within **events** number of events the station receives **error_threshold** number of errors, the interface is marked as down.

Use the **no** form of this command to revert to the default value.

Syntax

[no] frame-relay lmi-n393dte *events*

Parameters

Parameter	Description	Possible Values	Default Value
events	The number of events	1-10	4

User level

read-write

Context

Interface: Serial (DS1 FR L2, USP FR L2)

Example

To set the number of events over which the error threshold is calculated to 5:

```
G350-001(if:Serial 2/1:1)# frame-relay lmi-n393dte 5
```

frame-relay lmi-type

Use the **frame-relay lmi-type** command to manually define the type of the Local Management Interface (LMI) to use.

Use the **no** form of this command to specify automatic detection of the LMI type (auto-sensing). If auto-sense fails, ANSI is used as the default.

Syntax

[no] frame-relay lmi-type *lmi_type*

Parameters

Parameter	Description	Possible Values	Default Value

lmi_type	The type of local management interface	`ansi` - LMI according to ANSI T1.617 [9]
		
		q933a - LMI according to ITU-T Q.933 [7]
		
		`autosense`
		`lmi-rev1`
		`disable`	

User level

read-write

Context

Interface: Serial (DS1 FR L2, USP FR L2)

Example

To select the q933a LMI type:

```
G350-001(if:Serial 2/1:1)# frame-relay lmi-type q933a
```

frame-relay priority-dlci-group

Use the **frame-relay priority-dlci-group** command to assign Virtual Channels to priority classifications, for supporting traffic separation. The first DLCI is assigned to the high priority traffic. Other DLCIs are assigned to Medium (L2:4-5), Normal (L2:2-3), and Low (L2:0-1) priorities. When fewer than 4 DLCIs are specified, the last DLCI on the command line is assigned to all the remaining unassigned priority classes.

Use he **no** form of this command to clear the current priority DLCI group.

Syntax

[no] frame-relay priority-dlci-group *DLCI1* [*DLCI2* [*DLCI3* [*DLCI4*]]]

Parameters

Parameter	Description	Possible Values	Default Value
DLCI1	The DLCI assigned to the High priority traffic	16-1007	
DLCI2	The DLCI assigned to the Medium priority traffic	16-1007	
DLCI3	The DLCI assigned to the Normal priority traffic	16-1007	
DLCI4	The DLCI assigned to the Low priority traffic	16-1007	

User level

read-write

Context

Interface: Serial (DS1 FR-SUB L2, DS1 FR-SUB L2-L3)

Example

To assign VC number 17 to the High Priority traffic, VC number 18 to the Medium Priority traffic, and VC number 19 to the Normal to Low priority traffic:

```
G350-001(if:Serial 2/1:1.1)# frame-relay priority-dlci-group 17 18 19
```

frame-relay traffic-shaping

Use the **frame-relay traffic-shaping** command to turn on/off traffic shaping and Frame-Relay fragmentation.Virtual Channels which are not explicitly assigned to a map-class frame-relay, are assigned to the default map-class frame-relay.

Use the **no** form of this command to turn off traffic shaping.

Syntax

[no] frame-relay traffic-shaping

User level

read-write

Context

Interface: Serial (DS1 FR L2, USP FR L2)

Example

To enable traffic shaping on the interface:

```
G350-001(if:Serial 2/1:1)# frame-relay traffic-shaping
```

framing

Use the **framing** command to specify the frame type for an E1 or T1 data line. Use the **no** form of the command to restore the controller to the default frame type.

Syntax

framing *frame_type*

no framing

Parameters

Parameter	Description	Possible Values	Default Value
frame_type	The framing method to use	`sf, esf, crc4, no-crc4, unframed`	For T1: `sf` For E1: `crc4`

User level

read-write

Context

Interface: Controller

Example

To set the frame type to extended super frame:

```
G350-001(controller:5/1)# framing esf
```

hostname

Use the **hostname** command to change the Command Line Interface (CLI) prompt. The prompt is written as `hostname-registration`, where the *hostname* is the value entered with the **hostname** command, and *registration* is the media gateway registration information. If the device is registered, the current media gateway number appears. If the device is not registered, question marks are displayed.

Use the **hostname** command with no parameters to display the current prompt value. Use the **no** form of this command to return the CLI prompt to the default.

Syntax

hostname [*hostname_string*]

no hostname

Parameters

Parameter	Description	Possible Values	Default Value
hostname_ string	The hostname	a string of up to 20 characters	G350

User level

read-write

Context

general

Example

To set the CLI prompt to "GTW-HQ":

```
G350-001# hostname GTW-HQ

GTW-HQ-001# hostname

Session hostname is 'GTW-HQ'
```

To reset the CLI prompt to the default:

```
GTW-HQ-001# no hostname

G350-001#
```

icc-vlan

Use the **icc-vlan** command to set the current VLAN as the ICC-VLAN.

Syntax

icc-vlan

User level

read-write

Context

Interface: VLAN (L2, L2-L3)

Example

To set VLAN 2 as the ICC VLAN:

```
G350-001# interface vlan 2
G350-001(if:Vlan 2)# icc-vlan
```

icmp

Use the **icmp** command to specify that the current rule applies to a specific type of ICMP packet. Use the **no** form of this command to specify that the rule applies to all packets *except* those of the specified ICMP type.

> **NOTE:**
> The icmp command also sets the IP protocol to ICMP.

Syntax

[no] icmp {*name* | {*icmp_type icmp_code*}}

Parameters

Parameter	Description	Possible Values	Default Value
name	Specify that the rule applies to this ICMP name		

icmp_type	Specify that the rule applies to this icmp type	For an ip-rule:
		`0 – 256`
		
		For a QoS rule:
		`0 – 65535`	

icmp_code	Specify that the rule applies to this icmp code	For an ip-rule:
		`0 – 256`
		
		For a QoS rule:
		`0 – 65535`	

User level

read-write

Context

ip capture-list/ip-rule, ip access-control-list/ip-rule, ip pbr-list/ip-rule, ip qos-list/ip-rule

Example

To specify that rule 33 applies to any ICMP packet type except type 1 code 2:

```
G350-001(ACL 333/ip rule 33)# no icmp 1 2
```

To specify that rule 27 applies to ICMP error-reply packets:

```
G350-001(ACL 333/ip rule 27)# icmp Echo-Reply
```

icmp in-echo-limit

Use the **icmp in-echo-limit** command to set the maximum number of echo requests that can be received in one second. Use the **no** form of the command to the limit to its default value.

Syntax

icmp in-echo-limit *size*

Parameters

Parameter	Description	Possible Values	Default Value
size	The number of echo requests	1 – 10000	

User level

read-write

Context

general

Example

To set the echo request limit at 500 packets per second:

```
G350-001# icmp in-echo-limit 500
```

idle-character

Use the **idle-character** command to set the bit pattern used to indicate an idle line. Use the **no** form of this command to restore the default value. For E1 and USP interfaces, the default value is flags. For T1 interfaces, the default is marks.

Syntax

idle-character {flags|marks}

no idle-character

Parameters

Parameter	Description	Possible Values	Default Value
flags	Keyword specifying that flags are transmitted to indicate an idle line		
marks	Keyword specifying that marks are transmitted to indicate an idle line		

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR L2, USP PPP L2, USP PPP L2-L3, USP FR L2)

Example

To set the idle-character to marks:

```
G350-001(if:Serial 2/1)# idle-character marks
```

ignore dcd

Use the **ignore dcd** command to specify how the system monitors the line to determine if it is up or down. Specify **ignore dcd** to ignore DCD signals, and instead use DSR/CTS signals to determine the line's status. Use the **no** form of the command to specify that DCD signals are used to determine line status.

Syntax

[no] ignore dcd

User level

read-write

Context

Interface: Serial (USP FR-L2, USP PPP-L2, USP PPP L2-L3)

Example

To ignore DCD signals on an interface:

```
G350-001(if:Serial 2/1:1)# ignore dcd
```

interface Console

Use the **interface Console** command to enter the console interface configuration mode. The interface is created if it does not exist. Use the **no** form of this command to set the Console parameters to their default values.

Syntax

[no] interface Console

User level

read-write

Context

general

Example

To enter the Console interface context:

```
G350-001# interface Console

G350-001(if:Console)#
```

interface FastEthernet

Use the **interface FastEthernet** command to enter Interface FastEthernet configuration mode. Use the **no** form of this command to delete an IP interface.

If the specified interface does not exist, the system creates it and enters its configuration mode.

Syntax

[no] interface FastEthernet [*module*/*port*[.*ip_interface*]]

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number of the interface	10	
port	The port number of the interface	2	
ip_ interface	The IP sub-interface number within this interface. A number of IP interfaces may be bound to a Layer 3 interface.	0-1024	

User level

read-write

Context

general

Example

To create a FastEthernet interface and enter its context:

G350-001# interface FastEthernet 10/2

To create a Level 3 sub-interface on the FastEthernet interface:

G350-001# interface FastEthernet 10/2.1

To remove the Level 3 sub-interface:

G350-001# no interface FastEthernet 10/2.1

interface Loopback

Use the **interface Loopback** command to enter Interface Loopback configuration mode. Use the **no** form of this command to delete a loopback interface or sub-interface.

If the specified interface does not exist, the system creates it and enters its configuration mode.

Syntax

[no] interface Loopback [*interface_number*[.*ip_interface*]]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ number	The number of the interface	1-99	
ip_ interface	The IP sub-interface number within this interface. A number of IP interfaces may be bound to a Layer 3 interface.	0-1024	

User level

read-write

Context

general

Example

To create Loopback interface 1 and enter its configuration mode:

G350-001# interface Loopback 1

To create a Layer 3 sub-interface:

G350-001# interface Loopback 1.1

To delete the Layer 3 sub-interface:

G350-001# no interface Loopback 1.0

interface serial

Use the **interface serial** command to enter serial interface or sub interface configuration mode. If the specified interface or sub interface does not exist, the system creates it and enters its configuration mode.

Use the **no** form of the command to delete the interface. The **no** form can only be used to delete sub L3 and sub frame relay interfaces. The command fails for USP interfaces and when higher or lower layers are defined for that interface.

Syntax

[no] interface Serial *module*/*if_number* [*if_link_type*]

For USP interfaces *if_number* has the syntax:

port[.*ip_interface* | {.*sub_interface*[.*ip_interface*]}]

For DS1 interfaces *if_number* has the syntax:

port:*channel_group*[.*ip_interface* | {.*sub_interface*[.*ip_interface*]}]

Parameters

Parameter	Description	Possible Values	Default Value
port	The port number of the interface		
channel_ group		For E1: `0-30` For T1: `0-23`	
sub_ interface		`1-127`	
ip_ interface		`0-1024`	
if_link_ type		`point-to-point`	

User level

read-write

Context

general, Interface: Serial (FR SUB)

Example

To create point to point sub-interface number 17 over channel group 2 over E1/T1 controller number 1:

```
G350-001# interface Serial 2/1:2.17 point-to-point
```

interface tunnel

Use the **interface tunnel** command to enter Interface Tunnel configuration mode. Use the **no** form of this command to delete an interface tunnel.

If the specified interface does not exist, the system creates it and enters its configuration mode.

Syntax

[no] interface tunnel *tunnel_number*

Parameters

Parameter	Description	Possible Values	Default Value
tunnel_ number	The number of the interface	1-99	

User level

read-write

Context

general

Example

To create interface tunnel 1 and enter its configuration mode:

```
G350-001> interface tunnel 1
```

interface usb-modem

Use the **interface usb-modem** command to enter configuration context for the usb-modem. Use the **no** form of the command to reset the usb-modem settings to their factory defaults.

The usb-modem interface always exists, but is disabled by default. Use the **no shutdown** command to enable the interface.

The default settings for the usb-modem are:

Interface status	DOWN
IP address	10.3.0.3
Netmask	255.255.255.0
timeout	no timeout
PPP speed	38400 bps
Async modem-init-string	"AT S7=45 S0=2 L1 V1 X4 &c1 E0 Q0"

Syntax

[no] interface usb-modem

User level

read-write

Context

general

interface vlan

Use the **interface vlan** command to enter Interface VLAN configuration mode. Use the **no** form of this command to delete the interface.

If the specified interface does not exist, the system creates it and enters its configuration mode.

Syntax

[no] interface vlan *vlan_id[.ip_interface]*

Parameters

Parameter	Description	Possible Values	Default Value
vlan_id	The VLAN ID number of this interface	1-3071	
ip_interface	The IP sub-interface number within this interface. A number of IP interfaces may be bound to a Layer 3 interface.	0-1024	

User level

read-write

Context

general

Example

To create VLAN 2 and enter its configuration context:

G350-001# interface Vlan 2

To create a sub interface 1 on VLAN 2:

G350-001(if:Vlan 2)# interface Vlan 2.1

To delete sub interface 1 of VLAN 2:

G350-001# no interface Vlan 2.1

invert txclock

Use the **invert txclock** command to invert the transmit clock signal from the data communications equipment (DCE). Use the **no** form of the command to restore the signal to not inverted.

Syntax

[no] invert txclock

User level

read-write

Context

Interface: Serial(USP FR L2, USP PPP L2, USP PPP L2-L3)

Example

To invert the transmit clock signal on an interface:

```
G350-001(if:Serial 2/1:1)# invert txclock
```

ip access-control-list

Use the **ip access-control-list** command to enter configuration mode for the specified policy access control list. If the specified list does not exist, the system creates it and enters its configuration mode.

Syntax

ip access-control-list *list_number*

Parameters

Parameter	Description	Possible Values	Default Value
list_number	The Access Control list number	300-399	300

User level

read-write

Context

general

Example

To create access control list 320 and enter its configuration mode:

```
G350-001# ip access-control-list 320
G350-001(ACL 320)#
```

ip access-group

Use the **ip access-group** command to activate a specific Access Control list for a specific direction, on the current interface. Use the **no** form of this command to suspend the Access Control list for a specific direction.

> **NOTE:**
> You cannot edit the active Access Control list.

Syntax

ip access-group *policy_list_number direction*

no ip access-group *direction*

Parameters

Parameter	Description	Possible Values	Default Value
policy_ list_ number	The Access Control list number	300-399	300
direction	The direction of the packets to which the policy is applied.	in, out	

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3), Loopback (L2, L2-L3), FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3), VLAN (L2, L2-L3)

Example

To enable access control list 310 for outbound packets on the FastEthernet interface:

```
G350-001(if:FastEthernet 10/2)# ip access-group 310 out
```

ip address

Use the **ip address** command to assign an IP address and mask to an interface. Use the **no** form of this command to delete an IP interface.

Syntax

ip address *ip_address mask* [*admin_state*]

no ip address

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The IP address assigned to the interface		
mask	Mask for the associated IP subnet		
admin_state	The administration status. This parameter is not used with the Console interface.	up, down	up

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Console, USB-modem, Loopback (L2-L3, L3), Tunnel (L2-L3, L3),

Example

To assign the IP address 192.168.22.33 with mask 255.255.255.0 to the Fast Ethernet interface:

```
G350-001(if:FastEthernet 10/2)# ip address 192.168.22.33 255.255.255.0
```

ip admin-state

Use the **ip admin-state** command to set the administrative state of an IP interface. The default state is up.

Syntax

ip admin-state up|down

Parameters

Parameter	Description	Possible Values	Default Value
up	Keyword specifying the administrative state of the IP interface is set to up (active)		
down	Keyword specifying the administrative state of the IP interface is set to down (inactive)		

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3,
USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3),
Tunnel (L2-L3, L3)

ip bootp-dhcp network

Use the **ip bootp-dhcp network** command to select the network from which the BOOTP/DHCP server
should allocate an address. This command is required only when there are multiple IP interfaces over the
VLAN. Use the **no** form of this command to remove the specified network.

> **NOTE:**
> More than one network can be configured. For requests to servers, all configured networks
> are used. The networks are used on a round-robin basis.

Syntax

ip bootp-dhcp network *ip_net*

no ip bootp-dhcp network [*ip_net*]

Parameters

Parameter	Description	Possible Values	Default Value
ip_net	The IP subnet		

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To select the network 192.168.169.0 as the network from which an address should be allocated for BOOTP/DHCP requests:

```
G350-001(if:Vlan 1.20)# ip bootp-dhcp network 192.168.169.0
```

ip bootp-dhcp relay

Use the **ip bootp-dhcp relay** command to enable relaying of BOOTP and DHCP requests to the BOOTP/DHCP server. Use the **no** form of this command to disable relaying of BOOTP and DHCP requests.

Syntax

[no] ip bootp-dhcp relay

User level

read-write

Context

general

Example

To enable relaying of BOOTP and DHCP requests:

```
G350-001# ip bootp-dhcp relay
```

To disable relaying of BOOTP and DHCP requests:

```
G350-001# no ip bootp-dhcp relay
```

ip bootp-dhcp server

Use the **ip bootp-dhcp server** command to add a BOOTP/DHCP server to handle BOOTP/DHCP requests received by this interface. A maximum of two servers can be added to a single interface. Use the **no** form of this command to remove a server.

Syntax

[no] ip bootp-dhcp server *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The IP address of the server		

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To add station 192.168.37.46 as a BOOTP/DHCP server to handle BOOTP/DHCP requests:

```
G350-001(if:Vlan 1.2)# ip bootp-dhcp server 192.168.37.46
```

ip broadcast-address

Use the **ip broadcast-address** command to update the interface broadcast address.

Syntax

ip broadcast-address *bc_addr*

Parameters

Parameter	Description	Possible Values	Default Value
bc_addr	The broadcast IP address		

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3)

Example

To set the broadcast address for the VLAN 1 interface to 192.168.255.255:

```
G350-001(if:Vlan 1)# ip broadcast-address 192.168.255.255
```

ip capture-list

Use the **ip capture-list** command to enter the specified capture-list context. If the specified capture-list does not exist, it is created.

Syntax

ip capture-list *capture_list_id*

no ip capture-list *capture_list_id*

Parameters

Parameter	Description	Possible Values	Default Value
capture_list_id	The capture list number	500–599	

User level

read-write

Context

general

Example

```
DR-006(super)# ip capture-list 501
DR-006(super/Cap 501)#
```

ip default-gateway

Use the **ip default-gateway** command to define a default gateway (router). Use the **no** form of this command to remove the default gateway.

Syntax

ip default-gateway {*ip_address* | {*interface_type interface_number*}}
                                              [*cost*] [*preference*] [permanent]

no ip default-gateway

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The IP address of the router		
interface_ type	The interface type		
interface_ number	The interface number		
cost	The path cost		1
preference	The preference	High, Low	Low
permanent	Keyword that specifies not to disable the router if the interface is down		

User level

read-write

Context

general

Example

To set the default gateway to the IP address 132.55.4.45, having a cost value of 4 with high preference:

```
G350-001# ip default-gateway 132.55.4.45 4 high
```

To set the default gateway to be the Serial interface:

```
G350-001# ip default-gateway Serial 5/1:1.1 permanent
```

To remove the default gateway:

```
G350-001# no ip default-gateway
```

ip directed-broadcast

Use the **ip directed-broadcast** command to enable net-directed broadcast forwarding. Use the **no** form of this command to disable net-directed broadcasts on an interface.

Syntax

[no] ip directed-broadcast

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3,
USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3)

ip distribution access-default-action

Use the **ip distribution access-default-action** command to set the default action for a specific RIP
distribution policy list.

Syntax

ip distribution access-default-action *list_number default_action*

Parameters

Parameter	Description	Possible Values	Default Value
list_ number	The distribution list number	`1-99`	
default_ action	The default action	`default-action-deny, default-action-permit`	

User level

read-write

Context

general

Example

To specify the default action for distribution policy list 1 is to deny packets:

```
G350-001# ip distribution access-default-action 1
                          default-action-deny
```

ip distribution access-list

Use the **ip distribution access-list** command to create a distribution Policy rule. Use the **no** form of this command to delete a distribution list rule. Apply the distribution rule using the **distribution-list** command.

Syntax

ip distribution access-list *policy_list_number access_list_index*
action {{*router_ip* [*router_wildcard*]}|**any**}

no ip distribution access-list *access_list_number*
[*access_list_index*]

> **NOTE:**
> If a list index is not given in the **no ip distribution access-list** command, all rules are deleted.

Parameters

Parameter	Description	Possible Values	Default Value
policy_ list_ number	The policy list number	1-99	
access_ list_index	The access list index number	1-9999	
action	The action to perform	permit, deny	
router_ip	The IP router address of the network		
router_ wildcard	The IP network wildcard address		
any	Keyword that specifies the value can be any IP address		

User level

read-write

Context

general

Example

To create distribution list 1, whose default action is to discard information from the network 10.10.0.0:

```
G350-001# ip distribution access-list 1 23 deny 10.10.0.0 0.0.255.255
```

To configure RIP distribution access list number 2 permitting distribution and learning of router 10.1.1.1:

```
G350-001# ip distribution access-list 2 24 permit 10.1.1.1
```

To configure RIP distribution access list number 20 permitting distribution and learning of all networks:

```
G350-001# ip distribution access-list 20 4 permit any
```

To remove RIP distribution access list number 2:

```
G350-001# no ip distribution access-list 2 25
```

ip distribution access-list-cookie

Use the **ip distribution access-list-cookie** command to set the list cookie.

Syntax

ip distribution access-list-cookie *list_id cookie*

Parameters

Parameter	Description	Possible Values	Default Value
list_id	The ID of the distribution list	1-99	
cookie	The cookie number	integer	

User level

read-write

Context

general

Example

To set list 4 to have cookie 12345:

```
G350-001# ip distribution access-list-cookie 4 12345
```

ip distribution access-list-copy

Use the **ip distribution access-list-copy** command to copy the distribution access list.

Syntax

ip distribution access-list-copy *source_list destination_list*

Parameters

Parameter	Description	Possible Values	Default Value
source_ list	The source distribution access list	1-99	
destination_list	The destination distribution access list	1-99	

User level

read-write

Context

general

Example

To copy distribution list 1 to list 3:

```
G350-001# ip distribution access-list-copy 1 3
```

ip distribution access-list-name

Use the **ip distribution access-list-name** command to set the distribution list name.

Syntax

ip distribution access-list-name *distribution_list_number name*

Parameters

Parameter	Description	Possible Values	Default Value
distribution_list_ number	The number of the distribution list	1-99	
name	The distribution list name		

NOTE:
To define a name that includes spaces, enclose the entire name in quotation marks (for example, "New York").

User level

read-write

Context

general

Example

To name distribution access-list #5 as "evening":

```
G350-001# ip distribution access-list-name 5 evening
```

To name distribution access-list #22 as "Daily Job":

```
G350-001# ip distribution access-list-name 22 "Daily Job"
```

ip distribution access-list-owner

Use the **ip distribution access-list-owner** command to set the distribution list owner.

Syntax

ip distribution access-list-owner *policy_list_number owner*

Parameters

Parameter	Description	Possible Values	Default Value
policy_ list_ number	The distribution list number	1-99	
owner	The distribution list owner		

> **NOTE:**
> To define a name that includes spaces, enclose the entire name in quotation marks (for example, "New York").

User level

read-write

Context

general

Example

To specify Jane Wiley as the owner of distribution list 78:

```
G350-001# ip distribution access-list-owner 78 "Jane Wiley"
```

ip http

Use the **ip http** command to enable the HTTP server. Use the **no** form of the command to disable the HTTP server.

Syntax

ip http [port *port_number*]

[no] ip http

Parameters

Parameter	Description	Possible Values	Default Value
port_number		1-65535	80

User level

admin

Context

general

ip icmp

Use the **ip icmp** command to enable ICMP services. Use the **no** form of the command to disable ICMP services.

Syntax

ip icmp [echo]

no ip icmp

Parameters

Parameter	Description	Possible Values	Default Value
echo	Enables ICMP only for echo packets and destination unreachable packets		

User level

read-write

ip icmp redirect

Use the **ip icmp redirect** command to enable the ICMP redirect service. If the ICMP service is down, the command fails and returns an error message. Use the **no** form of the command to disable the ICMP redirect service.

Syntax

[no] ip icmp redirect

ip icmp-errors

Use the **ip icmp-errors** command to set ICMP error messages to ON. Use the **no** form of this command to set ICMP error messages to OFF.

Syntax

[no] ip icmp-errors

User level

read-write

Context

general

ip max-arp-entries

Use the **ip max-arp-entries** command to specify the maximum number of ARP cache entries allowed in the ARP cache. Use the **no** form of this command to restore the default value. In order for this command to take effect, you must copy the running configuration to the startup configuration and reset the device.

Syntax

ip max-arp-entries *value*

no ip max-arp-entries

Parameters

Parameter	Description	Possible Values	Default Value
value	The maximum number of entries allowed in the IP address table. When you decrease the number of entries, it may cause the table to be relearned more frequently. If you do not enter a value, the current ARP Cache size is displayed.	128–16384	4096

User level

read-write

Context

general

Example

To set the maximum number of ARP cache entries to 8000:

```
G350-001# ip max-arp-entries 8000
```

To restore the maximum number of ARP cache entries to the default value:

```
G350-001# no ip max-arp-entries
```

ip netbios-rebroadcast

Use the **ip netbios-rebroadcast** command to enable the forwarding of NETBIOS packets on an interface. If no value is provided for *direction*, the both option is applied as the default value.

Use the **no** form of this command to disable forwarding of NETBIOS packets on an interface.

Syntax

ip netbios-rebroadcast [*direction*]

no ip netbios-rebroadcast

Parameters

Parameter	Description	Possible Values	Default Value
direction	The NETBIOS rebroadcasts mode	`both` - NETBIOS packets received on the interface are rebroadcast to other interfaces and NETBIOS packets received on other interfaces are rebroadcast to this interface. `disable` - NETBIOS packets are not rebroadcast in or out of this interface.	`both`

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L3, USP PPP L2-L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3)

Example

To enable rebroadcasting of NETBIOS packets received by and sent from the FastEthernet interface:

```
G350-001(if:FastEthernet 10/2)# ip netbios-rebroadcast both
```

ip netmask-format

Use the **ip netmask-format** command to specify the format of netmasks in the **show** command output. Use the **no** form of this command to restore the format to the default format.

Syntax

ip netmask-format *mask_format*

no ip netmask-format

Parameters

Parameter	Description	Possible Values	Default Value
mask_ format	The format of the netmasks	bitcount - Addresses are followed by a slash and the total number of bits in the netmask, such as 17. decimal - The network masks are in dotted decimal notation, such as 255.255.255.0. hexadecimal - The network masks are in hexadecimal format as indicated by the leading 0X, such as 0XFFFFFF00.	decimal

User level

read-write

Context

general

Example

To display netmasks in bitcount format:

```
G350-001# ip netmask-format bitcount
```

ip next-hop-list

Use the **ip next-hop-list** command to enter the context of the specified next hop list. If the list does not exist, it is created. Use the **no** form of this command to delete the specified next hop list.

Syntax

ip next-hop-list *next_hop_number*

no ip next-hop-list *next_hop_number*

Parameters

Parameter	Description	Possible Values	Default Value
next_hop_ number	The number of the next hop list	1-20	

User level

read-write

Context

general

Example

```
G350-001# ip next-hop-list 2
```

ip ospf authentication

Use the **ip ospf authentication** command to specify the authentication type for an interface. Use the **no** form of the command to remove the authentication type for an interface.

Syntax

ip ospf authentication *auth_type*

no ip ospf authentication

Parameters

Parameter	Description	Possible Values	Default Value
auth_type	The type of authentication	message- digest, null	null

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L3, L2-L3)

Example

To set the OSPF authentication for the FastEthernet interface as "message-digest":

```
G350-001(if:FastEthernet 10/2)# ip ospf authentication message-digest
```

ip ospf authentication-key

Use the **ip ospf authentication-key** command to configure the interface authentication password. Use the **no** form of this command to remove the OSPF password.

Syntax

ip ospf authentication-key *key*

no ip ospf authentication-key

Parameters

Parameter	Description	Possible Values	Default Value
key	The interface authentication password	string (1-8 chars)	

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L3, L2-L3)

Example

To set the authentication password for the VLAN 1 interface as "my_pass":

```
G350-001(if:Vlan 1)# ip ospf authentication-key my_pass
```

ip ospf cost

Use the **ip ospf cost** command to statically configure the interface cost metric. Use the **no** form of this command to return to dynamic calculation of the cost.

Syntax

ip ospf cost *cost*

no ip ospf cost

Parameters

Parameter	Description	Possible Values	Default Value
cost	The price assigned to each interface for the purpose of determining the shortest path.	1-65535	1

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L3, L2-L3)

Example

To set the cost metric for the VLAN 1 interface to 10:

```
G350-001(if:Vlan 1)# ip ospf cost 10
```

ip ospf dead-interval

Use the **ip ospf dead-interval** command to configure the interval before declaring the neighbor as dead. Use the **no** form of this command to set the dead-interval to its default value.

Syntax

ip ospf dead-interval *seconds*

no ip ospf dead-interval

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The interval in seconds	1-415029	40

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L3, L2-L3)

Example

To specify an interval of 15 seconds to wait before declaring a neighbor dead:

```
G350-001(if:Vlan 1)# ip ospf dead-interval 15
```

ip ospf hello-interval

Use the **ip ospf hello-interval** command to specify the time interval between hello packets the router sends. Use the **no** form of this command to set the hello-interval to its default value.

Syntax

ip ospf hello-interval *seconds*

no ip ospf hello-interval

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The interval in seconds	1-65535	10

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L3, L2-L3)

Example

To specify an interval of five seconds between hello packets:

```
G350-001(if:Vlan 1)# ip ospf hello-interval 5
```

ip ospf message-digest-key

Use the **ip ospf message-digest-key** command to specify the message-digest key for the interface. This command enables OSPF MD5 authentication. Use the **no** form of the command to remove an old MD5 key.

Syntax

ip ospf message-digest-key *key_id algorithm key*

no ip ospf message-digest-key *key_id*

Parameters

Parameter	Description	Possible Values	Default Value
key_id	The OSPF key ID	1-255	10
algorithm		md5	
key	The OSPF password		

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3,
USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3),
Tunnel (L3, L2-L3)

Example

To specify the message-digest key to be 3 with password mypwd:

```
G350-001(if:FastEthernet 10/2)# ip ospf message-digest-key 3 md5 mypwd
```

ip ospf network point-to-multipoint

Use the **ip ospf network point-to-multipoint** command to specify the network type as point-to-multipoint for the interface, and to increase the OSPF timers appropriately. Use the **no** form of the command to return the interface to point-to-point topology.

Syntax

[no] ip ospf network point-to-multipoint

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3,
USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3),
Tunnel (L3, L2-L3)

Example

To specify a network type of point-to-multipoint for the VLAN 1 interface:

```
G350-001(if:Vlan 1)# ip ospf network point-to-multipoint
```

ip ospf priority

Use the **ip ospf priority** command to configure interface priority, which is used during the election of a designated router. Use the **no** form of this command to set the OSPF priority to its default value.

Syntax

ip ospf priority *priority*

no ip ospf priority

Parameters

Parameter	Description	Possible Values	Default Value
priority	The interface priority	0-255	1

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L3, L2-L3)

Example

To set the interface OSPF priority to 17:

```
G350-001(if:Vlan 1)# ip ospf priority 17
```

ip ospf router-id

Use the **ip ospf router-id** command to configure the IP address of the router interface.

Syntax

ip ospf router-id *router_id*

Parameters

Parameter	Description	Possible Values	Default Value
router_id	The IP address of the router		lowest existing IP interface

User level

read-write

Context

general

Example

To set the IP address of the router interface to 192.168.49.1:

```
G350-001# ip ospf router-id 192.168.49.1
```

ip pbr-group

Use the **ip pbr-group** command to apply the specified pbr list to the current interface. The pbr list is applied to ingress packets only. Use the **no** form of the command to disable the specified pbr list.

Syntax

ip pbr-group *list_number*

Parameters

Parameter	Description	Possible Values	Default Value
list_number	The list number of the pbr list to be applied to ingress packets of the current interface	801-899	

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3), VLAN (L2, L2-L3), Loopback (L2, L2-L3), Tunnel (L2, L2-L3)

Example

```
G350-001> ip pbr-group 811
```

ip pbr-list

Use the **ip pbr-list** command to enter context of the specified pbr-list. If the list does not exist, it is created. Use the **no** form of the command to suspend the specified pbr-list.

Syntax

ip pbr-list *list_number*

Parameters

Parameter	Description	Possible Values	Default Value
list_number	The list number of the policy list being entered	801–899	

User level

read-write

Context

general

Example

```
G350-001# ip pbr-list 802
```

ip policy-list-copy

Use the **ip policy-list-copy** command to copy an existing policy list to a new list.

> **NOTE:**
> The source and destination lists must be of the same type. For example, you cannot copy an access control list to a QoS list.

Syntax

ip policy-list-copy *source_list destination_list*

Parameters

Parameter	Description	Possible Values	Default Value
source_ list	The list number of the policy list to copy	For access control lists: 300 – 399 For QoS lists: 400 – 499	
destination_list	The list number of the policy to copy to	For access control lists: 301 – 399 For QoS lists: 401 – 499	

User level

read-write

Context

general

Example

To copy the settings of access control list 330 to list 340:

```
G350-001# ip policy-list-copy 330 340
```

ip proxy-arp

Use the **ip proxy-arp** command to enable proxy ARP on an interface. Use the **no** form of this command to disable proxy ARP on an interface.

Syntax

[no] ip proxy-arp

User level

read-write

Context

Interface: FastEthernet (L2-L3, L3), VLAN (L2-L3, L3)

Example

To disable proxy ARP on an interface:

```
G350-001(if:Vlan 1)# no ip proxy-arp
```

ip qos-group

Use the **ip qos-group** command to activate the specified QoS list on the given interface. You must first create the QoS list using the **ip qos-list** command.

Syntax

ip qos-group *policy_list direction*

Parameters

Parameter	Description	Possible Values	Default Value
policy_ list	The policy list number	400-499	400
direction	The direction of packets to which the policy applies.	in, out	

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3), VLAN (L2, L2-L3), Loopback (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To apply QoS list 440 to all incoming packets on the Vlan 1 interface:

```
G350-001(if:Vlan 1)# ip qos-group 440 in
```

ip qos-list

Use the **ip qos-list** command to enter configuration mode for the specified QoS list. If the QoS list does not exist, the system creates it and enters its configuration mode.

Syntax

ip qos-list *list_number*

Parameters

Parameter	Description	Possible Values	Default Value
list_ number	The policy list number	400-499	400

User level

read-write

Context

general

Example

To create QoS list 440 and enter its configuration context:

```
G350-012# ip qos-list 440
G350-012(QoS 440)#
```

ip redirects

Use the **ip redirects** command to enable the sending of redirect messages on the current interface. Use the **no** form of this command to disable redirect messages. By default, sending of redirect messages on the interface is enabled.

Syntax

[no] ip redirects

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3)

ip rip authentication key

Use the **ip rip authentication key** command to set the authentication string used on the current interface. Use the **no** form of this command to clear the password.

Syntax

ip rip authentication key *password*

no ip rip authentication key

Parameters

Parameter	Description	Possible Values	Default Value
password	The authentication string for the interface	string (1-16 chars)	

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L2-L3, L3)

Example

To set the authentication string on the VLAN 1 interface to "hush-hush":

```
G350-001(if:Vlan 1)# ip rip authentication key hush-hush
```

ip rip authentication mode

Use the **ip rip authentication mode** command to specify the type of authentication used in RIP Version 2 packets. Use the **no** form of this command to restore the default value, none.

Syntax

ip rip authentication mode [simple|none]

no ip rip authentication mode

Parameters

Parameter	Description	Possible Values	Default Value
simple	Keyword indicating that the clear text authentication should be used		
none	Keyword indicating that no authentication should be used		

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L2-L3, L3)

Example

To specify that RIP packets use simple authentication mode:

```
G350-001(if:FastEthernet 10/2)# ip rip authentication mode simple
```

ip rip default-route-mode

Use the **ip rip default-route-mode** command to enable learning of the default route received by the RIP protocol. Use the **no** form of this command to disable listening to default routes.

Syntax

ip rip default-route-mode *mode*

no ip rip default-route-mode

Parameters

Parameter	Description	Possible Values	Default Value
mode	The default mode	`talk-listen`—RIP sends and receives default route updates on the interface. `talk-only`—RIP sends, but does not receive, default route updates on the interface.	`talk-listen`

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3,
USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3),
Tunnel (L2-L3, L3)

Example

To specify that the RIP protocol sends, but does not receive, default route updates on the VLAN 1
interface:

```
G350-001(if:Vlan 1)# ip rip default-route-mode talk-only
```

ip rip poison-reverse

Use the **ip rip poison-reverse** command to enable split-horizon with poison-reverse on the current
interface. Use the **no** form of this command to disable the poison-reverse mechanism.

The split-horizon technique prevents information about routes from exiting the router interface through
which the information was received. This prevents routing loops.

Poison-reverse updates explicitly indicate that a network or subnet is unreachable. Poison-reverse
updates are sent to defeat large routing loops.

Syntax

[no] ip rip poison-reverse

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3,
USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3),
Tunnel (L2-L3, L3)

ip rip rip-version

Use the **ip rip rip-version** command to specify the RIP version running on the interface basis.

Syntax

ip rip rip-version [1|2]

Parameters

Parameter	Description	Possible Values	Default Value
1	Keyword indicating that RIP version 1 packets should be used		
2	Keyword indicating that RIP version 2 packets should be used		

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3,
USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3),
Tunnel (L2-L3, L3)

Example

To specify that RIP version 2 packets should be running on the Serial 2/1:1 interface:

```
G350-001(if:Serial 2/1:1)# ip rip rip-version 2
```

ip rip send-receive-mode

Use the **ip rip send-receive-mode** command to set the RIP send and receive modes on an interface. Use
the **no** form of this command to set the RIP to talk (that is, send report).

Syntax

ip rip send-receive-mode *mode* [*default_route_metric*]

no ip rip send-receive-mode

Parameters

Parameter	Description	Possible Values	Default Value
mode	The RIP send and receive mode	`talk-listen` — RIP receives and transmits updates on the interface. `talkdefault-listen` — RIP receives updates on the interface and sends only a default route. `listen-only` — RIP receives updates on the interface and does not transmit them.	`talk-listen`
default_ route_ metric	The route metric index	`1 - 15`	

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L2-L3, L3)

Example

To set the RIP protocol to receive and transmit update on the Serial interface:

```
G350-001(if:Serial 2/1:1)# ip rip send-receive-mode talk-listen
```

ip rip split-horizon

Use the **ip rip split-horizon** command to enable the split-horizon mechanism on the current interface. Use the **no** form of this command to disable the split-horizon mechanism. By default split-horizon is enabled.

The split-horizon mechanism prevents information about routes from exiting the router interface through which the information was received. This prevents routing loops.

Syntax

[no] ip rip split-horizon

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3,
USP PPP L2-L3, USP PPP L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3),
Tunnel (L2-L3, L3)

ip route

Use the **ip route** command to establish a static route. Use the **no** form of this command to remove a static route.

Syntax

[no] ip route *ip_addr mask*
{{*next_hop* [*next_hop* [*next_hop*]] | *interface_type interface_number*} [*cost*] [*preference*]
[permanent] | Null0}

Parameters

Parameter	Description	Possible Values	Default Value
ip_addr	The IP address of the network		
mask	The mask of the static route		
next_hop	The next hop address in the network		
interface_type	The interface type		
interface_number	The interface number		
cost	The path cost		1
preference	The preference of the route	High, Low	Low
permanent	Keyword that specifies that the route is not disabled if the interface is down		
Null0	Keyword that creates a static discard route		

User level

read-write

Context

general

Example

To create a static route on IP address 132.55.0.0 with subnet mask 255.255.0.0 following the path 132.55.4.45, with cost of 3 and priority of high:

```
G350-001# ip route 132.55.0.0 255.255.0.0 132.55.4.45 3 high
```

To remove the static route defined for IP address 134.66.0.0:

```
G350-001# no ip route 134.66.0.0 255.255.0.0
```

To create a static discard route on IP address 134.66.0.0:

```
G350-001# ip route 134.66.0.0 255.255.0.0 Null0
```

ip routing

Use the **ip routing** command to enable IP routing.

Syntax

ip routing

User level

read-write

Context

general

ip rtp compression-connections

Use the **ip rtp compression-connections** command to control the number of Real-Time Transport Protocol (RTP) connections supported on the current interface. Use the **no** form of this command to restore the default. This command also sets the number of connections in the non-TCP space, not just RTP.

> **NOTE:**
> This command automatically enables TCP header compression on the current interface.

Syntax

[no] ip rtp compression-connections *number*

Parameters

Parameter	Description	Possible Values	Default Value
number	The total number of connections in the non-TCP space to support on the current interface	3–1000	16

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR-SUB L2-L3, DS1 FR-SUB L2, USP PPP L2, USP PPP L2-L3)

Example

To allow 48 RTP connections on the Serial interface:

```
G350-001(if:Serial 2/1:1.1) ip rtp compression-connections 48
```

ip rtp header-compression

Use the **ip rtp header-compression** command to enable RTP header compression on the current interface. Use the **no** form of this command to disable RTP compression on the current interface.

Syntax

[no] ip rtp header-compression

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR-SUB L2-L3, DS1 FR-SUB L2, USP PPP L2, USP PPP L2-L3)

Example

To enable RTP header compression on a Serial interface:

```
G350-001(if:Serial 2/1:1.1) ip rtp header-compression
```

ip rtp max-period

Use the **ip rtp max-period** command to set the maximum number of compressed headers that can be sent between full headers.

Syntax

[no] ip rtp max-period *number*

Parameters

Parameter	Description	Possible Values	Default Value
number	The maximum number of compressed headers that can be sent until a full header is sent	32–65535	256

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR-SUB L2-L3, DS1 FR-SUB L2, USP PPP L2, USP PPP L2-L3)

Example

To allow a maximum of 512 compressed headers to be sent before a full header must be sent:

```
G350-001(if:Serial 2/1:1.1)# ip rtp max-period 512
```

ip rtp max-time

Use the **ip rtp max-time** command to set the maximum number of seconds between full headers.

Syntax

ip rtp max-time *number*

Parameters

Parameter	Description	Possible Values	Default Value
number	The maximum number of seconds between full headers	1–255	5

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR-SUB L2-L3, DS1 FR-SUB L2, USP PPP L2, USP PPP L2-L3)

Example

To allow no more than 15 seconds to pass between the sending of full headers:

```
G350-001(if:Serial 2/1:1.1)# ip rtp max-time 15
```

ip rtp non-tcp-mode

Use the **ip rtp non-tcp-mode** command to set the type of IP header compression to perform. When set to **ietf**, the command performs IP header compression according to IPHC RFCs. When set to **non-ietf**, the command performs IP header compression compatible with other vendors, which do not strictly follow the RFCs.

> **NOTE:**
> ietf mode is incompatible with non-ietf mode.

Syntax

ip rtp non-tcp-mode {ietf | non-ietf}

Parameters

Parameter	Description	Possible Values	Default Value
ietf	Keyword specifying ietf mode		
non-ietf	Keyword specifying non-ietf mode		

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR-SUB L2-L3, DS1 FR-SUB L2, USP PPP L2, USP PPP L2-L3)

Example

To set the Serial interface to perform IPHC RFC header compression:

```
G350-001(if:Serial 2/1:1.1)# ip rtp non-tcp-mode ietf
```

ip rtp port-range

Use the **ip rtp port-range** command to set the range of UDP ports considered as RTP on the current interface. Set the range to be identical to the peer's configuration.

Some vendors use port range 49,152 through 65,535. For interoperability, the same port range should be used.

Syntax

ip rtp port-range {*min***} {***max***}**

Parameters

Parameter	Description	Possible Values	Default Value
min	The starting port range to be considered RTP	`1025-65535`	`2048`
max	The ending port range to be considered RTP	`1025-65535`	`65535`

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR-SUB L2-L3, DS1 FR-SUB L2, USP PPP L2, USP PPP L2-L3)

Example

To specify that ports in the range 49,152 through 65535 are RTP ports:

```
G350-001(if:Serial 2/1:1.1)# ip rtp port-range 49152 65535
```

ip simulate

Use the **ip simulate** command to test the action of a policy on a simulated packet.

Syntax

ip simulate *policy_list_number direction* [*priority*] [*dscp_value*]
                                    source destination [*protocol* [*source_port*
                                    destination_port [*established*]]]

Parameters

Parameter	Description	Possible Values	Default Value
policy_list_ number	The number of the policy	`300-499`	For ACL: `300` For Qos: `400`
direction	The direction	`in, out`	
priority	The priority	`fwd0-fwd7`	

Parameter	Description	Possible Values	Default Value
dscp_value		`dscp0-dscp63`	
source	The source IP address		
destination	The destination IP address		
protocol	The protocol to use	`ip, tcp, udp, 1-255`	
source_port	The source port of the simulated packet	`1-65535`	
destination_port	The destination port of the simulated packet	`1-65535`	
established	The value of the TCP established bit		

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3), Loopback (L2, L2-L3), FastEthernet (L2-L3, L3), Tunnel (L2, L2-L3), VLAN (L2, L2-L3)

Example

To simulate the effects of applying access control list 330 to a packet entering the media gateway through the Fast Ethernet interface, from IP address 192.67.85.12 to IP address 192.67.54.25:

```
G350-001(if:FastEthernet 10/2)# ip simulate 330 in 192.67.85.12 192.67.54.25
ip
```

ip snmp-server

Use the **ip snmp-server** command to enable the SNMP agent for the G350. Use the **no** form of the command to disable the SNMP agent for the G350. Disabling the SNMP agent also blocks SNMP traps. However, users can change SNMP configuration settings even when the agent is disabled.

Syntax

ip snmp-server [volatile]

no ip snmp-server

Parameters

Parameter	Description	Possible Values	Default Value
volatile	specifies that the SNMP agent is only enabled temporarily, until the system is reset		

User level

admin

Context

general

Example

```
G350-001(ACL 330)> ip snmp-server volatile
```

ip ssh

Use the **ip ssh** command to enable the SSH service, and set configuration parameters. Use the **no** form of the command to disable the SSH service, and close any open connections currently using SSH. When disabling the service, the G350 issues a message listing all current management interfaces. If SSH is currently the only enabled management interface, the user is warned that the remote connection will be lost.

> **NOTE:**
> In order to enable SSH to be used, you must configure the server host key. See the **crypto key generate** command.

> **NOTE:**
> Changing the port number does not break any active connections.

Syntax

ip ssh [port *port_number*]

no ip ssh

Parameters

Parameter	Description	Possible Values	Default Value
port_number	The new default value of the SSH port. Changing a port number does not tear down active connections so the operator that issued the request will stay connected and will not have to reopen an SSH session.	1–65535	22

User level

admin

Context

general

ip tcp decompression-connections

Use the **ip tcp decompression-connections** command to control the number of TCP connections that can be decompressed on the current interface. Use the **no** form of this command to restore the default. This command only exists in a PPP encapsulated interface.

> **NOTE:**
> The device is currently not capable of actively compressing TCP connections, rather it decompresses TCP connections compressed on the other side of the link.

Syntax

[no] ip tcp decompression-connections [*number*]

Parameters

Parameter	Description	Possible Values	Default Value
number	The maximum number of compressed TCP connections received on this interface that can be decompressed	3–256	16

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, USP PPP L2, USP PPP L2-L3)

Example

To specify that a maximum of 20 TCP connections can be decompressed on the Serial interface:

```
G350-001(if:Serial 2/1:1)# ip tcp decompression-connections 20
```

ip telnet

Use the **ip telnet** command to enable the Telnet server. Use the **no** form of the command to disable the Telnet server.

> **NOTE:**
> For security reasons, this command can only be executed from the Console port.

> **NOTE:**
> The **ip telnet** command is a secured command and will not be displayed together with the running configuration (using the **show running-config** command). To see the status of this command, use the **show protocol** command (refer to show protocol on page 340).

Syntax

ip telnet [port *port_number*]

no ip telnet

Parameters

Parameter	Description	Possible Values	Default Value
port_number	Changes the default port of the Telnet server	1-65535	23

User level

admin

Context

general

ip telnet-client

Use the **ip telnet-client** command to enable the Telnet client. Use the **no** form of the command to disable the Telnet client.

> **NOTE:**
> For security reasons, this command can only be executed from the console port.

> **NOTE:**
> The **ip telnet** command is a secured command and will not be displayed together with the running configuration (using the **show running-config** command). To see the status of this command, use the **show protocol** command (refer to show protocol on page 340).

Syntax

[no] ip telnet-client

User level

admin

Context

general

ip vrrp

Use the **ip vrrp** command to create a virtual router on the current interface. Use the **no** form of this command to delete a virtual router.

Syntax

[no] ip vrrp *vr_id*

Parameters

Parameter	Description	Possible Values	Default Value
vr_id	The virtual router ID	1-255	

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To create virtual router #1 on the Vlan 2 interface:

```
G350-001(if:Vlan 2)# ip vrrp 1
```

ip vrrp address

Use the **ip vrrp address** command to assign an IP address to the virtual router. Use the **no** form of this command to remove an IP address from a virtual router.

Syntax

[no] ip vrrp *vr_id* **address** *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
vr_id	The virtual router ID number.	1–255	
ip_address	The IP address to assign to the virtual router		

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To assign address 10.0.1.2 to virtual router 1:

```
G350-001(if:Vlan 2)# ip vrrp 1 address 10.0.1.2
```

ip vrrp auth-key

Use the **ip vrrp auth-key** command to set the virtual router simple password authentication for the virtual router ID. Use the **no** form of this command to disable simple password authentication for the virtual router instance.

Syntax

[no] ip vrrp *vr_id* **auth-key** *key_string*

Parameters

Parameter	Description	Possible Values	Default Value
vr_id	The virtual router ID	1–255	
key_string	The password string		

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To specify the password authentication for virtual router 1 as "sec01":

```
G350-001(if:Vlan 2)# ip vrrp 1 auth-key sec01
```

ip vrrp override addr owner

Use the **ip vrrp override addr owner** command to accept packets addressed to the IP address associated with the virtual router, such as ICMP, SNMP, and Telnet (if it is not the IP address owner and it is the master). Use the **no** form of this command to discard these packets.

Syntax

[no] ip vrrp *vr_id* **override addr owner**

Parameters

Parameter	Description	Possible Values	Default Value
vr_id	The virtual router ID	1–255	

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To specify that virtual router 1 accepts ICMP, SNMP, and Telnet packets:

```
G350-001(if:Vlan 2)# ip vrrp 1 override addr owner
```

ip vrrp preempt

Use the **ip vrrp preempt** command to configure the router to preempt a lower priority master for the virtual router ID. Use the **no** form of this command to disable preemption for the virtual router instance. By default, preemption is enabled.

Syntax

[no] ip vrrp *vr_id* **preempt**

Parameters

Parameter	Description	Possible Values	Default Value
vr_id	The virtual router ID	1–255	

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To specify that virtual router 1 preempts a lower priority master:

```
G350-001(if:Vlan 2)# ip vrrp 1 preempt
```

ip vrrp primary

Use the **ip vrrp primary** command to set the primary address that is used as the source address of VRRP packets for the virtual router ID. Use the **no** form of this command to restore the default primary address for the virtual router instance. By default, the primary address is selected automatically by the device.

Syntax

[no] ip vrrp *vr_id* **primary** *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
vr_id	The virtual router ID	`1-255`	
ip_address	The primary IP address of the virtual router. This address should be one of the router addresses on the fabric.		

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To specify the source IP address for virtual router 1 as 192.168.66.23:

```
G350-001(if:Vlan 2)# ip vrrp 1 primary 192.168.66.23
```

ip vrrp priority

Use the **ip vrrp priority** command to set the virtual router priority value used when selecting a master router. Use the **no** form of this command to restore the default value.

Syntax

[no] ip vrrp *vr_id* **priority** *pri_value*

Parameters

Parameter	Description	Possible Values	Default Value
vr_id	The virtual router ID	1-255	
pri_value	The priority value	1-254	

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To specify the priority of virtual router 1 as 10:

```
G350-001(if:Vlan 2)# ip vrrp 1 priority 10
```

ip vrrp timer

Use the **ip vrrp timer** command to set the virtual router advertisement timer value for the virtual router ID. Use the **no** form of this command to restore the default value.

Syntax

[no] ip vrrp *vr_id* **timer** *value*

Parameters

Parameter	Description	Possible Values	Default Value
vr_id	The virtual router ID	1-255	
value	The advertisement transmit time in seconds	1-255	

User level

read-write

Context

Interface: FastEthernet (L2-L3, L2), VLAN (L2-L3, L2)

Example

To set the virtual router advertisement timer value for virtual router 3 to 2 seconds:

```
G350-001(if:Vlan 2)# ip vrrp 3 timer 2
```

ip-fragments-in

Use the **ip-fragments-in** command to specify the action taken on incoming IP fragmentation packets for the current access control list. Use the no form of the command to return to the default treatment of IP fragmentation packets.

Syntax

ip-fragments-in *operation*

no ip-fragments-in

Parameters

Parameter	Description	Possible Values	Default Value
operation	The name of the pre-defined composite operation to execute.	`Deny, Deny-Notify-Rst, Permit, Deny-Notify, Deny-Rst`	

User level

read-write

Context

ip access-control-list

Example

To execute the Deny-Notify composite-operation when IP fragmentation packets are received:

```
G350-001(ACL 330)# ip-fragments-in Deny-Notify
```

ip-option-in

Use the **ip-option-in** command to specify the treatment of packets carrying an IP option that enter the current interface. Use the **no** form of the command to return to the default treatment of IP option packets.

Syntax

ip-option-in *action*

no ip-option-in

Parameters

Parameter	Description	Possible Values	Default Value
action	The action to take	`permit, deny, deny-notify, deny-rst, deny-notify-rst`	

User level

read-write

Context

ip access-control-list

Example

To specify that incoming packets with an IP option are permitted:

```
G350-001(ACL 330)# ip-option-in permit
```

ip-protocol

Use the **ip-protocol** command to specify that the current rule applies to packets having the specified IP protocol. Use the **no** form of this command to specify that the current rule applies to all packets *except* those having the specified IP protocol.

Syntax

[no] ip-protocol *protocol_name* | *protocol_number*

Parameters

Parameter	Description	Possible Values	Default Value
protocol_ name	Name of the IP protocol to match		
protocol_ number	Number of the IP protocol to match	`1-255`	

User level

read-write

Context

ip access-control-list/ip-rule, ip capture-list/ip-rule, ip pbr-list/ip-rule, ip qos-list/ip-rule

Example

To specify that rule 22 applies to all packets having an IP protocol of IGMP:

```
G350-001(ACL 330/ip rule 22)# ip-protocol igmp
```

ip-rule

Use the **ip-rule** command to enter configuration mode for the specified rule. If the specified rule does not exist, the system creates it and enters its configuration mode.

Syntax

ip-rule *rule_index*

Parameters

Parameter	Description	Possible Values	Default Value
rule_index	Number of the rule to edit	1 – 9999	

User level

read-write

Context

ip access-control-list, ip qos-list, ip capture-list, ip pbr-list

Example

To enter configuration mode for ip-rule 22:

```
G350-001(ACL 330)# ip-rule 22
G350-001(ACL 330/ip rule 22)#
```

keepalive

Use the **keepalive** command to enable PPP keepalive, in order to maintain a persistent connection. Entering keepalive without a parameter returns the keepalive to its default value. Use the **no** form of this command to disable PPP keepalive.

Syntax

[no] keepalive [*seconds*]

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The number of seconds between PPP keepalive messages. Entering keepalive 0 disables keepalive.	0-32767	10

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR L2, USP PPP L2, USP PPP L2-L3, USP FR L2)

Example

To enable PPP keepalive, and generate a message every 300 seconds:

```
G350-001(if:Serial 2/1)# keepalive 300
```

keepalive

Use the **keepalive** command to enable the extended keepalive mechanism on an interface. Extended keepalive provides status information about the interface based on the IP state of the link. Use the **no** form of the command to disable extended keepalive on the interface.

Syntax

keepalive *ip_address next_hop_mac_address*

no keepalive

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The destination address whose status is reported on		
next_hop_ mac_ address	The next hop address (for the Ethernet port only)		

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To enable extended keepalive on the FastEthernet 10/2 interface for destination IP address 192.15.6.34:

```
G350-001(if:FastEthernet 10/2)# keepalive 192.15.6.34
```

keepalive failure-retries

Use the **keepalive** failure-retries command to specify the number of keepalive packets that are sent without a response before the interface is declared to be down. Using this command without a parameter resets the failure-retry value to the default value of 4.

Syntax

keepalive failure-retries *retries*

Parameters

Parameter	Description	Possible Values	Default Value
retries	The number of retries	1-32	4

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To specify that the FastEthernet interface is declared down after 10 keepalive packets are sent without response:

```
G350-001(if:FastEthernet 10/2)# keepalive failure-retries 10
```

keepalive interval

Use the **keepalive interval** command to specify the interval in seconds between keepalive packets. Using this command without a parameter resets the interval value to its default.

Syntax

keepalive interval *seconds*

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The interval between keepalive packets, in seconds.	1-36	5

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To set the interval between keepalive packets on the FastEthernet 10/2 interface to be 15 seconds:

```
G350-001(if:FastEthernet 10/2)# keepalive interval 15
```

keepalive source-address

Use the **keepalive source-address** command to specify the source IP address of the keepalive packets. Using this command with no parameter resets the source IP address value to the IP address of the interface.

Syntax

keepalive source-address *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The source IP address of the keepalive packets		

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To set the source IP address of the keepalive packets on the FastEthernet interface to be 192.15.6.34:

```
G350-001(if:FastEthernet 10/2)# keepalive source-address 192.15.6.34
```

keepalive success-retries

Use the **keepalive success-retries** command to specify the number of keepalive packets that must be sent and successfully responded to before the interface is declared to be up. Using this command without a parameter resets the success-retry value to the default value.

Syntax

keepalive success-retries *retries*

Parameters

Parameter	Description	Possible Values	Default Value
retries	The number of successful keepalive packets to require	1-32	1

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To specify that 5 keepalive packets must be send and successfully responded to in order for the FastEthernet interface to be declared up:

```
G350-001(if:FastEthernet 10/2)# keepalive success-retries 5
```

keepalive timeout

Use the **keepalive timeout** command to specify the time in seconds within which a keepalive response must be received. Using this command without a parameter resets the keepalive service to its default timeout value.

Syntax

keepalive timeout *seconds*

no keepalive

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The number of seconds to wait for a response	1-10	1

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To specify a timeout value of 6 seconds for keepalive packets on the FastEthernet interface:

```
G350-001(if:FastEthernet 10/2)# keepalive timeout 6
```

line

Use the **line** command to add a line to the current banner message.

Syntax

line *number* [*string*]

Parameters

Parameter	Description	Possible Values	Default Value
number	The line number to add the specified text	1-24	
string	The text to display on the specified line		

> **NOTE:**
> To define a string that includes spaces, enclose the entire string in quotation marks (for example, "New York").

User level

admin

Context

banner login, banner post-login

Example

To specify text for the third line of the banner displayed after a successful login:

```
G350-001(super-banner-post-login)# line 3 "Welcome to the G350 Media Gateway
CLI Interface"
```

linecode

Use the **linecode** command to specify the type of line-code transmission for the an E1 line. Use the **no** form of the command to restore the default line-code value of hbd3.

> **NOTE:**
> Normally the E1 service provider determines which type of line-code is required for your E1 circuit.

Syntax

linecode {ami|hdb3}

Parameters

Parameter	Description	Possible Values	Default Value
ami	Keyword that specifies the Alternate Mode Inversion line-code type		
hbd3	Keyword that specifies the High-Density Bipolar 3 line-code type		

User level

read-write

Context

Interface: Controller (E1)

Example

To set the line-code type to ami:

```
G350-001(controller:5/1)# linecode ami
```

linecode

Use the **linecode** command to specify the type of line-code transmission for the a T1 line. Use the **no** form of the command to restore the default line-code value of b8zs.

> **NOTE:**
> Normally the T1 service provider determines which type of line-code is required for your T1 circuit.

Syntax

linecode {ami|b8zs}

Parameters

Parameter	Description	Possible Values	Default Value
ami	Keyword that specifies the Alternate Mode Inversion line-code type		
b8zs	Keyword that specifies the B8ZS line-code type		

User level

read-write

Context

Interface: Controller (T1)

Example

To set the line-code type to ami:

```
G350-001(controller:5/1)# linecode ami
```

load-interval

Use the **load-interval** command to set the load calculation interval for an interface. Use the **no** form of the command to restore the load calculation to its default value.

> **NOTE:**
> The load interval must be in increments of 30 seconds.

Syntax

load-interval *seconds*

no load-interval

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The load calculation interval, in seconds. This parameter must be divisible by 30.	30-600	300

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP PPP L2-L3, USP PPP L2, USP FR L2), FastEthernet (L2, L2-L3), VLAN (L2-L3, L2), Loopback (L2-L3, L2), Tunnel (L2, L2-L3)

Example

To set the load calculation interval to 60 seconds:

```
G350-001(if:Serial 2/1:1)# load-interval 60
```

loopback diag

Use the **loopback diag** command to activate a Loopback signal on the Serial interface. Use the **no** form of the command to deactivate the Loopback signal.

Syntax

[no] loopback diag

User level

read-write

Context

Interface: Controller

Example

To activate a Loopback signal on the current interface:

```
G350-001(if:Serial 5/1)# loopback diag
```

loopback local

Use the **loopback local** command to activate a Loopback signal on the Serial interface. Use the **no** form of the command to deactivate the Loopback signal.

Syntax

loopback local *loopback_type*

no loopback local

Parameters

Parameter	Description	Possible Values	Default Value
loopback_type	The type of information to loop back	line, payload	

User level

read-write

Context

Interface: Controller

Example

To activate a loopback signal with payload information:

```
G350-001(if:Serial 5/1)# loopback local payload
```

loopback remote

Use the **loopback remote** command to request a remote station to activate a Loopback signal on the Serial interface. Use the **no** form of the command to deactivate the Loopback signal.

Syntax

loopback remote *loopback_type*

no loopback remote

Parameters

Parameter	Description	Possible Values	Default Value
loopback_type	The type of information to loop back	line, payload	

User level

read-write

Context

Interface: Controller (T1)

Example

To request that a loopback signal be sent with payload information:

```
G350-001(if:Serial 5/1)# loopback remote payload
```

map-class frame-relay

Use the **map-class frame-relay** command to create a QoS template named ***map_class_name***, which can later be assigned to DLCIs.

Use the **no** form of this command to delete a map class.

> **NOTE:**
> This command fails if the map class is currently associated with a DLCI.

Syntax

[no] map-class frame-relay *map_class_name*

Parameters

Parameter	Description	Possible Values	Default Value
map_class_ name	The name of a map class configured by the user		

User level

read-write

Context

general

Example

To create a map class named mySVoip1:

```
G350-011# map-class frame-relay mySVoip1
G350-011(map-class)#
```

mtu

Use the **mtu** command to set the current interface's Maximum Transmission Unit (MTU). Use the **no** form of this command to restore the interface's MTU to its default value.

> **NOTE:**
> The **size_in_bytes** parameter specifies the Layer 3 packet size. Layer 2 headers are added to the packet afterwards. The Layer 2 headers vary in size, depending on the type of interface. Thus the total size of the MTU is the sum of the **size_in_bytes** value and the Layer 2 headers.

Syntax

[no] mtu *size_in_bytes*

Parameters

Parameter	Description	Possible Values	Default Value
size_in_ bytes	The Maximum Transmission Unit in bytes	64-1500	1500

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP FR L2, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3)

Example

To specify the Maximum Transmission Unit for the Serial 2/1:1 interface to be 1000 bytes:

```
G350-001(if:Serial 2/1:1)# mtu 1000
```

name

Use the **name** command to assign a name to the specified list or operation.

Syntax

name *name*

Parameters

Parameter	Description	Possible Values	Default Value
name	The name of the list or operation	string	

User level

read-write

Context

ip qos-list, ip qos-list dscp-table, ip qos-list composite-operation, ip access-control-list, ip next-hop-list, ip capture-list, ip pbr-list

Example

To specify the name of access control list 330 as "Admin13":

```
G350-001(ACL 330)# name Admin13
```

network

Use the **network** command to specify a list of networks on which the RIP is running. Use the **no** form of this command to remove an entry.

Syntax

[no] network *ip_address* [*wildcard_mask*]

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The IP address of the network of directly connected networks		
wildcard_ mask	The wildcard mask address number		

User level

read-write

Context

Router: RIP

Example

To specify that RIP is used on all interfaces connected to the network 192.168.37.0:

```
G350-001(router:rip)# network 192.168.37.0
```

network

Use the **network** command to enable OSPF in this network. Use the **no** form of this command to disable OSPF in this network. The default value is disabled.

Syntax

network *net_addr* [*wildcard_mask* [**area** *area_id*]]

Parameters

Parameter	Description	Possible Values	Default Value
net_addr	The IP address		
wildcard_ mask	The wildcard mask		
area	Keyword specifying an area		
area_id	The area ID number		

User level

read-write

Context

Router: ospf

Example

To enable OPSF on the range of IP addresses from 192.168.0.0 to 192.168.255.255 in area ID 0.0.0.0:

```
G350-001(router:ospf)# network 192.168.0.0 0.0.255.255 area 0.0.0.0
```

next-hop

Use the **next-hop** command to specify the next-hop policy to use when the current rule is applied.

Syntax

next-hop {list *list_number* **/ DBR}**

Parameters

Parameter	Description	Possible Values	Default Value
list_number	The next-hop list to be used for the current rule	1-20	

Parameter	Description	Possible Values	Default Value
DBR	Use destination based routing (not policy based routing) for the current rule		

User level

read-write

Context

ip-pbr-list/ip-rule

Examples

```
G350-001# next-hop list 1

G350-001# next-hop DBR
```

next-hop-interface

Use the **next-hop-interface** command to add the specified interface to the next hop path for this next-hop list. Use the **no** form of this command to delete an interface from the next-hop list.

Syntax

next-hop-interface *hop_number interface_name*

no next-hop-interface *hop_number*

Parameters

Parameter	Description	Possible Values	Default Value
hop_number	The index number of this entry in the next-hop list	`1-20`	
interface_name	The specified interface	The layer3 interfaces: `(Serial, Gre Tunnel, null0).`	

User level

read-write

Context

ip next-hop-list

Example

```
G350-001> next-hop-interface 3 Serial5/1:0
```

next-hop-ip

Use the **next-hop-ip** command to add the specified ip address to the next hop path for this next-hop list. Use the **no** form of this command to delete an ip address from the next-hop list.

Syntax

next-hop-ip *hop_number ip_address*

no next-hop-ip *hop_number*

Parameters

Parameter	Description	Possible Values	Default Value
hop_number	The index number of this entry in the next-hop list	1-20	
ip_address	The specified IP address		

User level

read-write

Context

ip next-hop-list

Example

```
G350-001> next-hop-ip 2 149.49.200.2
```

nrzi-encoding

Use the **nrzi-encoding** command to enable the non-return-to-zero inverted (NRZI) line coding format on the specified interface. Use the **no** form of the command to disable NRZI encoding.

Syntax

[no] nrzi-encoding

User level

read-write

Context

Interface: Serial(USP FR L2, USP PPP L2, USP PPP L2-L3)

nvram initialize

Use the **nvram initialize** command to reset the NVRAM parameters to the factory default values. This command is an alias for **erase startup-config** (refer to erase startup-config on page 96).

Syntax

nvram initialize

User level

read-write

Context

general

Example

To reset the configuration parameters for the device:

```
G350-001# nvram initialize

This command will restore factory defaults, and can disconnect your telnet
session

*** Reset *** - do you want to continue (Y/N)? Y

Connection closed by foreign host.
```

owner

Use the **owner** command to specify the owner of the current list.

Syntax

owner *owner_name*

Parameters

Parameter	Description	Possible Values	Default Value
owner_name	Name of the owner	string	

User level

read-write

Context

ip access-control-list, ip qos-list, ip capture-list, ip pbr-list

Example

To set the owner of access control list 330 as "MGAdmin3":

```
G350-001(ACL 330)# owner MGAdmin3
```

passive-interface

Use the **passive-interface** command to suppress OSPF routing updates on the interface.

Syntax

passive-interface {interface_name | net_address}

Parameters

Parameter	Description	Possible Values	Default Value
interface_ name	Name of the interface on which to suppress routing updates		
net_ address	IP address of the interface on which to suppress routing updates		

User level

read-write

Context

router ospf

Example

To suppress OSPF routing updates on the Fast Ethernet interface:

```
G350-001(router:ospf)# passive-interface FastEthernet 10/2.1
```

To suppress OSPF routing updates on the interface at IP address 192.168.1.1:

```
G350-001(router:ospf)# passive-interface 192.168.1.1
```

ping

Use the **ping** command to send ICMP packets to a target system. The ping command is useful for checking host reachability and network connectivity.

Syntax

ping *host* [*interval* [*size*[*timeout*[*source_address*]]]]

Parameters

Parameter	Description	Possible Values	Default Value
host	The IP address of the target system		
interval	The number of seconds between successive ICMP packets	1–256	1
size	The size, in bytes, of the packet sent when pinging	22–65500	50
timeout	The timeout in seconds	1–10	
source_ address	IP address from which to send the ICMP packets		

User level

read-only

Context

general

Example

To send test 50-byte packets to IP address 192.168.49.1 from IP address 192.168.49.4 every three seconds, timing out after five seconds:

```
G350-001> ping 192.168.49.1 3 50 5 192.168.49.4
```

pmi

Use the **pmi** command to define this interface as the Primary Management Interface for the system.

Syntax

pmi

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L3, DS1 FR-SUB L2-L3, DS1 FR-SUB L3, USP PPP L3, USP PPP L2-L3), FastEthernet (L2-L3, L3), VLAN (L2-L3, L3), Loopback (L2-L3, L3), Tunnel (L2-L3, L3)

Example

To define the VLAN 1 interface as the Primary Management Interface:

```
G350-001# interface vlan 1
G350-001(if:Vlan 1)# pmi
```

ppp authentication

Use the **ppp authentication** command to select the authentication method used when closing a PPP server or client session.

> **NOTE:**
> The value set for **ppp authentication**, affects both the USB-modem and the Console interface, simultaneously.

Syntax

ppp authentication {pap|chap|none}

Parameters

Parameter	Description	Possible Values	Default Value
pap	Keyword indicating the Password Authentication Protocol. An unencrypted password is sent for authentication. This is the default.		
chap	Keyword indicating the Challenge Handshake Authentication Protocol. An encrypted password is sent for authentication		
none	Keyword indicating that no password is sent		

User level

read-write

Context

Interface: Console, USB-modem

Example

To select the CHAP authentication protocol:

```
G350-001(if:CON)# ppp authentication chap
```

ppp chap-secret

Use the **ppp chap-secret** command to configure the shared secret used in PPP sessions with CHAP authentication.

> **NOTE:**
> The value set for **ppp chap-secret** affects both the USB-modem and the Console interface, simultaneously.

Syntax

ppp chap-secret *chap_secret*

Parameters

Parameter	Description	Possible Values	Default Value
chap_ secret	The shared secret string	4-32 chars	

User level

admin

Context

Interface: Console, USB-modem

Example

To set the shared secret to "mypwd3":

```
G350-001(super-if:CON)# ppp chap-secret mypwd3

PPP shared secret for CHAP authentication is set
```

ppp timeout ncp

Use the **ppp timeout ncp** command to set the maximum time, in seconds, that PPP allows for negotiation of a network layer protocol. If no network protocol is negotiated within the given time, the connection is terminated. Use the **no** form of the command to disable the timeout feature.

Syntax

[no] ppp timeout ncp *seconds*

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The time in seconds that PPP allows for negotiation of a network layer protocol	1-65535	

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, USP PPP L2-L3, USP PPP L2)

Example

To specify that PPP will allow 60 seconds for negotiation of a network protocol:

```
G350-001# ppp timeout ncp 60
```

ppp timeout retry

Use the **ppp timeout retry** command to set the maximum time to wait for a response during PPP negotiation. Use the **no** form of the command to restore the timeout value to its default.

Syntax

[no] ppp timeout retry *seconds*

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The authentication timeout in seconds	1-255	2

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, USP PPP L2-L3, USP PPP L2)

Example

To specify that PPP will wait up to 30 seconds for a response during negotiation:

```
G350-001# ppp timeout retry seconds
```

pre-classification

Use the **pre-classification** command to specify which priority tag the current QoS list uses for data flows. Use the **no** form of the command to reset the QoS list to use the default priority tag, `trust-cos-dscp`.

Syntax

pre-classification *tag_type*

no pre-classification

Parameters

Parameter	Description	Possible Values	Default Value
tag_type	The type of priority tag used with data flows	`untrusted, trust-cos, trust-dscp, trust-cos-dscp`	

User level

read-write

Context

ip qos-list

Example

To specify that the current QoS list uses the dscp priority tag:

```
G350-001(QoS 440)# pre-classification trust-dscp
```

queue-limit

Use the **queue-limit** command to set the packet size of the various queues. Use the **no** form of the command to restore the packet size to its default value, using the interface bandwidth.

> **NOTE:**
> The **queue-limit** command is not applicable in fair-voip-queue mode.

Syntax

queue-limit *queue_id size*

no queue-limit

Parameters

Parameter	Description	Possible Values	Default Value
queue_id	The queue priority ID	1 (highest) - 4 (lowest)	
size	The size of the queue, in packets	The total number of packets in all queues cannot exceed 5000.	

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP PPP L2-L3, USP PPP L2), FastEthernet(L2-L3, L2)

Example

To specify a size of 200 for queue 1:

```
G350-001(if:Serial 2/1:1)# queue-limit 1 200
```

redistribute

Use the **redistribute** command to redistribute routing information from other protocols into OSPF. Use the **no** form of this command to disable redistribution by OSPF.

Syntax

[no] redistribute *protocol*

Parameters

Parameter	Description	Possible Values	Default Value
protocol	The protocol to be used	static, connected, rip	

User level

read-write

Context

Router: ospf

Example

To redistribute static routing information into OSPF:

```
G350-001(router:ospf)# redistribute static
```

redistribute

Use the **redistribute** command to redistribute routing information from another protocol into RIP. Use the **no** form of this command to restore the default value, disable redistribution by RIP.

Syntax

[no] redistribute *protocol*

Parameters

Parameter	Description	Possible Values	Default Value
protocol	The protocol to be used	static, OSPF	

User level

read-write

Context

Router-RIP

Example

To redistribute OSPF routing information into RIP:

```
G350-001(router:rip)# redistribute ospf
```

release voip-dsp

Use the **release voip-dsp** command to end a BTR test on the VoIP engine. See also: <u>busyout voip-dsp</u> on page 42, <u>test voip-dsp</u> on page 389.

> **NOTE:**
> Status changes that occur during the test create SNMP traps.

> **NOTE:**
> View the results of the most recent BTR test with the **show mm** command (refer to <u>show mm</u> on page 329).

Syntax

release voip-dsp

User level

read-write

Context

general

remote

Use the **remote** command to reset the far end counters on a T1 line.

Syntax

remote fdl_request_type

Parameters

Parameter	Description	Possible Values	Default Value
fdl_request_type	The type of counters to reset	`reset-performance-monitoring-counters,` `reset-errored-esf-data`	

User level

read-write

Context

Interface: Controller (T1)

Example

To reset performance monitoring counters:

```
G350-001(controller:5/1)# remote reset-performance-monitoring-counters
```

reset

Use the **reset** command to reset a specified system resource. The command performs a hard reset of the specified entity, returning any selectable parameters to their startup configuration values and setting all hardware and firmware to a known state.

> **NOTE:**
> If the Supervisor modules are in Active/Standby configuration, resetting the active supervisor causes the standby supervisor to take over and become active.

> **NOTE:**
> The reset command does not work while the configuration is being saved.

Syntax

reset [module *module_number* **| voip | chassis]**

Parameters

Parameter	Description	Possible Values	Default Value
module	Keyword indicating to reset a module		
module_ number	The module to reset		
voip	Keyword indicating to reset the VoIP engine		
chassis	Keyword indicating to reset the G350 and all its media modules		

User level

read-write

Context

general

Example

To reset the VoIP engine:

```
G350-001# reset voip

This command will perform a hard reset.

Do you want to continue (Y/N)? y
```

retstatus

Use the **retstatus** command to show whether or not the last CLI command you performed was successful.

Syntax

retstatus

User level

read-only

Context

general

Example

To display the status of the most recently executed command:

```
G350-001> retstatus

Succeeded

G350-001> retstatus

Failed
```

rmon alarm

Use the **rmon alarm** command to create an RMON alarm entry. Use the **no** form of this command to destroy a specific RMON alarm.

> **NOTE:**
> The `rising_event` and `falling_event` events must be defined before using the **rmon alarm** command (refer to <u>rmon event</u> on page 195).

Syntax

rmon alarm *alarm_num variable interval sample_type*
                   rising-threshold *rising_threshold_value rising_event*
                   falling-threshold *falling_threshold_value falling_event*
                   startup_alarm owner

no rmon alarm *alarm_num*

Parameters

Parameter	Description	Possible Values	Default Value
alarm_num	The index number of this alarm		
variable	The OID of the statistic to monitor		
interval	The number of seconds		
sample_type	The type of sample used for the alarm	`absolute,` `delta`	
rising_threshold_value	The value above which the rising_event will be triggered		
rising_event	The event index to trigger when rising_threshold_value is exceeded		
falling_threshold_value	The value below which the falling_event will be triggered		

1 of 2

Parameter	Description	Possible Values	Default Value
falling_ event	The event index to trigger when falling_threshold_ value is reached		
startup_ alarm	The prerequisite condition for triggering the alarm for the first time	`rising, falling, risingOr Falling`	
owner	The username of the alarm owner		

2 of 2

User level

read-write

Context

general

Example

To create an RMON alarm entry:

```
G350-003(super)# rmon alarm 1 1.3.6.1.2.1.16.1.1.1.5.16777216 20 delta rising-
threshold 10000 32 falling-threshold 1000 32 risingOrFalling root

alarm 1 was created successfully
```

rmon event

Use the **rmon event** command to create an RMON event entry. The RMON event can then be triggered as part of an RMON alarm. To create an RMON alarm, refer to rmon alarm on page 194. Use the **no** form of this command to delete a specific RMON event entity.

Syntax

rmon event *event_num event_type* **description** *description* **owner** *owner*

no rmon event *event_num*

Parameters

Parameter	Description	Possible Values	Default Value
event_num	The index number of the event		
event_type	The type of event	`log, trap, logAndTrap, none`	
description	The event description		

1 of 2

Parameter	Description	Possible Values	Default Value
owner	The username of the event owner		

User level

read-write

Context

general

Example

To create an RMON event entry:

```
G350-001# rmon event 32 trap description resetTrap owner config

event 32 was created successfully
```

rmon history

Use the **rmon history** command to create an RMON history entry. Use the **no** form of this command to delete an existing history entry.

Syntax

rmon history *history_index module/port* **interval** *interval*
                                        buckets *buckets* **owner** *owner*
no rmon history *history_index*

Parameters

Parameter	Description	Possible Values	Default Value
history_ index	The index of the history item		
module	The module number		
port	The port on the specified module		
interval	The bucket interval for the history item		
buckets	The number of time intervals over which to save history data		
owner	The username of the history item owner		

User level

read-write

Context

general

Example

To create an RMON history entry:

```
G350-001# rmon history 32 10/2 interval 20 buckets 100 owner config

history index 32 was created successfully
```

router ospf

Use the **router ospf** command to enable OSPF protocol on the system and to enter the router configuration context. Use the **no** form of this command to restore the default value, and disable OSPF globally.

Syntax

[no] router ospf

User level

read-write

Context

general

router rip

Use the **router rip** command to enable the RIP and to enter the **router configuration** context. Use the **no** form of this command to restore the default value, and disable RIP.

Syntax

[no] router rip

User level

read-write

Context

general

router vrrp

Use the **router vrrp** command to enable VRRP routing globally. Use the **no** form of this command to disable VRRP routing.

> **NOTE:**
> You cannot activate both VRRP and SRRP protocols at the same time.

Syntax

[no] router vrrp

User level

read-write

Context

general

sat

Use the **sat** command to provide a shortcut method to access the System Access Terminal (SAT) so that Avaya Communication Manager translation work can be performed. See the description for session on page 198 for more information. The Media Server must configure the SAT port to 5023.

Syntax

sat

User level

read-only

Context

general

session

Use the **session** command to provide the means to establish a session with the active Media Gateway Controller, SAT, or the device. Specifying **session mgc** takes the user to the LINUX shell login. Specifying **session icc** accesses the S8300. Adding the **sat** parameter takes the user to the SAT login.

This is an alias to Telnet. The **mgc** option Telnets to the active Media Gateway Controller.

> **NOTE:**
> Note: for **session mgc sat**, and **session icc sat** to access the Media Server SAT terminal, the SAT port must be configured to 5023 on the Media Server. For **session mgc** and **session icc**, the Media Server should allow access to the Telnet port (23).

Syntax

session {mgc [sat] | icc [sat]}

User level

read-only

Context

general

Example

To establish a session with the active Media Gateway Controller:

```
G350-001> session mgc
```

set boot bank

Use the **set boot bank** command to set the system boot bank for the active Supervisor Module.

Syntax

set boot bank *value*

Parameters

Parameter	Description	Possible Values	Default Value
value	boot bank name	bank-a - set the boot bank to A bank-b - set the boot bank to B	

User level

read-write

Context

general

Example

To specify that the media gateway boots from boot bank A:

```
G350-001# set boot bank bank-A

boot bank set to bank-A
```

set contact-closure admin

Use the **set contact-closure admin** command to specify how the contact closure relay is controlled.

> **NOTE:**
> The **set contact-closure pulse-duration** command does not affect the **set contact-closure admin manual** command.

Syntax

set contact-closure admin *module/port*:*relay*
                              {mgc | manual-trigger | manual-off}

Parameters

Parameter	Description	Possible Values	Default Value
module	Module number of the contact closure port	10	
port	Port number of the contact closure port	1	
relay	Contact closure relay	1,2	
mgc	Contact closure is controlled by the call controller		
manual-trigger	Contact closure relay is triggered		
manual-off	Contact closure relay is not triggered		

User level

read-write

Context

general

Example

To specify that contact closure for relay 2 of port 1 on module 10 is controlled by the call controller:

```
G350-001# set contact-closure admin 10/1:2 mgc
```

set contact-closure pulse-duration

Use the **set contact-closure pulse-duration** command to set the pulse duration for a contact closure relay. Pulse duration is the amount of time for the relay to return to normal after the call controller triggers it.

Syntax

set contact-closure pulse-duration *module/port*:*relay time*

Parameters

Parameter	Description	Possible Values	Default Value
module	Module number of the contact closure port	10	
port	Port number of the contact closure port	1	
relay	Relay number	1,2	
time	Amount of time until the relay returns to normal, in seconds	1 – 60	

User level

read-write

Context

general

Example

To set the pulse duration to 3 seconds for relay 2 of port 1 on module 10:

```
G350-001# set contact-closure pulse-duration 10/1:2 3
```

set etr

Use the **set etr** command to enable or disable Emergency Transfer Relay (ETR) mode, or to allow the gateway to control ETR mode automatically.

> **NOTE:**
> In ETR mode, the TRK and LINE 1 ports are connected. All other telephone ports stop operating.

> **NOTE:**
> If a call is in progress when the communications problem ends, the gateway does not turn off ETR mode automatically. If you specify manual-off, the call terminates.

Syntax

set etr *module* {auto | manual-on | manual-off}

Parameters

Parameter	Description	Possible Values	Default Value
module	Module number	7	

1 of 2

Parameter	Description	Possible Values	Default Value
auto	Allow the gateway to control ETR mode automatically		
manual-on	Set ETR mode to on		
manual-off	Set ETR mode to off		

2 of 2

User level

read-write

Context

general

Example

To specify that the gateway will control ETR mode automatically on module 7:

```
G350-001# set etr 7 auto
```

set icc-monitoring

Use the **set icc-monitoring** command to control heartbeat monitoring of an Inter Carrier Cable (ICC) or Local Survivable Processor (LSP).

Syntax

set icc-monitoring {enable | disable}

Parameters

Parameter	Description	Possible Values	Default Value
enable	Enable heartbeat monitoring		
disable	Disable heartbeat monitoring		

User level

read-write

Context

general

set logging file

Use the **set logging file** command to manage the logging of system messages to non-volatile memory (NVRAM).

Syntax

set logging file {enable | disable | condition {all | *MsgFacility*} {none | *severity*}}

Parameters

Parameter	Description	Possible Values	Default Value
enable	Enable logging to the file sink		
disable	Disable logging to the file sink		
condition	Define a filter rule for logging		
all	Apply the filter condition to all MsgFacilities		
MsgFacility	Apply the filter condition to a specific MsgFacility	`boot, system, router, config, temp, filesys, fan, supply, security, cascade, qos, switchfabric, lag, vlan, rip, ldap, snmp`	
none	Do not log messages to the file sink		
severity	Only log messages whose severity level is equal to or more severe than the specified level. 0 is the highest severity and 7 the lowest severity.	Use the text value or its numeric equivalent: `emergency (0), alert (1), critical (2), error (3), warning (4), notification (5), informational (6), debugging (7)`	

User level

read-write

Context

general

Example

To filter VLAN messages sending only those having a severity of critical or greater:

```
G350-001# set logging file condition vlan critical
```

set logging server access-level

Use the **set logging server access-level** command to define the access level associated with a Syslog server sink. You cannot specify an admission level higher than the assigned level.

Syntax

set logging server access-level *admission_level* {*ip_address* | *hostname*}

Parameters

Parameter	Description	Possible Values	Default Value
admission_ level		read-only, read-write, admin	
ip_address	The IP address of the Syslog server		
hostname	The name of the Syslog server host		

User level

read-write

Context

general

Example

To specify a read-write access level for the Syslog server at IP address 172.5.16.33:

```
G350-011# set logging server access-level read-write 172.5.16.33
```

set logging server

Use the **set logging server** command to define a new Syslog output server for remote logging of system messages. A maximum of three Syslog servers can be configured. A new Syslog server is created in disabled mode.

Syntax

set logging server *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The IP address of the Syslog server		

User level

read-write

Context

general

Example

To define a Syslog server at IP address 147.2.3.66:

```
G350-001# set logging server 147.2.3.66
```

set logging server facility

Use the **set logging server facility** command to define an output facility for the specified Syslog server.

Syntax

set logging server facility *facility ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
facility	The facility used in Syslog reports	auth (Authorization), daemon (Background System Process), clkd (Clock Daemon), clkd2 (Clock Daemon), mail (Electronic Mail), local0 – local7 (For Local Use) ftpd (FTP Daemon), kern (Kernel), alert (Log Alert), audi (Log Audit), ntp (NTP Subsystem), lpr (Printing), sec (Security), syslog (System Logging), uucp (Unix-to-Unix Copy Program), news (Usenet news), user (User Process)	
ip_address	The IP address of the Syslog server		

User level

read-write

Context

general

Example

To specify that messages for the specified Syslog server be sent to the mail output facility:

```
G350-001# set logging server facility mail 168.12.1.15
```

set logging server enable/disable

Use the **set logging server enable/disable** command to enable or disable a specific Syslog server.

Syntax

set logging server {enable | disable} *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
enable	Enable logging for the Syslog server		
disable	Disable logging for the Syslog server		
ip_address	The IP address of the Syslog server		

User level

read-write

Context

general

Example

To enable logging for the Syslog server at IP address 168.12.1.13:

```
G350-001# set logging server enable 168.12.1.13
```

set logging server condition

Use the **set logging server condition** command to specify a filter for messages sent to the specified Syslog server. Messages can be filtered by source system, severity, or both.

Syntax

set logging server condition {all | *Msgfacility*} {none | *severity*} *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
all	Apply this filter to all message facility systems		
MsgFacility	Apply this filter to messages produced by a specific system	`boot, system, router, config, temp, filesys, fan, supply, security, cascade, qos, switchfabric, lag, vlan, ospf, rip, ldap, snmp`	
none	Do not log any messages		

1 of 2

Parameter	Description	Possible Values	Default Value
severity	Only log messages whose severity level is equal to or more severe than the specified level (0 is the highest severity, 7 the lowest)	Use the text value or its numeric equivalent: `emergency (0)`, `alert (1)`, `critical (2)`, `error (3)`, `warning (4)`, `notification (5)`, `informational (6)`, `debugging (7)`	
ip_address	The IP address of the Syslog server		

2 of 2

User level

read-write

Context

general

Example

To filter fan messages for the Syslog server at IP address 168.23.1.15, so that only fan messages of warning-level severity or greater are sent:

```
G350-001# set logging server condition fan warning 168.23.1.15
```

set logging session

Use the **set logging session** command to manage message logging for the current console session.

Syntax

set logging session {enable | disable | condition {all | *MsgFacility*} {none | *severity*}}

Parameters

Parameter	Description	Possible Values	Default Value
enable	Enable logging to the console session		
disable	Disable logging to the console session		
condition	Define a filter rule for logging		

1 of 2

Parameter	Description	Possible Values	Default Value
all	Apply the filter condition to all MsgFacilities		
MsgFacility	Apply the filter condition to a specific MsgFacility	`boot, system, router, config, temp, filesys, fan, supply, security, cascade, qos, switchfabric, lag, vlan, rip, ldap, snmp`	
none	Do not log messages to the console session		
severity	Only log messages whose severity level is equal to or more severe than the specified level (0 is the highest severity, 7 the lowest)	Use the text value or its numeric equivalent: `emergency (0), alert (1), critical (2), error (3), warning (4), notification (5), informational (6), debugging (7)`	6

2 of 2

User level

read-write

Context

general

Example

To filter config messages for the session, sending only those config messages of alert severity or greater:

```
G350-001# set logging session condition config alert
```

set logout

Use the **set logout** command to set the number of minutes until the system automatically disconnects an idle session.

Syntax

set logout [timeout]

Parameters

Parameter	Description	Possible Values	Default Value
timeout	Number of minutes until the system automatically disconnects an idle session. Setting the value to 0 disables the automatic disconnection of idle sessions.	0-99	15

User level

read-write

Context

general

Example

To set the system to disconnect idle sessions automatically after 20 minutes:

```
G350-001# set logout 20
```

To disable the automatic disconnection of idle sessions:

```
G350-001# set logout 0
```

set mediaserver

Use the **set mediaserver** command to set media server management ports.

Syntax

set mediaserver *ip_address1 ip_address2 port name*

Parameters

Parameter	Description	Possible Values	Default Value
ip_address1	Controller IP address used for registration		
ip_address2	Management interface IP address		
port	Service port number		
name	Service type	telnet, sat	

User level

read-write

Context

general

Example

To set media server management sat port 3023 to have a controller IP address of 135.6.8.99 and a management IP address of 135.34.54.2:

```
G350-563# set mediaserver 135.6.8.99 135.34.54.2 3023 sat
```

set mgc list

Use the **set mgc list** command to permit the creation of a list of valid Media Gateway Controller(s). The user can configure up to four IP addresses separated by commas.

> **NOTE:**
> The **set mgc list** command appends the new controllers to the existing list of controllers, if any.

Syntax

set mgc list {*ipaddress1,…*}

Parameters

Parameter	Description	Possible Values	Default Value
ipaddress1	The IP address of the call controller		

User level

read-write

Context

general

Example

To specify two Media Gateway Controllers at IP addresses 132.236.73.2 and 119.52.3.27:

```
G350-001# set mgc list 132.236.73.2, 119.52.3.27
```

set port auto-negotiation-flowcontrol-advertisement

Use the **set port auto-negotiation-flowcontrol-advertisement** command to set the flowcontrol advertisement for the specified port when performing autonegotiation.

Syntax

set port auto-negotiation-flowcontrol-advertisement *module*/*port*
{**no-flowcontrol|asym-tx-only|sym-only|sym-and-asym-rx**}

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
no-flowcontrol	The port will advertise no pause capabilities.		
asym-tx-only	The port will advertise asymmetric Tx pause capabilities only.		
sym-only	The port will advertise symmetric pause capabilities only.		
sym-and-asym-rx	The port will advertise both symmetric and asymmetric Rx pause capabilities.		

User level

read-write

Context

general

Example

To specify that port 5 of module 2 will advertise asymmetric Tx pause capabilities only:

```
G350-011# set port auto-negotiation-flowcontrol-advertisement 2/5 asym-tx-only

Port 2/5 pause capabilities was set
```

set port classification

Use the **set port classification** command to set the port classification to either regular or valuable. Any change in the Spanning Tree state from Forwarding for a valuable port will erase all learned MAC addresses in the media gateway.

Syntax

set port classification *module/port* **{regular | valuable}**

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port	The port number. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
regular	Keyword specifying that port classification be set to regular		
valuable	Keyword specifying that port classification be set to valuable		

User level

read-write

Context

general

Example

To set the port classification for port 3 of module 5 to valuable:

```
G350-001# set port classification 5/3 valuable

Port 5/3 classification has been changed.
```

set port disable

Use the **set port disable** command to disable a port or range of ports.

Syntax

set port disable *module/port*

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		

User level

read-write

Context

general

Example

To disable port 1 on module 4:

```
G350-001# set port disable 4/1

Port 4/1 disabled.
```

set port duplex

Use the **set port duplex** command to configure the duplex type of an Ethernet or Fast Ethernet port or range of ports. You can configure Ethernet and Fast Ethernet interfaces to either full duplex or half duplex.

The duplex status of a port in auto-negotiation mode is determined by auto-negotiation. An error message is generated if you try to set the transmission type of auto negotiation Fast Ethernet ports to half-duplex or full-duplex mode.

Syntax

set port duplex *module*/*port* {full|half}

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		

<div align="right">**1 of 2**</div>

Parameter	Description	Possible Values	Default Value
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
full	Set full-duplex transmission		
half	Set half-duplex transmission		

2 of 2

User level

read-write

Context

general

Example

To set port 1 on module 4 to full duplex:

```
G350-001# set port duplex 4/1 full

Port 4/1 set to full-duplex.
```

set port edge admin state

Use the **set port edge admin state** command to specify whether or not a port is considered to be an edge port.

Syntax

set port edge admin state *module/port admin_state*

Parameters

Parameter	Description	Possible Values	Defaul t Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
admin_ state	The type of the specified port	`edge-port, non-edge- port`	

User level

read-write

Context

general

Example

To specify that port 3 of module 10 is an edge port:

```
G350-011# set port edge admin state 10/3 edge-port
```

set port enable

Use the **set port enable** command to enable a port or a range of ports.

Syntax

set port enable [*module/port*]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		

User level

read-write

Context

general

Example

To enable port 3 of module 10:

```
G350-147# set port enable 10/3

Port 10/3 enabled.
```

set port flowcontrol

Use the **set port flowcontrol** command to set the send/receive mode for flow-control frames
(IEEE 802.3x or proprietary) for a full duplex port. Each direction (send or receive) can be configured
separately.

Syntax

set port flowcontrol {receive | send | all} *module/port* **{off | on | proprietary}**

Parameters

Parameter	Description	Possible Values	Default Value
receive	Indicates whether the port can receive its administrative status from a remote device. This option is only available for Gigabit Ethernet modules with negotiation set to off.		
send	Indicates whether the local port can send its administrative status to a remote device. This option is only available for Gigabit Ethernet modules with negotiation set to off.		
all	Send and receive (symmetric flow control) Used with on indicates that the local port acts upon and sends flow control frames. Used with off indicates that the local port discards and does not send flow control frames.		
module	Number of the module		
port	Number of the port on the module		
off	Used with receive to turn off an attached device's ability to send flow-control packets to a local port. Used with send to turn off the local port's ability to send administrative status to a remote device.		

1 of 2

Parameter	Description	Possible Values	Default Value
on	Used with `receive` to specify that a local port receives administrative status from a remote device. Used with `send`, to specify that a local port sends administrative status to a remote device.		
proprietary	Used with `all` to indicate that the local port acts on and sends Avaya proprietary flow control frames		

2 of 2

User level

read-write

Context

general

Example

To specify that port 1 receives administrative status from a remote device:

```
G350-147# set port flowcontrol receive 5/1 on

Port 5/1 flow control receive administration status set to on
(port will require far end to send flowcontrol)
```

To specify that port 1 cannot send administrative status to a remote device:

```
G350-147# set port flowcontrol send 5/1 off

Port 5/1 flow control send administration status set to off
(port will send flowcontrol to far end)
```

set port level

Use the **set port level** command to set the priority level of a port or range of ports on the switching bus. Packets traveling through a port set at normal priority are served only after packets traveling through a port set at high priority are served.

Syntax

set port level *module*/*port* [*value*]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
value	Priority level	`0-7`	

User level

read-write

Context

general

Example

To set the priority level of port 1 on module 3 to 5:

```
G350-147# set port level 3/1 5

Port 3/1 level set to 5
```

set port mirror

Use the **set port mirror** command to define a port mirroring source-destination pair. The second port receives a copy of all packets sent to and received by the first port.

Syntax

set port mirror source-port *module/port* **mirror-port** *module/port*
                                   sampling *sampling_value* **direction** *direction_value*

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
sampling_value	Specifies whether to allow or disable sampling of the transmissions	`always, disable`	
direction_value	The direction of transmissions to mirror	`rx, tx, both`	

User level

read-write

Context

general

Example

To set up port mirroring from port 3/1 to port 5/1 for all packets sent and received:

```
G350-001# set port mirror source-port 3/1 mirror-port 5/1 sampling always
direction both
```

set port name

Use the **set port name** command to configure a name for a port. If you do not specify a name, the port name displays as `NO NAME`.

Syntax

set port name *module*/*port* [*name*]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
name	The port name	maximum 16-character string	

User level

read-write

Context

general

Example

To name port 21 of module 4 to "arthur"

```
G350-147# set port name 4/21 arthur

Port 4/21 name set.
```

> **NOTE:**
> If you wish to define a name which includes spaces, you must enclose the entire name in quotation marks, for example "new york".

set port negotiation

Use the **set port negotiation** command to enable or disable auto-negotiation on the specified port. Auto-negotiation uses a link negotiation protocol to determine the highest connection parameters available to connected ports and configures the port speed and duplex setting of both ports. This command applies to Fast Ethernet or Gigabit Ethernet ports.

If negotiation is disabled, the user can set the speed and duplex of the Fast Ethernet ports.

Syntax

set port negotiation *module/port* **{enable|disable}**

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
enable	Enable port negotiation protocol		
disable	Disable port negotiation protocol		

User level

read-write

Context

general

Example

To disable autonegotiation on port 1, module 4:

```
G350-147# set port negotiation 4/1 disable

Link negotiation protocol disabled on port 4/1.
```

set port point-to-point admin status

Use the **set port point-to-point admin status** command to manage the connection type of the port.

Syntax

set port point-to-point admin status *module/port admin_status*

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
admin_ status	The connection type of the port	`force-true` — specify that the port is connected point-to-point	
		`force-false` — specify that this port is shared media	
		`auto` — try to automatically detect the connection type of the port	

User level

read-write

Context

general

Example

To specify that the connection type of port 2 is automatically detected:

```
G350-001# set port point-to-point admin status 10/2 auto
```

set port powerinline

Use the **set port powerinline** command to enable or disable the load detection process on the port. The load detection process is used to power devices using Power over Ethernet (PoE).

Syntax

set port powerinline *module_number/port_number* **{enable | disable}**

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The module number		
port_ number	The port number. A range of ports can also be specified. For example, to specify ports 1-3 on module 3, use the syntax 3/1-3.		
enable	Enable load detection on this port		
disable	Disable load detection on this port		

User level

read-write

Context

general

Example

To enable load detection on ports 3/1, 3/2, and 3/3:

```
G350-001# set port powerinline 3/1-3 enable
```

set port powerinline priority

Use the **set port powerinline priority** command to configure the priority level of powering the port.

> **NOTE:**
> Ports with the same priority value will be powered in order of their port index, from lowest to highest.

Syntax

set port powerinline priority *module_number/port_number priority*

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The module number		
port_ number	The port number. A range of ports can be specified. For example, to specify ports 1-3 on module 3, use the syntax 3/1-3.		
priority	The priority level of powering the port	Critical, High, Low	

User level

read-write

Context

general

Example

To set powering priority to High for ports 3/1, 3/2, and 3/3:

```
G350-001# set port powerinline priority 3/1-3 high
```

set port redundancy

Use the **set port redundancy** command to globally enable or disable port redundancy on the device. Using this command does not delete existing redundancy entries.

Syntax

set port redundancy {enable|disable}

Parameters

Parameter	Description	Possible Values	Default Value
enable	Enable port redundancy on the device		
disable	Disable port redundancy on the device		

User level

read-write

Context

general

Example

To enable port redundancy:

```
G350-147# set port redundancy enable

All redundancy schemes are now enabled
```

set port redundancy on/off

Use the **set port redundancy** command to define or remove redundancy pairs. A redundancy port acts as a backup port in case the primary port fails. The port can be any port that does not belong to a LAG or a LAG interface. Ensure that there is **no** redundancy scheme already defined on any of the ports.

Syntax

set port redundancy *prim_module/prim_port second_module/second_port* **{on|off}**
[*redundancy_name*]

Parameters

Parameter	Description	Possible Values	Default Value
prim_module	The module number of the primary port		
prim_port	Primary port of the redundancy scheme		
second_ module	The module number of the backup port		
second_port	Backup port of the redundancy scheme		
on	Keyword specifying to define the redundancy pair		
off	Keyword specifying to remove the redundancy pair		
redundancy_ name	Name for the redundancy scheme		

User level

read-write

Context

general

Example

To specify that port 12 of module 4 acts as a backup port for port 7 on module 3, and to name the redundancy pair red1:

```
G350-147# set port redundancy 3/7 4/12 on red1

red1: Port 4/12 is redundant to port 3/7.
Port redundancy is active - entry is effective immediately
```

> **NOTE:**
> If you wish to define a name which includes spaces, you must enclose the entire name in quotation marks, for example "new york".

set port redundancy-intervals

Use the **set port redundancy-intervals** command to configure the two time constants that determine redundancy switchover parameters.

Syntax

set port redundancy-intervals *min_time_between_switchovers* {*switchback_interval* | none}

Parameters

Parameter	Description	Possible Values	Default Value
min_time_ between_ switchovers	The minimum time, in milliseconds, between redundancy switchovers for each pair	0 – 65000	
switchback_ interval	The period, in milliseconds, the primary port link has to be "up" before the system switches back Specify 0 to indicate the system never switches back Specify 1 to indicate that switchback occurs immediately after the primary port link returns	0 – 65000	
none	Do not switch		

User level

read-write

Context

general

Example

To specify a delay of 100 milliseconds before switching to the backup port, and a requirement that the primary port be up for 20 milliseconds before control is returned:

```
G350-147# set port redundancy-intervals 100 20
```

set port spantree

Use the **set port spantree** command to enable or disable spanning tree for specific ports.

Syntax

set port spantree {enable|disable} [*module*/*port*]

Parameters

Parameter	Description	Possible Values	Default Value
enable	Keyword specifying that spanning tree mode should be enabled		
disable	Keyword specifying that spanning tree mode should be disabled		
module	The module number		
port	The port number		

User level

read-write

Context

general

Example

To enable spanning tree on port 1 of module 3:

```
P480-1# set port spantree enable 3/1

port 3/1 was enabled on spantree
```

set port spantree cost

Use the **set port spantree cost** command to set the spanning tree cost of a port. This value defines which port will be allowed to forward traffic if two ports with different costs cause a loop.

Syntax

set port spantree cost [*module*/*port*] [*value*]

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port	The port number		
value	Number representing the cost. A lower value specifies precedence of a port to forward traffic.	1-65535	

User level

read-write

Context

general

Example

To set the spanning tree cost of port 4/2 to 4096:

```
G350-147# set port spantree cost 4/2 4096

port 4/2 spantree cost is 4096
```

set port spantree force-protocol-migration

Use the **set port spantree force-protocol-migration** command to force the port to send a rapid spanning tree hello packet (Bridge Protocol Data Unit).

Syntax

set port spantree force-protocol-migration *module/port*

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port	The port number		

User level

read-write

Context

general

Example

To force port 2 of module 10 to send a hello packet:

```
G350-001# set port spantree force-protocol-migration 10/2
```

set port spantree priority

Use the **set port spantree priority** command to set the Spanning Tree priority level of a port. This value defines the priority of a port to be blocked in case two ports with the same cost cause a loop.

Syntax

set port spantree priority *module/port value*

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port	The port number		
value	Number representing the priority of the port. 0 is the highest priority. A port with a lower priority will be blocked.	`0-240` (in multiples of 16)	`128`

User level

read-write

Context

general

Example

To set the priority for port 4 of module 3 to 128:

```
G350-147# set port spantree priority 3/4 128

port 3/4 spantree priority is 128
```

set port speed

Use the **set port speed** command to configure the speed of a port or range of ports.

In auto-negotiation mode, the port's speed is determined by auto negotiation. An error message is generated if you try to set the speed when auto negotiation is enabled

Syntax

set port speed *module*/*port* **10MB|100MB|1GB**

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
10MB	Keyword that sets the specified port to a speed of 10 Mbps		
100MB	Keyword that sets the specified port to a speed of 100 Mbps		
1GB	Keyword that sets the specified port to a speed of 1 Gbps		

User level

read-write

Context

general

Example

To configure port 1 on module 4 to 100 Mbps

```
G350-147# set port speed 4/1 100MB

Port 4/1 speed set to 100 Mbps.
```

set port static-vlan

Use the **set port static-vlan** command to assign a static VLAN to a port.

Syntax

set port static-vlan *module*/*port vlan_num*

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port	The port or range of ports which are being bound		
vlan_num	VLAN to bind to the port		

User level

read-write

Context

general

Example

To bind ports 4 through 6 of module 3 to VLAN 2:

```
G350-147# set port static-vlan 3/4-6 2

VLAN 2 is bound to port 3/4
VLAN 2 is bound to port 3/5
VLAN 2 is bound to port 3/6
```

set port trap

Use the **set port trap** command to enable or disable generic SNMP uplink or downlink traps from a port.

Syntax

set port trap *module*/*port* **{enable|disable}**

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
enable	Enable uplink/downlink traps		
disable	Disable uplink/downlink traps		

User level

read-write

Context

general

Example

To enable uplink and downlink traps for port 2 of module 3:

```
G350-147# set port trap 3/2 enable

Port 3/2 up/down trap enabled.
```

set port vlan

Use the **set port vlan** command to set the port VLAN ID (PVID).

> **NOTE:**
> You need to define a VLAN before setting a port VLAN ID.

Syntax

set port vlan *vlan_num module/port*

Parameters

Parameter	Description	Possible Values	Default Value
vlan_num	Number identifying the VLAN		
module	The module number		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		

User level

read-write

Context

general

Example

To set the VLAN ID for port 3/5 to 2:

```
G350-147# set port vlan 2 3/5

VLAN 2 modified.

VLAN Mod/Ports

---- --------------------------

   2 3/5
```

set port vlan-binding-mode

Use the **set port vlan-binding-mode** command to define which VLANs will be bound to the specified port.

Syntax

set port vlan-binding-mode *module/port_list value*

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port_list	The port to bind to VLANs. A list of ports can be entered using the form `n-m`. For example, specify `5/4-8` to indicate module 5, ports 4 through 8.		
value	The type of VLAN binding	`static` - the port supports only the VLANs that are manually configured for this port `bind-to-configured` - the port supports all the VLANs configured on the device	

User level

read-write

Context

general

Example

To specify that ports 5 through 9 on module 5 will only support the VLANs manually configured for those ports:

```
G350-147# set port vlan-binding-mode 5/5-9 static

Set Port vlan binding method:5/5

Set Port vlan binding method:5/6

Set Port vlan binding method:5/7

Set Port vlan binding method:5/8

Set Port vlan binding method:5/9
```

set qos bearer

Use the **set qos bearer** command to permit the setting of VoIP QoS-bearer related parameters for the Media Gateway Processor and VoIP engines. Since Media Gateway Controller and VoIP engines share the same setup, local values are not set to entered values unless **set qos control local** has been executed (refer to <u>set qos control</u> on page 236).

Syntax

set qos bearer {bbedscp | efdscp | 802p | rtpmin | rtpmax} *value*

Parameters

Parameter	Description	Possible Values	Default Value
bbedscp	Keyword specifying that the following value is the BBE differentiated services code point	`0-63`	`43`
efdscp	Keyword specifying that the following value is the EF differentiated services code point	`0-63`	`46`
802p	Keyword specifying that the following value is the 802 priority value	`0-7`	`6`
rtpmin	Keyword specifying that the following value is the RTP port min value. The rtpmin value must be an even number, and the difference between rtpmin and rtpmax must be at least 129.	`2048-65406`	`2048`
rtpmax	Keyword specifying that the following value is the RTP port max value. The rtpmax value must be an odd number and the difference between rtpmax and rtpmin must be at least 129.	`2177-65535`	`65535`
value	A value for the specified keyword		

User level

read-write

Context

general

Example

To set the BBE differentiated services code point to 43:

```
G350-001# set qos bearer bbedscp 43
```

set qos control

Use the **set qos control** command to define the source for QoS control parameters. The source can be either local where the user configures the values via the CLI, or remote in which case the values are obtained from the Media Gateway Controller. The default value is remote.

Syntax

set qos control {local | remote}

Parameters

Parameter	Description	Possible Values	Default Value
local	Keyword that specifies to configure QoS values via the CLI		
remote	Keyword that specifies to obtain QoS values from the media gateway controller		

User level

read-write

Context

general

Example

To specify that QoS values are configured locally via the CLI:

```
G350-001# set qos control local
```

set qos rsvp

Use the **set qos rsvp** command to set the current values for the RSVP parameters of the VoIP engines. The parameters that can be set are enabled or disabled, refresh rate in seconds, failure retry yes or no, and service profile, guaranteed-service or controlled load service.

> **NOTE:**
> The **set qos rsvp command** *will not* take effect unless QoS source setup is `local`.

Syntax

set qos rsvp {enable | disable} | {refresh *secs}* | {failure {retry | noretry}} |
{profile {guaranteed | controlled}}

Parameters

Parameter	Description	Possible Values	Default Value
enable			
disable			
refresh			
secs	The refresh time in seconds	`1-99`	`15`
retry			
noretry			
guaranteed			
controlled			

User level

read-write

Context

general

Example

To set the refresh rate to 15 seconds:

```
G350-001# set qos rsvp refresh 15
```

To specify no retry upon failure:

```
G350-001# set qos rsvp failure noretry
```

To specify controlled load service:

```
G350-001# set qos rsvp profile controlled
```

To enable RSVP:

```
G350-001# set qos rsvp enable
```

set qos rtcp

Use the **set qos rtcp** command to permit the setup of RTCP parameters. The parameters that can be set are enabling or disabling RTCP reporting capability, setting the IP address of the monitor, setting the reporting period, and defining the listening port number.

Syntax

set qos rtcp {{enable|disable} | monIP *ip address* | reportper *seconds* | listenport *portno*}

Parameters

Parameter	Description	Possible Values	Default Value
enable	Keyword that specifies to enable RTCP reporting capability		
disable	Keyword that specifies to disable RTCP reporting capability		
ip address	The IP address of the monitor		
seconds	The reporting period in seconds	5-30	5
portno	The listening port number	1-65535	5005

User level

read-write

Context

general

Example

To set the monitoring IP address to 132.123.23.12:

G350-001# set qos rtcp monip 132.123.23.12

To set the reporting period to 10 seconds:

G350-001# set qos rtcp reportper 10

To set the listening port number to 5000:

G350-001# set qos rtcp listenport 5000

To enable reporting capability:

G350-001# set qos rtcp enable

set qos signal

Use the **set qos signal** command to provide the means to set up QoS signaling parameters, DSCP or 802.1Q, for the Media Gateway Processor.

Syntax

set qos signal {dscp | 802p} *value*

Parameters

Parameter	Description	Possible Values	Default Value
dscp	Keyword that specifies to setup DSCP parameters		
802p	Keyword that specifies to setup 802.1Q parameters		
value	Parameter value	For dscp: `0-63` For 802p: `0-7`	For dscp: `34` For 802p: `7`

User level

read-write

Context

general

Example

To set up DSCP parameter 43:

```
G350-001# set qos signal dscp 43
```

set radius authentication

Use the **set radius authentication** command to enable or disable RADIUS authentication.

Syntax

set radius authentication {enable | disable}

Parameters

Parameter	Description	Possible Values	Default Value
enable	Keyword specifying to enable RADIUS authentication		
disable	Keyword specifying to disable RADIUS authentication (default)		

User level

read-write

Context

general

Example

To enable RADIUS authentication:

```
G350-001# set radius authentication enable
```

set radius authentication retry-number

Use the **set radius authentication retry-number** command to set the number of times to resend an access request when there is **no** response.

Syntax

set radius authentication retry-number *number*

Parameters

Parameter	Description	Possible Values	Default Value
number	The number of times to resend an access request if there is no response	1–65535	

User level

read-write

Context

general

Example

To set the number of retries for RADIUS authentication to 3:

```
G350-147# set radius authentication retry-number 3
```

set radius authentication retry-time

Use the **set radius authentication retry-time** command to set the time to wait before resending an access request.

Syntax

set radius authentication retry-time *seconds*

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The time in seconds to wait before resending an access request	1–65535	

User level

read-write

Context

general

Example

To specify to wait 5 seconds before retrying an access request:

```
G350-147# set radius authentication retry-time 5
```

set radius authentication secret

Use the **set radius authentication secret** command to enable secret authentication.

Syntax

set radius authentication secret *string*

Parameters

Parameter	Description	Possible Values	Default Value
string	The text password		

User level

admin

Context

general

Example

To set the RADIUS authentication password to `hush`:

```
G350-147# set radius authentication secret hush
```

set radius authentication server

Use the **set radius authentication server** command to set the IP address of the primary or secondary RADIUS Authentication server.

Syntax

set radius authentication server *ip_addr* **{primary | secondary}**

Parameters

Parameter	Description	Possible Values	Default Value
ip_addr	IP address of RADIUS authentication server		
primary	Keyword that specifies to set the primary authentication server (default)		
secondary	Keyword that specifies to set the secondary authentication server		

User level

read-write

Context

general

Example

To set the primary RADIUS authentication server IP address to be 192.40.12.36:

```
G350-147# set radius authentication server 192.40.12.36 primary
```

set radius authentication udp-port

Use the **set radius authentication udp-port** command to set the RFC 2138 approved UDP port number.

Normally, the UDP port number should be set to its default value of 1812. Some early implementations of the RADIUS server used port number 1645.

Syntax

set radius authentication udp-port *number*

Parameters

Parameter	Description	Possible Values	Default Value
number	The UDP port number		1812

User level

read-write

Context

general

Example

To set the UDP port number to 1645:

```
G350-147# set radius authentication udp-port number 1645
```

set reset-times

Use the **set reset-times** command to set reset times.

Syntax

set reset-times { {total-search | primary-search} *minutes* | transition-point *value* }

Parameters

Parameter	Description	Possible Values	Default Value
total-search	Set the total search timer		
primary-search	Set the primary search timer		
minutes	Number of minutes	1–60	total-search: 30 primary-search: 1
transition-point	Set the entry point		
value		1–4	1

User level

read-write

Context

general

Example

To set the primary search timer to 20 minutes:

```
G350-011# set reset-times primary-search 20
```

set snmp community

Use the **set snmp community** command to set or modify the media gateway's SNMP community strings.

Syntax

set snmp community read-only | read-write | trap [*community_string*]

Parameters

Parameter	Description	Possible Values	Default Value
read-only	Keyword specifying the read-only access level		
read-write	Keyword specifying the read-write access level		
trap	Keyword specifying an snmp trap		
community_ string	Specifies the name of the SNMP community. If no community string is specified, the community string configured for that access type is cleared.		

User level

read-write

Context

general

Example

To set the read-only community string to 'read':

```
G350-001# set snmp community read-only read

SNMP read-only community string set
```

set snmp retries

Use the **set snmp retries** command to set the number of times to attempt to communicate with a particular node.

Syntax

set snmp retries *number*

Parameters

Parameter	Description	Possible Values	Default Value
number	The number of retry attempts to make	1 – 100000	

User level

read-write

Context

general

Example

To set the system to make 100 retry attempts:

```
G350-001# set snmp retries 100
```

set snmp timeout

Use the **set snmp timeout** command to specify the time to wait for a response before retrying the communication.

Syntax

set snmp timeout *time*

Parameters

Parameter	Description	Possible Values	Default Value
time	The number of seconds to wait	1 – 100000	

User level

read-write

Context

general

Example

To set the system to wait 60 seconds before retrying communications:

```
G350-001# set snmp timeout 60
```

set snmp trap

Use the **set snmp trap** command to define an SNMPv1 trap receiver, or configure its settings.

Syntax

set snmp trap *receiver* **{enable|disable}** [*categorylist*]

Parameters

Parameter	Description	Possible Values	Default Value
receiver	The IP address of the trap receiver		
enable	Keyword specifying that the trap receiver is enabled		
disable	Keyword specifying that the trap receiver is disabled (this is the default		

Parameter	Description	Possible Values	Default Value
categorylist	List of trap categories to be enabled or disabled for the specified trap receiver.	`All`— all traps affected by enable/disable `config fault, trafic_ treshold, module_De- Enrollment, module_ Enrollment, delete_SW_ redundancy_entry, create_SW_redundancy_ entry, temperature_ warninggeneral_ threshold, cam_change, duplicate_ip, ip_vlan_ violation, link_ aggregation_connection_ fault, link_aggregation_ connection_return,link_ aggregation_partial_ fault, link_aggregation_ partial_return,delete_ lagcreate_new_lag, active_policy_list_ change, policy_access_ control_violation,BUPS_ module_fault, BUPS_ module_fault_return, BUPS_fans_module_fault, BUPS_fans_module_fault_ return, fans_module_ fault, fans_module_ fault_returncascade_up_ connection_fault, cascade_up_connection_ fault_return,cascade_ down_connection_fault_ return, cascade_down_ connection_fault`	

User level

admin

Context

general

set spantree default-path-cost

Use the **set spantree default-path-cost** command to set the version of the spanning tree default path cost used by this bridge.

Syntax

set spantree default-path-cost *pathcost*

Parameters

Parameter	Description	Possible Values	Default Value
pathcost	The version of the spanning tree default path cost	`common-spanning-tree-` compatible with IEEE802.1D standard	
		`rapid-spanning-tree-` compatible with IEEE802.1W standard	

User level

read-write

Context

general

Example

To use the rapid-spanning-tree default path cost:

```
G350-011# set spantree default-path-cost rapid-spanning-tree

Spanning tree default path costs is set to rapid spanning tree.
```

set spantree enable/disable

Use the **set spantree** command to enable or disable the spanning-tree algorithm for the media gateway.

> **NOTE:**
> When you disable spanning tree, blocking ports are disabled in order to prevent loops in the network. As a result, you need to wait 30 seconds before disabling spanning tree if you reset the media gateway, enable spanning tree, or insert a new station.

Syntax

set spantree {enable|disable}

Parameters

Parameter	Description	Possible Values	Default Value
enable	Keyword specifying to enable the spanning-tree algorithm		
disable	Keyword specifying to disable the spanning-tree algorithm		

User level

read-write

Context

general

Example

To enable spanning tree:

```
G350-147# set spantree enable

bridge spanning tree enabled.
```

To disable spanning tree:

```
G350-147# set spantree disable

bridge spanning tree disabled.
```

set spantree forward-delay

Use the **set spantree forward-delay** command to specify the time used when transferring the state of a port to the forwarding state.

Syntax

set spantree forward-delay *seconds*

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The value must exceed (Bridge Max Age / 2). The recommended value is 15	4-30	

User level

read-write

Context

general

Example

To specify a forward delay of 25 seconds:

```
G350-001# set spantree forward-delay 25

bridge forward delay is set to 25.
```

set spantree hello-time

Use the **set spantree hello-time** command to specify the time interval between the generation of configuration BPDU's by the root.

Syntax

set spantree hello-time *seconds*

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The value must not exceed (Bridge Max Age / 2) - 1. The recommended value is 2	1-10	

User level

read-write

Context

general

Example

To specify spanning tree hello time is 2 seconds:

```
G350-401# set spantree hello-time 2

bridge hello time is set to 2.
```

set spantree max-age

Use the **set spantree max-age** command to specify the time to keep an information message before it is discarded.

Syntax

set spantree hello-time *seconds*

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The value must be between 2 * (Bridge-hello-time + 1) and 2 * (Bridge-forward-delay - 1). The recommended value is 20	6-40	

User level

read-write

Context

general

Example

To keep information messages for 20 seconds before discarding:

```
G350-011# set spantree max-age 20

bridge max age is set to 20.
```

set spantree priority

Use the **set spantree priority** command to set the bridge priority for the spanning tree.

Syntax

set spantree priority *bridge_priority*

Parameters

Parameter	Description	Possible Values	Default Value
bridge_ priority	The number representing the priority of the bridge	0 (high) - 65535(low) in increments of 4096	

User level

read-write

Context

general

Example

To set the bridge priority to 4096:

```
G350-001# set spantree priority 4096

Bridge priority set to 4096.
```

set spantree tx-hold-count

Use the **set spantree tx-hold-count** command to set the value in packets used by the spanning tree in order to limit the maximum number of BPDU's transmitted during a hello-time period.

Syntax

set spantree tx-hold-count *rate*

Parameters

Parameter	Description	Possible Values	Default Value
rate	Recommended value is 3	1-10	

User level

read-write

Context

general

Example

To limit the number of hello packets to 2:

```
G350-011# set spantree tx-hold-count 2

tx hold count is set to 2.
```

set spantree version

Use the **set spantree version** command to set the version of the spanning tree protocol used by the device.

Syntax

set spantree version *version*

Parameters

Parameter	Description	Possible Values	Default Value
version	Version of the spanning tree protocol	`common-spanning-tree` — compatible with IEEE802.1D standard `rapid-spanning-tree`— compatible with IEEE802.1W standard	

User level

read-write

Context

general

Example

To use the rapid-spanning-tree version of spanning tree:

```
G350-101# set spantree version rapid-spanning-tree

Spanning tree version is set to rapid spanning tree.
```

set sync interface

Use the **set sync interface** command to define the specified module and port as a potential source for clock synchronization for the media gateway.

Syntax

set sync interface {primary | secondary} *mmID* [*portID*]

Parameters

Parameter	Description	Possible Values	Default Value
primary	Keyword that specifies normal failover		
secondary	Keyword that specifies to override normal failover, generate a trap, and assert a fault		
mmID	The Media Module ID number of a stratum clock source, of the form "vn" where "n" is the slot number		
portID	Port or port range for an ISDN clock source candidate		

User level

read-write

Context

general

Example

To specify that ports 1, 3, 5, 6, 7, and 8 of Media Module 2 are used for normal failover:

```
G350-001# set sync interface primary v2 1,3,5-8
```

set sync source

Use the **set sync source** command to specify which clock source is the active clock source. The identity of the current synchronization source is not stored in persistent storage.

Syntax

set sync source {primary | secondary | local}

Parameters

Parameter	Description	Possible Values	Default Value
primary	Keyword specifying to set the primary clock source to be active		
secondary	Keyword specifying to set the secondary clock source to be active, and the primary clock source on standby		
local	Keyword specifying to set the local clock to be active		

User level

read-write

Context

general

Example

To set the primary clock as the clock source:

```
G350-001# set sync source primary
```

If the secondary interface is not configured, the sync source set operation will fail.

```
G350-001# set sync source secondary
           Operation Failed
Cannot set the secondary clock source to be the active clock source
```

set sync switching

Use the **set sync switching** command to toggle automatic sync source switching.

Syntax

set sync switching {enable | disable}

Parameters

Parameter	Description	Possible Values	Default Value
enable	Enable automatic sync source switching		
disable	Disable automatic sync source switching		

User level

read-write

Context

general

Example

To enable sync source switching:

```
G350-001# set sync switching enable
```

set system contact

Use the **set system contact** command to set the contact information for this media gateway system.

Syntax

set system contact [*string*]

Parameters

Parameter	Description	Possible Values	Default Value
string	The contact name string should be typed inside double quotes. The name is cleared if you leave this field blank.		

User level

read-write

Context

general

Example

To set the descriptive contact of the system to "Larry Williams"

```
G350-147# set system contact "Larry Williams"

*** Set system contact ***

system contact set
```

set system location

Use the **set system location** command to set the location information for this media gateway system.

Syntax

set system location [string]

Parameters

Parameter	Description	Possible Values	Default Value
string	The location name string should be typed inside double quotes. The location is cleared if you leave this field blank.		

User level

read-write

Context

general

Example

To set the descriptive location of the system to "tech-support":

```
G350-147# set system location "tech-support"

*** Set system location ***

system location set
```

set system name

Use the **set system name** command to specify the name of this media gateway system.

Syntax

set system name [*string*]

Parameters

Parameter	Description	Possible Values	Default Value
string	The system name string should be typed inside quotes. The name is cleared if you leave this field blank.		

User level

read-write

Context

general

Examples

To set the descriptive name of the system to "G350-HQ":

```
G350-001# set system name "G350-HQ"

*** Set system name ***

system name set
```

set terminal recovery password

Use the **set terminal recovery password** command to enable or disable the recovery password.

> **NOTE:**
> This command can only be issued via the console port (not via a modem port).

Syntax

set terminal recovery password *action*

Parameters

Parameter	Description	Possible Values	Default Value
action	The state of the recovery password	enable, disable	

User level

admin

Context

general

Example

To disable the recovery password:

```
G350-001(super)# set terminal recovery password disable
```

set trunk

Use the **set trunk** command to configure the VLAN tagging mode of a port.

Syntax

set trunk *module*/*port* {off|dot1q}

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		
off	Keyword that specifies to force the port to become a non-tagging port and persuade the neighboring port to become a non-tagging port. The port becomes a non-tagging port even if the neighbor port does not agree to become a non-tagging port.		
dot1q	Keyword that specifies IEEE 802.1q tagging on a Fast Ethernet or Gigabit Ethernet port		

User level

read-write

Context

general

Example

To configure 802.1q VLAN tagging for port 3 of module 3:

```
G350-001# set trunk 3/3 dot1q

Dot1Q VLAN tagging set on port 3/3.
```

set utilization cpu

Use the **set utilization cpu** command to enable CPU utilization measurements.

Syntax

set utilization cpu *module*

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		

User level

read-write

Context

general

Example

To enable CPU utilization measurements on module 10:

```
G350-100# set utilization cpu 10

CPU utilization is set on module 10
```

set vlan

Use the **set vlan** command to create or modify a VLAN.

Syntax

set vlan *vlan_id* [name *vlan_name*]

Parameters

Parameter	Description	Possible Values	Default Value
vlan_id	The VLAN number	1 – 3071	
name	Keyword that allows naming or renaming the VLAN		
vlan_name	The VLAN name	string from 1 – 32 characters	

User level

read-write

Context

general

Example

To create VLAN number 3, named "gregory":

```
G350-147# set vlan 3 name gregory

VLAN id 3, vlan-name gregory created.
```

> **NOTE:**
> If you wish to define a name which includes spaces, you must enclose the entire name in quotation marks, for example "new york".

set web aux-files-url

Use the **set web aux-files-url** command to specify the URL of the Web server containing the online help files and Java plug-in.

Syntax

set web aux-files-url *url*

Parameters

Parameter	Description	Possible Values	Default Value
url	The IP address and directory name of the Web server		

User level

read-write

Context

general

Example

To set the URL of the Web server to 176.2.3.66/DMweb:

```
G350-001# set web aux-files-url http://176.2.3.66/DMweb
```

show banner login

Use the **show banner login** command to display the banner that is displayed before the login prompt.

Syntax

show banner login

User level

admin

Context

general

Example

To display the banner that will be displayed before the login prompt:

```
G350-001(super)# show banner login
```

Welcome to G350 Media Gateway

FW version 0.11.0

show banner post-login

Use the **show banner post-login** command to display the banner displayed after a user logs in successfully.

Syntax

show banner post-login

User level

admin

Context

general

Example

To display the banner that will be shown after a successful login:

```
G350-001(super)# show banner post-login

*** Welcome to the G350 Media Gateway CLI Interface ***
For questions, please refer to the CLI Reference Guide
```

show boot bank

Use the **show boot bank** command to display the software bank from which the device boots at the next boot process.

Syntax

show boot bank

User level

read-only

Context

general

Example

To display the bank from which booting currently takes place:

```
G350-001> show boot bank

Boot bank set to bank-a
```

show cam

Use the **show cam** command to display the CAM table entries for a specific module and port. If no module or port is specified, the system displays all CAM table entries.

> **NOTE:**
> MACs associated with LAGs appear under the LAG ID, not under the LAG port.

Syntax

show cam [*module*[/*port*]]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module		

User level

read-only

Context

general

Example

```
G350-001> show cam 3/33

Total Matching CAM Entries Displayed = 128

Dest MAC/Route Dest vlan Destination Ports
------------------ ---- -----------------
08:00:20:c6:98:5f   1    3/33
08:00:20:c4:c8:51   1    3/33
00:00:5e:00:01:02   1    3/33
00:01:02:de:96:2f   1    3/33
00:02:2d:47:18:67   1    3/33
00:02:2d:48:18:29   1    3/33
00:04:0d:01:b0:00   1    3/33
...
```

show cam mac

Use the **show cam mac** command to display a specific mac entry in the CAM table for a specific VLAN or for all VLANs.

Syntax

show cam mac *mac_address* [*vlan_number*]

Parameters

Parameter	Description	Possible Values	Default Value
mac_ address	The MAC entry to display		
vlan_ number	The VLAN to display		

User level

read-only

Context

general

Example

To display all entries in VLAN 1 that match the MAC address 00:40:c2:00:66:b0 :

```
G350-001> show cam mac 00:40:c2:00:66:b0 1
```

show cam vlan

Use the **show cam vlan** command to display all MAC entries in the CAM table for a specific VLAN.

Syntax

show cam vlan *vlan_number*

Parameters

Parameter	Description	Possible Values	Default Value
vlan_ number	VLAN for which to display the CAM table		

User level

read-only

Context

general

show capture

Use the **show capture** command to display information about the currently configured settings for the packet sniffing service.

> **NOTE:**
> Timestamps in the capture file are based on the capture start time that is displayed in the output of the show capture command.

Syntax

show capture

User level

read-only

Context

general

Example

```
G350-001>show capture

The sniffing service is enabled

Capturing started at:

21:22:01, February 21, 2003 / 7,9:55:55 (uptime)

stopped at: not-stopped

Buffer size: 1000 KB

Buffer mode is cyclic

Maximum number of bytes captured from

each frame: 128

Packet filter: Capture List 503

Number of frames in buffer: 200

Size of capture file: 50 KB (5%)
```

show capture-buffer hex

Use the **show capture-buffer hex** command to display the contents of the packet sniffing buffer as a hex dump.

Syntax

show capture-buffer hex [*frame_id*]

Parameters

Parameter	Description	Possible Values	Default Value
frame_id	The ID of the first packet to display in the output		

User level

read-only

Context

general

Example

```
G350-001> show capture-buffer hex 5
Frame number: 5
Frame time: 01/01/1970-23:45:09.10001
Time relative to first frame: 0, 0:0:3.021141
Frame Length: 68 bytes (0x44)
Capture Length: 68 bytes (0x44)

00000: d4c3 b2a1 0200 0400 0000 0000 0000 0000 ................
00010: ffff 0000 0100 0000 348c 913e e5df 0e00 ........4..>....
00020: 2800 0000 2800 0000 2053 454e 4401 2053 (...(... SEND. S
00030: 454e 4401 c021 0100 001a 0506 0b87 16c2 END..!..........
00040: 0d03 0611 ....

Frame number: 6
Frame time: 01/01/1970-23:45:09.100012
Time relative to first frame: 0, 0:0:3.021142
Frame Length: 256 bytes (0x44)
Capture Length: 128 bytes (0x80)

0000000: d4c3 b2a1 0200 0400 0000 0000 0000 0000 ................
0000010: ffff 0000 0100 0000 ea71 8e3e e6ed 0b00 .........q.>....
0000020: e300 0000 e300 0000 ffff ffff ffff 0010 ................
0000030: a498 97ab 0800 4500 00d5 3a7d 0000 8011 ......E...:}....
0000040: ea9a 0a00 0002 0a00 00ff 008a 008a 00c1 ................

--type q to quit or space key to continue--
```

> **NOTE:**
> The right side of the hex dump is the octets converted to characters using ascii code.
> Octets smaller than 32 or greater than 126 are displayed as a dot (.).

show composite-operation

Use the **show composite-operation** command to display information about a specific composite-operation. Use the command without a parameter to display information about all composite-operations.

Syntax

show composite-operation [*composite_operation_index*]

Parameters

Parameter	Description	Possible Values	Default Value
composite_ operation_ index	The composite-operation to display	0 – 19	

User level

read-write

Context

ip access-control-list, ip access-control-list ip-rule, ip qos-list, ip qos-list ip-rule, ip qos-list composite-operation

Example

To display information about composite-operation 13:

```
G350-001(QoS 440)# show composite-operation 13

Index Name                 CoS       DSCP      Trust
----- -------------------- --------- --------- ------------
13    HSPackets            cos3      1         No
```

show contact-closure

Use the **show contact-closure** command to view the status of a contact closure relay. If no relay is specified, the status of all relays is displayed.

Syntax

show contact-closure [module/port:*relay*]

Parameters

Parameter	Description	Possible Values	Default Value
module/ port	Contact closure module/port to display	7/20	
relay	Relay number	1,2	

User level

read-only

Context

general

Example

To display information about all contact closure relays:

```
G350-001> show contact-closure
Module port relay admin           pulse-duration  status
------ ---- ----- --------------- --------------- ------
7      20   1     call-controller 3 seconds       triggered
7      20   2     manual          toggle          off
```

To display information about contact closure relay 2:
```
G350-001> show contact-closure 7/20:2
Module port relay admin           pulse-duration  status
------ ---- ----- --------------- --------------- ------
7      20   2     manual          toggle          off
```

show controllers

Use the **show controllers** command to display status information about a controller interface.

Syntax

show controllers *module/port*

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port	The port number		

User level

read-write

Context

general

Example

To display controller status information:

```
G350-001# show controllers

T1 5/1 is down.
Cablelength is long gain26 0db.
Transmitter is sending remote alarm.
Receiver has loss of signal.
Framing is SF, Line Code is AMI, Clock Source is Line.
Data in current interval (802 seconds elapsed):
0 Line Code Violations, 0 Path Code Violations
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 802 Unavail Secs
Total Data (last 4 15 minute intervals):
10 Line Code Violations, 0 Path Code Violations
0 Slip Secs, 0 Fr Loss Secs, 1 Line Err Secs, 0 Degraded Mins
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 3600 Unavail Secs
```

show controllers remote

Use the **show controllers remote** command to display controller statistics from a peer station. If the Facility Data Link (FDL) for this controller is set to att, the system displays the status (up or down) of the line. Otherwise, the system displays statistics for the controller. To set the Facility Data Link, refer to fdl on page 98.

Syntax

show controllers remote *module/port fdl_data_type*

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port	The port number		
fdl_data_ type	The type of statistics to display	1h-data, errored-esf-data, enhanced-1h, enhanced-c1-configuration	

User level

read-write

Context

general

Example

To display 1h-data statistics for the T1 controller on port 1 of module 5:

```
G350-001# show controllers remote 5/1 1h-data
```

show copy status

Use the **show copy status** command to display the status of the `copy running-config startup-config` operation.

Syntax

show copy status

User level

read-write

Context

general

Example

To display the status of the current copy operation:

```
G350-001# show copy status

Module #10
===========
Module          : 10
Source file     : startup-config
Destination file : running-config
Host            : -
Running state   : Idle
Failure display : (null)
Last warning    : No-warning
```

show csu loopbacks

Use the **show csu loopbacks** command to view the state of the server SAT-controlled CSU loopbacks on a media module.

Syntax

show csu loopbacks *mmID*

Parameters

Parameter	Description	Possible Values	Default Value
mmID	The Media Module ID		

User level

read-only

Context

general

Example

To view the state of loopbacks on Module v2:

```
G350-001>show csu loopbacks v2

CSU LOOPBACK STATUS
----------------------------------
Towards DTE Port-
          Digital Diagnostics: OFF
Towards Network-
          Payload: OFF
          Line   : OFF
```

show csu status

Use the **show csu status** command to view the status of the CSU on a media module.

Syntax

show csu status *mmID*

Parameters

Parameter	Description	Possible Values	Default Value
mmID	The Media Module ID		

User level

read-only

Context

general

Example

To display the status of the CSU on module 4:

```
G350-001# show csu status v4

TI version of csu status:

CSU NETWORK INTERFACE STATUS
---------------------------------------------------------------------
LOS:ON                        OOF:    OFF
EER:OFF                       LOOPD:  OFF
AIS:OFF                       PDV:    OFF
LOF:OFF                       YEL:    ON

E1 version of csu status:

CSU NETWORK INTERFACE STATUS
---------------------------------------------------------------------
LOS:ON                        OOF:OFF
EER:OFF                       LOOPD:OFF
AIS:OFF                       PDV:OFF
LOF:OFF                       LMA:OFF
RMA:OFF                       LCM:ON
```

Output fields

Name	Description
LOS	Loss of signal
OOF	Out of frame
EER	Excessive error rate
LOF	Loss of frame
AIS	Alarm indication signal
YEL	Yellow
PDV	Pulse density violation (same as BPV)
LOOPD	Looped
LMA	Local multiframe alignment
RMA	Remote multiframe alignment
LCM	Loss of CRC multiframe

show dev log file

Use the **show dev log file** command to display the encrypted device's log file.

Syntax

show dev log file

User level

read-write

Context

general

show download software status

Use the **show download software status** command to display the status of the current Device Manager software download process as the software is being loaded into the module.

Syntax

show download software status [*module_number*]

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The number of the module for which to display information	0 – 10	

User level

read-only

Context

general

Example

To display the status of a device software download into module #1:

```
G350-001> show download software status 1

Module #1
===========
Module          : 1
Source file     : d:\p340sw\gt-ml\3.5.18\p340.web
Destination file : EW_Archive
Host            : 149.49.70.61
Running state   : Writing ...
Failure display : (null)
Last warning    : No-warning
```

show download status

Use the **show download status** command to display the status of the current configuration file download process, as the file is being loaded into the device.

Syntax

show download status [*module_number*]

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The number of the module for which to display information	1 – 10	

User level

read-only

Context

general

Example

To display the status of a configuration file download for module 10:

```
G350-001> show download status 10
```

show dscp-table

Use the **show dscp-table** command to display a specific entry in the DSCP table. If no DSCP index is specified, the entire DSCP table is displayed.

Syntax

show dscp-table [*index*]

Parameters

Parameter	Description	Possible Values	Default Value
index	The DSCP entry		

User level

read-write

Context

ip qos-list, ip qos-list dscp-table, ip qos-list ip-rule

Example

To display the entire DSCP table:

```
G350-011(QoS 444)# show dscp-table

Trust configuration is trust-cos

DSCP    Action              Precedence    Name
----  --------------------  ----------  ------------
0    No-Change             mandatory   DSCP#0
1    No-Change             mandatory   DSCP#1
2    No-Change             mandatory   DSCP#2
3    No-Change             mandatory   DSCP#3
4    No-Change             mandatory   DSCP#4
5    No-Change             mandatory   DSCP#5
6    No-Change             mandatory   DSCP#6
7    No-Change             mandatory   DSCP#7
8    No-Change             mandatory   DSCP#8
9    No-Change             mandatory   DSCP#9
10   No-Change             mandatory   DSCP#10
11   No-Change             mandatory   DSCP#11
.
.
.
63                         No-Change             mandatory   DSCP#63
```

show ds-mode

Use the **show ds-mode** command to display the current mode of the controller.

Syntax

show ds-mode

User level

read-only

Context

general

Example

To display the ds-mode:

```
G350-001> show ds-mode

Current ds-mode:    T1
Configured ds-mode: T1
```

show dynamic-cac

Use the **show dynamic-cac** command to display information about the most recent dynamic CAC event.

Syntax

show dynamic-cac

User level

read-only

Context

general

Example

```
G350-001> show dynamic-cac
Current RBBL : 256 kbps
event : 0 Days, 1:21:00
Last event BBL : 256 kbps
```

show erase status

Use the **show erase status** command to display the status of the `erase startup-config` operation.

Syntax

show erase status

User level

read-write

Context

general

show etr

Use the **show etr** command to view the status of Emergency Transfer Relay (ETR) mode.

> **NOTE:**
> In ETR mode, the TRK and LINE 1 ports are connected. All other telephone ports stop
> operating.

Syntax

show etr

User level

read-only

Context

general

Example

To display the ETR status:

```
G350-001> show etr
Module: 7
Admin State: auto
Module status: in service
Trunk line  line status
----- ----  -----------
1     2     off hook
```

show faults

Use the **show faults** command to display the active faults for the media gateway.

Syntax

show faults

User level

read-only

Context

general

Example

To display the current fault list:

```
G350-001> show faults

CURRENTLY ACTIVE FAULTS

------------------------------------------------------------------

-- Hardware Faults --

        + Multiple fans outage, 01/01-18:26:35.00

        + PSU fan brief outage, 01/01-18:26:35.00

-- MGP Faults --

        + No controller found, 01/01-00:00:01.00
```

show fragment

Use the **show fragment** command to display information about IP packets that are passing from or to the router.

> **NOTE:**
> No IP reassembly is performed on packets in transit through the router.

Syntax

show fragment

User level

read-only

Context

general

Example

To display fragmented IP packets information:

```
G350-001> show fragment

Max number of concurrently reassembled packets is 100
Max number of fragments per packet is 64
Fragment timeout is 10 sec
Number of packets waiting to be reassembled is 0
Number of successfully reassembled packets is 11954
Number of packets which failed to be reassembled is 0
Number of packets which overflowed the database is 0
```

show frame-relay fragment

Use the **show frame-relay fragment** command to display frame-relay fragmentation statistics and configuration on all PVCs, all PVCs associated with an interface, or a specific PVC.

> **NOTE:**
> When statistics for multiple PVCs are shown, they are sorted first by interface type and number, and then by DLCI.

Syntax

show frame-relay fragment [interface *interface_name*|*dlci_number*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ name	Type and identifier of the interface enclosed in quotes		
dlci_ number	The PVC identifier	16-1007	

User level

read-only

Context

general

Example

To show details on configuration and statistics for fragmentation on all PVCs associated with a Serial interface:

```
G350-001> show frame-relay fragment interface "Serial 5/1"
```

show frame-relay lmi

Use the **show frame-relay lmi** command to display LMI statistics for a particular interface or for all interfaces. The output displayed differs depending on the type of interface.

Syntax

show frame-relay lmi [interface *interface_name*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ name	The name of the interface		

User level

read-only

Context

general

Example

To display LMI statistics for all interfaces:

```
G350-001# show frame-relay lmi

LMI Statistics for interface Serial 1 (Frame Relay DTE)

LMI TYPE = ANSI Annex D  Invalid Unnumbered info     0,    Invalid Prot Disc
0  Invalid dummy Call Ref        0,      Invalid Msg Type          0 Invalid
Status Message       0,      Invalid Lock Shift         0   Invalid
Information ID       0,      Invalid Report IE Len        0  Invalid Report
Request      0,     Invalid Keep IE Len       0 Num Status Enq. Sent
0,     Num Status msgs Rcvd        0 Num Update Status Rcvd        0,     Num
Status Timeouts         0

LMI Statistics for interface Serial 2 (Frame Relay DTE)

LMI TYPE = Auto Detect Mode  Invalid Unnumbered info       0,     Invalid Prot
Disc         0 Invalid dummy Call Ref       0,      Invalid Msg Type
0  Invalid Status Message       0,      Invalid Lock Shift        0  Invalid
Information ID        0,     Invalid Report IE Len        0  Invalid Report
Request      0,    Invalid Keep IE Len        0 Num Status Enq. Sent
0,     Num Status msgs Rcvd        0 Num Update Status Rcvd        0,     Num
Status Timeouts         0
```

#	Item	Description	Comment
1.		LMI Statistics	Signaling or LMI specification: ANSI, or ITU-T.
2.		Invalid Unnumbered info	Number of received LMI messages with invalid unnumbered information field.
3.		Invalid Prot Disc	Number of received LMI messages with invalid protocol discriminator.
4.		Invalid dummy Call Ref	Number of received LMI messages with invalid dummy call references.
5.		Invalid Msg Type	Number of received LMI messages with invalid message type.
6.		Invalid Status Message	Number of received LMI messages with invalid status message.
7.		Invalid Lock Shift	Number of received LMI messages with invalid lock shift type.
8.		Invalid Information ID	Number of received LMI messages with invalid information identifier.
9.		Invalid Report IE Len	Number of received LMI messages with invalid Report IE Length.
10.		Invalid Report Request	Number of received LMI messages with invalid Report Request.
11.		Invalid Keep IE Len	Number of received LMI messages with invalid Keep IE Length.

1 of 2

#	Item	Description	Comment
12.	Num Status Enq. Sent	Number of LMI status inquiry messages sent.
13.	Num Status Msgs Rcvd	Number of LMI status messages received.
14.	Num Update Status Rcvd	Number of LMI asynchronous update status messages received.
15.	Num Status Timeouts	Number of times the status message was not received within the keepalive time value.
16.	Num Status Enq. Rcvd	Number of LMI status enquiry messages received.
17.	Num Status Msgs Sent	Number of LMI status messages sent.
18.	Num Status Enq. Timeouts	Number of times the status enquiry message was not received within the T392 DCE timer value.
19.	Num Update Status Sent	Number of LMI asynchronous update status messages sent.

2 of 2

show frame-relay map

Use the **show frame-relay map** command to display a summary table of Frame Relay sub-interfaces and DLCIs associated with the sub-interfaces.

Syntax

show frame-relay map

User level

read-only

Context

general

Example

To display information about the Frame Relay sub-interfaces:

```
G350-001> show frame-relay map

Showing 2 frame-relay map entries
Interface                      State    Interface Type DLCI DLCI Type
DLCI State
----------- ------ -------------- ---- --------- ------
Serial 1.1   down                         point-to-point   17 broadcast
deleted
Serial 1.1   down                         point-to-point   18 broadcast
deleted
```

show frame-relay pvc

Use the **show frame-relay pvc** command to display detailed PVC information. The information can be shown for all PVCs known to the device, for all PVCs learned on an interface, or for a specific PVC (DLCI). Note that in this case, all PVCs with the same DLCI are displayed. When statistics for multiple PVCs are shown, they are sorted first by interface type and number, and then by DLCI.

Syntax

show frame-relay pvc [interface *interface_name* | *dlci_number*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ name	Type and identifier of the interface enclosed in quotes		
dlci_number	The PVC identifier	16–1007	

User level

read-only

Context

general

Example

To show details on configuration and statistics for all PVCs associated with interface "Serial 1.1":

```
G350-001> show frame-relay pvc interface "Serial 1.1"

Showing 1 PVCPVC Statistics for interface Serial 1 (Frame Relay DTE) DLCI =
17, USAGE = LOCAL ,
PVC STATUS = DELETED ,
INTERFACE = Serial 1.1
input pkts          0,
output pkts         0,
dropped pkts        0
in bytes            0,
out bytes           0
in FECN pkts        0
in BECN pkts        0
in DE pkts          0,
out DE pkts         0

pvc create time 00:05:17,
last time pvc status changed 00:05:07  traffic-shaping configured by map-class
foobar
cir             70000,
bc               7000,
be                  0  interval          100,
current bc       7000,
current be          0  pkts              0,
delayed pkts        0,
dropped pkts        0  bytes             0,
delayed byts        0,
dropped byts        0  de pre mark is on,
threshold is 20% of bc  end-to-end fragmentation is on,
fragment size is 88PVC Statistics for interface Serial 2 (Frame Relay DTE)
```

show frame-relay pvc brief

Use the **show frame-relay pvc brief** command to display information on all PVCs known to the device, in a table form.

Syntax

show frame-relay pvc brief

User level

read-only

Context

general

Example

To show a table of all PVCs known to the device:

```
G350-011> show frame-relay pvc brief
```

show frame-relay traffic

Use the **show frame-relay traffic** command to display frame-relay protocol statistics, including ARP requests and replies sent and received over Frame Relay interfaces.

Syntax

show frame-relay traffic

User level

read-only

Context

general

Example

To display frame-relay statistics:

```
G350-001> show frame-relay traffic

Frame Relay statistics:
ARP requests sent      0,    ARP replies sent      0
ARP requests recvd     0,    ARP replies recvd     0
```

show icc-monitoring

Use the **show icc-monitoring** command to display the state of the icc-monitoring process.

Syntax

show icc-monitoring

User level

read-only

Context

general

Example

To display ICC monitoring status:

```
G350-001> show icc-monitoring
```

show icc-vlan

Use the **show icc-vlan** command to view the ICC-VLAN.

Syntax

show icc-vlan

User level

read-only

Context

general

Example

To display the ICC VLAN:

```
G350-001> show icc-vlan
VLAN 1
```

show image version

Use the **show image version** command to display the software version of the image on both memory banks of the device.

Syntax

show image version

User level

read-only

Context

general

Example

To display the current software versions:

```
G350-001> show image version

Bank    Version
----    -------
A       3.9.7
B       3.12.10

Module number: 1
```

show interfaces

Use the **show interfaces** command to display interface configuration and statistics for a particular interface or all interfaces. The Frame Relay sub-interface only includes the following counters:

- packets & bytes in
- packets & bytes out
- input errors
- output drops

Syntax

show interfaces [*interface_type interface_identifier*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ type	The type of interface	`FastEthernet, Serial, Vlan, Loopback, Console, Tunnel, USB-modem`	
interface_ identifier	The interface number. The format varies depending on the value of interface_type: For FastEthernet: **module/port** For Serial: `module/port:channel-group` For Vlan: `Vlan id` For LoopBack: `Loopback number` For Tunnel: `Tunnel number`	For FastEthernet: `10/2` For Serial(USP): `2/1` For Serial (DS1): module/port: `2/1` channel-group: E1: `0-30` T1: `0-23` For VLAN: `1-3071` For Loopback: `1-99`	

User level

read-write

Context

general

Example

To show information about all the interfaces:

```
G350-011# show interfaces
Vlan 1 is up, line protocol is up
Physical address is 00.04.0d.29.c5.11.
Internet address is 172.16.1.139, mask is 255.255.255.240
Primary management interface
MTU 1500 bytes. Bandwidth 100000 kbit.
Reliability 255/255 txLoad 1/255 rxLoad 1/255
Encapsulation ARPA, ICC-VLAN
Link status trap disabled
Full-duplex, 100Mb/s
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:30, Last output 00:00:30
Last clearing of 'show interface' counters never.
5 minute input rate 144 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 input drops, 0 output drops, 0 unknown protocols
3425 packets input, 323518 bytes
3425 broadcasts received, 0 giants
0 input errors, 0 CRC
32 packets output, 896 bytes
0 output errors, 0 collisions

FastEthernet 10/2 is up, line protocol is down
Physical address is 00.04.0d.29.c5.10.
MTU 1500 bytes. Bandwidth 10000 kbit.
Reliability 1/255 txLoad 255/255 rxLoad 255/255
Encapsulation ARPA
Link status trap disabled
Half-duplex, 10Mb/s, 10BaseTX
ARP type: ARPA, ARP Timeout 04:00:00
Dynamic CAC BBL: 1500 kbps
Dynamic CAC activation priority: 50
Dynamic CAC interface status: active
Last input never, Last output never
Last clearing of 'show interface' counters never.
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 input drops, 0 output drops, 0 unknown protocols
0 packets input, 0 bytes
0 broadcasts received, 0 giants
0 input errors, 0 CRC
0 packets output, 0 bytes
0 output errors, 0 collisions

Tunnel 1 is up, line protocol is up
Internet address is 177.0.0.17, mask is 255.0.0.0
MTU 468 bytes. Bandwidth 9 kbit
Reliability 255/255 txLoad 1/255 rxLoad 1/255
Encapsulation GRE
Link status trap enabled
Keepalive set (10 sec), retries 3
Tunnel source 17.0.0.17, destination 12.0.0.3
Tunnel protocol/transport GRE/IP, key 777
Checksumming of packets enabled
```

```
Tunnel DSCP 63, Tunnel TTL 255
Path MTU Discovery, ager 10 mins, MTU 976, expires 00:09:33
Last input never, Last output never
Last clearing of 'show interface' counters never.
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 input drops, 0 output drops, 0 unknown protocols
0 packets input, 0 bytes
0 broadcasts received, 0 giants
0 input errors, 0 CRC
0 packets output, 0 bytes
0 output errors, 0 collisions

Console asynchronous mode is terminal
Terminal baud rate is 9600
```

show interface usb-modem

Use the **show interface usb-modem** command to display the status and settings of the usb-modem.

Syntax

show interface usb-modem

User level

read-only

Context

general

Example

```
G350-011# show interface usb-modem

USB modem is present
Admin status is no-shutdown

Internet address is 10.0.1.20 mask is 255.255.0.0

MTU 1500 bytes, PPP baud rate is 38400,
line protocol is up

Modem Type: MT5634ZBA-USB

Init String: AT S7=45 S0=2 L1 V1 X4 &c1 E0 Q0,
Init string Status is OK

PPP authentication is PAP

Session inactivity timeout is 2 minutes
```

show ip access-control-list

Use the **show ip access-control-list** command to display the attributes of a specific access control list on the current interface.

Syntax

show ip access-control-list {*list_number* | all | active-list-in | active-list-out | active-list-in-out} [detailed]

Parameters

Parameter	Description	Possible Values	Default Value
list_number	The access control list to display		
all	Keyword specifying to display all access control lists		
active-list-in	Keyword specifying to display lists for the in direction		
active-list-out	Keyword specifying to display lists for the out direction		
active-list-in-out	Keyword specifying to display lists for in and out directions		
detailed	Keyword specifying to display detailed information		

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3), VLAN (L2, L2-L3), Loopback (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To display detailed information about all access control lists on the VLAN 1 interface:

```
G350-011(if:Vlan 1)# show ip access-control-list all detailed

List Number: 300
---------------
List Name: Default ACL List
Default Action: permit
Owner: other

List Number: 320
---------------
List Name: Sync1
Default Action: permit
Owner: x9393

List Number: 330
---------------
List Name: Admin13
Default Action: permit
Owner: Charlie
```

show ip access-control-list

Use the **show ip access-control-list** command to display the attributes of a specific access control list or all lists.

Syntax

show ip access-control-list {*list_number* | all} [detailed]

Parameters

Parameter	Description	Possible Values	Default Value
list_ number	The access control list to display		
all	Keyword specifying to display attributes for all access control lists		
detailed	Keyword specifying to display detailed information		

User level

read-write

Context

general

Example

To display detailed information about all access control lists:

```
G350-011# show ip access-control-list all detailed

List Number: 300
---------------
List Name: Default ACL List
Default Action: permit
Owner: other

List Number: 320
---------------
List Name: Sync1
Default Action: permit
Owner: x9393

List Number: 330
---------------
List Name: Admin13
Default Action: permit
Owner: Charlie
```

To display attributes of access control list 330:

```
G350-001# show ip access-control-list 330

Index Name                            Owner
----- ----------------------------- --------------------------
330   list #330                       other
ip options: Permit
ip fragments : Permit

Index Protocol     IP               Wildcard         Port Operation
----- -------- --- --------------- --------------- ------------ ---
22    tcp      Src  Any                               Any          Permit
               Dst  Any                               Any
Deflt Any      Src  Any                               Any          Permit
               Dst Any                          Any
```

show ip active-lists

Use the **show ip active-lists** command to display information about a specific policy list or all lists.

Syntax

show ip active-lists list_number

Parameters

Parameter	Description	Possible Values	Default Value
list_ number	The index of the policy list to view	`300 – 499`	

User level

read-only

Context

general

Example

To display information about policy list 400:

```
G350-001> show ip active-lists 400

Interface Name                   Dir. Type Idx List Name
-------------------------------- ---- ---- --- ------------------
FastEthernet 10/2                In   QoS  400 Default QoS List
FastEthernet 10/2                Out  QoS  400 Default QoS List
Vlan 1                           In   QoS  400 Default QoS List
Vlan 1                           Out  QoS  400 Default QoS List
```

show ip active-pbr-lists

Use the **show ip active-pbr-lists** command to display details about a specific pbr list or all pbr lists.

Syntax

show ip active-pbr-lists {*list_number*}

Parameters

Parameter	Description	Possible Values	Default Value
list_number	The pbr list to view.	`800-899`	

User level

read-only

Context

general

Example

To display information about all pbr lists:

```
G350-001> show ip active-pbr-lists

Interface Name   Index   List Name
----------------------------------------
Vlan 1           801     Voice PBR List
Vlan 2           803     Data PBR List
```

show ip arp

Use the **show ip arp** command to display the Address Resolution Protocol (ARP) cache.

Syntax

show ip arp [*interface*|*ip_interface*|*ip_addr*[*ip_mask*] | static]

Parameters

Parameter	Description	Possible Values	Default Value
interface	The interface name, in quotes	string (1-32 chars)	
ip_interface	The IP interface name, in quotes	string (1-32 chars)	
ip_addr	The IP address of the station(s)		
ip_mask	The IP mask of the routes		
static	Keyword that specifies to display static IP ARP information		

User level

read-only

Context

general

Example

To display all ARP mappings:

```
G350-001> show ip arp
```

To display one host ARP mapping:

```
G350-001> show ip arp 192.168.49.1
```

To display a range of ARP mappings:

```
G350-001> show ip arp 192.168.49.1 255.255.255.0
```

To display ARP mappings for the VLAN 1 interface:

```
G350-001> show ip arp "Vlan 1"
```

To display static ARP mapping:

```
G350-001> show ip arp static
```

> **NOTE:**
> When specifying an interface name that includes spaces, enclose the entire name in quotation marks (for example, "New York").

show ip capture-list

Use the **show ip capture-list** command to display details about capture lists.

Syntax

show ip capture-list { *list-number* | all } [detailed]

Parameters

Parameter	Description	Possible Values	Default Value
list_number	The capture list to view.	800–899	

User level

read-only

Context

general

Example

To display information about all capture lists:

```
G350-001> show ip capture-list all

Index   Name                   Owner
-------------------------------------
500    Default Capture List   other
501    list #5021             other
```

show ip distribution access-lists

Use the **show ip distribution access-lists** command to display the contents of all current distribution lists or of a specific list.

Syntax

show ip distribution access-lists [*distribution_list_number*]

Parameters

Parameter	Description	Possible Values	Default Value
distribution_list_ number	The distribution list number	1-99	

User level

read-only

Context

general

Example

To display the content of distribution list number 1:

```
G350-001> show ip distribution access-lists 1
```

To display the content of all current distribution lists:

```
G350-001> show ip distribution access-lists
```

show ip icmp

Use the **show ip icmp** command to display the status of ICMP error messages.

Syntax

show ip icmp

User level

read-only

Context

general

Example

To display ICMP error message status:

```
G350-555> show ip icmp

ICMP error messages status is ENABLE
```

show ip interface

Use the **show ip interface** command to display information about an IP interface.

Syntax

show ip interface [*interface_name*|*ip_interface*|*ip_address*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ name	The name of the interface whose information you want to display		
ip_interface	The name of the IP interface whose information you want to display	string (1-32 chars)	
ip_address	The IP address of the interface whose information you want to display		

> **NOTE:**
> When specifying an interface name that includes spaces, enclose the entire name in
> quotation marks (for example, "FastEthernet 10/2").

User level

read-only

Context

general

Example

To display information for the FastEthernet interface:

```
G350-001> show ip interface "FastEthernet 10/2"
```

To display information for the sub-interface 0 of the FastEthernet interface:

```
G350-001> show ip interface "FastEthernet 10/2.0"
```

To display all IP interfaces:

```
G350-001> show ip interface

Showing 2 Interfaces
Serial 1:1 is down
Internet address is 2.2.2.2        , subnet mask is 255.255.255.0
Advertised IPCP address
Broadcast address is 2.2.2.255
Directed broadcast forwarding is disabled
Proxy ARP is disabled
Primary management IP interface

FastEthernet 10/2 is up
Internet address is 149.49.75.71   , subnet mask is 255.255.255.0
Broadcast address is 149.49.75.255
Directed broadcast forwarding is disabled
Proxy ARP is disabled
```

show ip interface brief

Use the **show ip interface brief** command to display a summary of the information for a specific interface or for all of the interfaces.

Syntax

show ip interface brief [*interface_name*|*ip_interface*|*ip_address*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ name	The name of the interface whose information you want to display		
ip_interface	The name of the IP interface whose information you want to display	string (1-32 chars)	
ip_address	The IP address of the interface whose information you want to display		

> **NOTE:**
> When specifying an interface name that includes spaces, enclose the entire name in quotation marks (for example, "FastEthernet 10/2").

User level

read-only

Context

general

Example

To display concise information about the FastEthernet interface:

```
G350-001> show ip interface brief "FastEthernet 10/2"

Showing 1 Interfaces
Interface          Address     Mask        Status
------------------ --------------- ---- ---------------------
FastEth  10/2        172.16.1.139     16 up
```

show ip next-hop-list

Use the **show ip next-hop-list** command to show the details of the next-hop list.

Syntax

show ip next-hop-list {*next_hop_number* | all}

Parameters

Parameter	Description	Possible Values	Default Value
next_hop_ number	The index number of the entry in the next-hop list	1-20	

User level

read-only

Context

ip pbr-list ip-rule

Examples

```
G350-001> show ip next-hop-list all
Index Name
----- ---------
1 list #1
3 list #3

G350-001> show ip next-hop-list 3
next hop list does not exist
```

show ip ospf

Use the **show ip ospf** command to display general information about OSPF routing.

Syntax

show ip ospf

User level

read-only

Context

general

Example

To display IP OSPF routing information:

```
G350-001> show ip ospf

Routing Process OSPF with ID 149.49.75.71
Number of areas in this router is 1
Area 0.0.0.0
Number of Interfaces in this area 0
SPF algorithm executed 1 times
SPF hold time is 3 sec
```

show ip ospf database

Use the **show ip ospf database** command to display lists of information related to the OSPF database for a specific router. If no router type is specified, OSPF information is displayed for all routers.

Syntax

**show ip ospf database
[asbr-summary|router|network|network-summary|external]**

Parameters

Parameter	Description	Possible Values	Default Value
asbr-summary	Displays information about the autonomous system boundary router summary LSAs		
router	Displays information about the router LSAs		
network	Displays information about the network LSAs		
network-summary	Displays information about the network LSAs summary		
external	Displays information about the external LSAs		

User level

read-only

Context

general

Example

To display OSPF database information for all router types:

```
G350-001> show ip ospf database

Showing 1 rows
Area      Type   LSA ID        Router ID     Sequence Age   Cksm
-------   -----  ------------  -------------  -------- ----- ------
0.0.0.0   RTR    149.49.75.71  149.49.75.71  80000001 567   139b
```

show ip ospf interface

Use the **show ip ospf interface** command to display OSPF-related interface information. If no interface name is specified, information for all interfaces is displayed.

Syntax

show ip ospf interface [*interface_name*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ name	The OSPF interface name	string	

NOTE:
To specify an interface name that includes spaces, enclose the entire name in quotation marks (for example, "New York").

User level

read-only

Context

general

Example

To display OSPF information for all interfaces:

```
G350-001> show ip ospf interface

sh ip ospf interface

Showing 1 OSPF Interfaces
Vlan 1.0 is up
Internet Address 1.1.1.1, Mask 255.255.255.0  , Area 0.0.0.0
AS Router ID 1.1.1.1, COST 1
Transmit Delay 1, State DR,  Priority 1
DRId 1.1.1.1, IpAddress 1.1.1.1
BDRId is 0.0.0.0, IpAddress 0.0.0.0
Timer Intervals Configured:
Hello 10
Dead 40
Retransmit 5
Neighbor count 0
```

show ip ospf neighbor

Use the **show ip ospf neighbor** command to display OSPF neighbor information for a specific interface or for all interfaces.

Syntax

show ip ospf neighbor [*interface_name*] [*neighbor_id*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_name	The OSPF interface name	string	
neighbor_id	The OSPF neighbor ID number	an IP address	

> **NOTE:**
> To specify an interface name that includes spaces, enclose the entire name in quotation marks (for example, "New York").

User level

read-only

Context

general

Example

To display neighbor information for all interfaces:

```
G350-001> show ip ospf neighbor

Nbr-Id           Priority   State      Router ID       Time To Live
---------------- ---------- ---------- --------------- -------------
10.0.17.2              1    2 Way      212.150.244.1        36
10.0.17.3             12    Full       10.0.17.3            38
10.0.17.6             18    Full       10.0.17.6            33
10.0.18.2              1    Full       105.1.12.1          107
10.0.20.2              0    Full       62.56.252.253        40
18.18.18.2             1    Full       62.56.255.254        38
192.168.6.173          0    Full       172.18.21.254         4
```

show ip pbr-list

Use the **ip pbr-list** command to display information about the specified pbr-list.

Syntax

show ip pbr-list {*list_number* | all} [detailed]

Parameters

Parameter	Description	Possible Values	Default Value
list_number	The pbr-list number to display	800-899	

User level

read-only

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3), VLAN (L2, L2-L3), Loopback (L2, L2-L3), Tunnel (L2, L2-L3)

Example

```
G350-001> show ip pbr-list 801 detailed
```

show ip protocols

Use the **show ip protocols** command to display parameters and statistics of the IP routing protocol process.

Syntax

show ip protocols [*protocol*]

Parameters

Parameter	Description	Possible Values	Default Value
protocol	The protocol for which to display statistics	RIP, OSPF	

User level

read-only

Context

general

Example

To display all running protocol details:

```
G350-011> show ip protocols
```

To display RIP details:

```
G350-011> show ip protocols RIP

Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 0 seconds
Invalid after 180 seconds, flushed after 300
Redistributing: rip
Default version control: rip version 1
Interface                       Version   Key
Routing for Networks:
Routing Information Sources:
Gateway              Last Update
```

show ip qos-list

Use the **show ip qos-list** command to display the attributes about a specific QoS list, or all QoS lists, for the current interface.

Syntax

show ip qos-list {*list_number* | all | active-list-in | active-list-out | active-list-in-out} [detailed]

Parameters

Parameter	Description	Possible Values	Default Value
list_ number	The QoS list to display		
all	Keyword specifying to display all QoS lists		
active-list-in	Keyword specifying to display lists for the in direction		
active-list-out	Keyword specifying to display lists for the out direction		
active-list-in-out	Keyword specifying to display lists for in and out directions		
detailed	Keyword specifying to display detailed information		

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3), VLAN (L2, L2-L3), Loopback (L2, L2-L3), Tunnel (L2, L2-L3)

Example

To display information about all QoS lists:

```
G350-011(if:Vlan 1)# show ip qos-list all

List Number: 400
---------------
List Name: Default QoS List
Default Action: No-Change
Owner: other
List Trust: trust-cos
```

show ip qos-list

Use the **show ip qos-list** command to display the attributes about a specific QoS list.

> **NOTE:**
> To specify an interface name that includes spaces, enclose the entire name in quotation marks (for example, "FastEthernet 10/2").

Syntax

show ip qos-list {*list_number* | all} [detailed]

Parameters

Parameter	Description	Possible Values	Default Value
list_ number	The QoS list to display		
all	Keyword specifying to display all QoS lists		
detailed	Keyword specifying to display detailed information		

User level

read-write

Context

general

Example

To display detailed information about all the QoS lists on all the interfaces:

```
G350-011# show ip qos-list all detailed

Index Name                            Owner
----- ------------------------------- --------------------------
400   Default QoS List                other

Index Protocol    IP              Wildcard         Port      Operation
----- -------- --- --------------- --------------- -------- ----------
Deflt Any      Src Any                              Any       Trust-DSCP-CoS
               Dst Any                              Any


Index Name                            Owner
----- ------------------------------- --------------------------
440   list #440                       other

Index Protocol    IP              Wildcard         Port      Operation
----- -------- --- --------------- --------------- ------- ----------
Deflt Any      Src Any                              Any     Trust-DSCP-CoS
               Dst Any                              Any
```

show ip reverse-arp

Use the **show ip reverse-arp** command to display the IP address of a host, based on a known MAC address.

Syntax

show ip reverse-arp *mac_addr* [*match_len*]

Parameters

Parameter	Description	Possible Values	Default Value
mac_addr	The MAC address		
match_len	The number of bytes in the address to match		

User level

read-only

Context

general

Example

To list IPs that match a specific MAC address:

```
G350-001> show ip reverse-arp 00:10:a4:98:97:e0

Showing 1 rows
Address         MAC Address        I/F         Type    TTL
-------------- ---------------- ----------- ------- --------
149.49.70.68    00:10:a4:98:97:e0   e-70        Dynamic  14355
```

show ip route

Use the **show ip route** command to display information about the IP routing table.

Syntax

show ip route [*ip_address*[*ip_mask*]]

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The IP address of the routes		
ip_mask	The IP mask of the routes		

User level

read-only

Context

general

Example

To display all routes:

```
G350-011> show ip route
```

To display a single route:

```
G350-011> show ip route 137.32.50.13
```

To display a range of routes:

```
G350-011> show ip route 137.44.50.13 255.255.255.0
```

show ip route best-match

Use the **show ip route best-match** command to display a routing table for a destination address.

Syntax

show ip route best-match *dst_addr*

Parameters

Parameter	Description	Possible Values	Default Value
dst_addr	The destination IP address		

User level

read-only

Context

general

Example

To display the routing table entries for IP address 199.93.0.0:

```
G350-001> show ip route best-match 199.93.0.0

Searching for: 199.93.0.0
Showing 1 rows
Network      Mask         Interface  Next-Hop       Cost  TTL Source
-----------  -----------  ---------  -------------  ----  --- -------
199.93.0.0   16           e-135new   135.64.76.1       1  n/a STAT-HI
```

show ip route static

Use the **show ip route static** command to display static routes.

Syntax

show ip route static [*ip_addr* [*mask*]**]**

Parameters

Parameter	Description	Possible Values	Default Value
ip_addr	The IP address of the routes		
mask	The IP mask of the routes		

User level

read-only

Context

general

Example

To display all static routes:

```
G350-001> show ip route static
```

To display a single static route:

```
G350-001> show ip route static 137.32.50.13
```

To display a range of static routes:

```
G350-001> show ip route static 137.44.50.13 255.255.255.0

G350-001> show ip route static

Showing 1 rows
Network  Mask Interface   Next-Hop     Cost  Pref  Perm  Active
-------  ---- ---------- ----------- ---- ---- ---- -------
0.0.0.0   0   FastEth 1  149.49.75.1   1   low   No    Yes
where Pref is the preference, and Perm is Permanent.
```

show ip route summary

Use the **show ip route summary** command to display the number of routes known to the device.

Syntax

show ip route summary

User level

read-only

Context

general

Example

To display a summary of routes:

```
G350-001> show ip route summary

  Route Source        Networks           Subnets
---------------     ---------------    ---------------
Local                            0                  1
Static                           0                  1
Total                            0                  2
```

show ip rtp header-compression

Use the **show ip rtp header-compression** command to display the RTP header compression statistics for a specific interface. If no interface is specified, statistics for all interfaces are displayed.

> **NOTE:**
> To specify an interface name that includes spaces, enclose the entire name in quotation marks (for example, "FastEthernet 10/2").

Syntax

show ip rtp header-compression [*interfaceName*]

Parameters

Parameter	Description	Possible Values	Default Value
interfaceName	The name of the interface		

User level

read-only

Context

general

Example

To display compression statistics for all interfaces:

```
G350-001# show ip rtp header-compression
```

Section	Item	Description	Comment
Received	Full Headers	No. of RTP packets with Full headers received	
Received	Compressed	No. of RTP packets with compressed headers received	
Received	Errors	Packets discarded during de-compression due to errors.	
Sent	Full Headers	No. of RTP packets with Full headers sent	
Sent	Compressed	No. of RTP packets with compressed headers sent	
Sent	Bytes Saved	Total saving in bytes due to compression	
Sent	Bytes Sent	Total bytes sent after compression	
Sent	Efficiency Improvement Factor		Rounded to two decimal places
Connect	Active/ Inactive	Status of RTP header compression on this interface	
Connect	Rx Slots	Actual no. of RTP sessions to decompress	After negotiation (when there is one), or equal to the user's setting.
Connect	Tx Slots	Actual no. of RTP sessions to compress	After negotiation (when there is one), or equal to the user's setting.
Connect	Max Time	Actual RTP Max time parameter	After negotiation (when there is one), or equal to the user's setting.
Connect	Max Period	Actual RTP Max period parameter	After negotiation (when there is one), or equal to the user's setting.

show ip rtp header-compression brief

Use the **show ip rtp header-compression brief** command to display a subset of header compression statistics in the form of a table.

> **NOTE:**
> To specify an interface name that includes spaces, enclose the entire name in quotation marks (for example, "FastEthernet 10/2").

Syntax

show ip rtp header-compression brief [*interfaceName*]

Parameters

Parameter	Description	Possible Values	Default Value
interfaceName	The name of the interface		

User level

read-only

Context

general

Example

To display concise header compression statistics for all interfaces:

```
G350-001# show ip rtp header-compression brief

Interface  Active  Slots Max   Max    Packets    Bytes     Improvement
                         Time  Period Sent       Saved       Factor
---------  --------  ----- ---- ------ --------- --------- -----------

Serial 1:0   NO      16    5    256       0         0         1.00
```

show ip ssh

Use the **show ip ssh** command to display general SSH information and information on the currently active connections that are using SSH.

Syntax

show ip ssh

User level

admin

Context

general

Example

```
G350-001(super)# show ip ssh

Max Sessions: 2
Key type: DSA , 512 bit
Listen Port: 22
Ciphers List: 3des-cbc

Session Version Encryption Username IP/Port
0       1.5   3des-cbc   guest   11.11.11.1/34444
```

show ip tcp header-compression

Use the **show ip tcp header-compression** command to display TCP header compression statistics for a specific interface. If no interface is specified, it shows TCP header compression statistics for all interfaces.

> **NOTE:**
> To specify an interface name that includes spaces, enclose the entire name in quotation marks (for example, "FastEthernet 10/2").

Syntax

show ip tcp header-compression [*interfaceName*]

Parameters

Parameter	Description	Possible Values	Default Value
interfaceName	The name of the interface		

User level

read-only

Context

general

Example

To display tcp header compression statistics for all interfaces:

```
G350-001# show ip tcp header-compression
```

Section	Item	Description	Comment
Received	Full Headers	No. of RTP packets with Full headers received	
Received	Compressed	No. of RTP packets with compressed headers received	
Received	Errors	Packets discarded during de-compression due to errors.	
Connect	Active/Inactive	Status of RTP header compression on this interface	
Connect	Rx Slots	Actual no. of TCP sessions to decompress	After negotiation (when there is one), or equal to the user's setting.
Connect	Tx Slots	Actual no. of TCP sessions to compress	always 0
Connect	Max Time	Actual Max time parameter	After negotiation (when there is one), or equal to the user's setting.
Connect	Max Period	Actual Max period parameter	After negotiation (when there is one), or equal to the user's setting.

show ip tcp header-compression brief

Use the **show ip tcp header-compression** command to display a subset of TCP header compression statistics for a specific interface. If no interface is specified, it shows TCP header compression statistics for all interfaces.

> **NOTE:**
> To specify an interface name that includes spaces, enclose the entire name in quotation marks (for example, "FastEthernet 10/2").

Syntax

show ip tcp header-compression brief [*interfaceName*]

Parameters

Parameter	Description	Possible Values	Default Value
interfaceName	The name of the interface		

User level

read-only

Context

general

show ip traffic

Use the **show ip traffic** command to display IP counters information.

Syntax

show ip traffic [*protocol_type*]

Parameters

Parameter	Description	Possible Values	Default Value
protocol_type	The type of IP protocol for which to display information	`arp,` `bootp-dhcp,` `icmp, ip,` `ospf`	

User level

read-only

Context

general

Example

To display traffic information for all protocols:

```
G350-001> show ip traffic

IP statistics:
              Received:
5644 total, 4012 local destination
0 bad hop count, 0 packet header errors
0 unknown protocol, 0 address errors
1632 discarded
              Fragments:
0 reassembled, 0 timeouts
0 couldn't reassemble, 0 fragmented


              Sent:
4014 generated, 0 forwarded
0 no route, 0 discarded

ICMP statistics:
              Received:
0 total, 0 ICMP errors
0 unreachables, 0 time exceeded
0 parameter, 0 quench
0 echo, 0 echo reply
0 timestamps request, 0 timestamp reply
0 mask requests, 0 mask replies
0 redirects


              Sent:
0 total, 0 ICMP errors
0 unreachables, 0 time exceeded
0 parameter, 0 quench
0 echo, 0 echo reply
0 timestamps request, 0 timestamp reply
0 mask requests, 0 mask replies
0 redirects

OSPF statistics:
              Received:
0 total, 0 checksum errors
0 hello, 0 database desc
0 link state req, 0 link state updates
0 link state acks


              Sent:
0 total

ARP statistics:
              Received:
5394 requests, 2 replies


              Sent:
36 requests, 16 replies (0 proxy)
DHCP  statistics:
Requests: 0 , Replies: 0
BOOTP statistics:
Requests: 0 , Replies: 0
```

show ip vrrp

Use the **show ip vrrp** command to display VRRP information for a specific VLAN or for all VLANs.

Syntax

show ip vrrp [*vlan* [router-id *vr_id*]] [detail]

Parameters

Parameter	Description	Possible Values	Default Value
vlan	Filter by the specified VLAN	1 – 4095	
router_id	Keyword specifying to filter by virtual router ID		
vr_id	The virtual router ID	1-255	
detail	Keyword specifying to provide detailed information		

User level

read-only

Context

general

Example

To show VRRP information for all VLANs:

```
G350-001> show ip vrrp

VRRP is globally enabled
VLAN  VRID  IP Address     Pri   Timer    State     Since
----- ----- ------------  ----  -------  ---------  -----------
1     1     192.168.66.23  255   1        MASTER     00:00:00
1     2     192.168.66.24  100   1        BACKUP     00:00:00


To show detailed VRRP information for all VLANs:

G350-001# show ip vrrp detail

VRRP is globally enabled
Virtual Router on VLAN:           1
Router-id:                        1
State:                            MASTER
Priority:                         255
Advertisement Interval:           1
Last State Change:                00:00:00
Override Address Ownership Rule: No
Authentication Type:              None
Authentication Key:        ""
Master IP Address                 192.168.66.23
```

```
Has 1 IP addresses
IP addresses:
192.168.66.23
Primary IP Address:                    192.168.66.23
Primary IP Address was chosen by default
Preemption Mode:         enabled
# of times Master:                                      2
# of received Advertisements:                           0
# of transmitted Advertisements:                        20
# of received Advertisements with Security Violations: 0
Virtual Router on VLAN:       1
Router-id:              2
State:                  BACKUP
Priority:               100
Advertisement Interval: 1
Last State Change:      00:00:00
Override Address Ownership Rule: No
Authentication Type:    None
Authentication Key:     ""
Master IP Address       0.0.0.0
Has 1 IP addresses
IP addresses:
192.168.66.24
Primary IP Address:     192.168.66.23
Primary IP Address was chosen by default
Preemption Mode:        enabled
# of times Master:                                      1
# of received Advertisements:                           0
# of transmitted Advertisements:                        13
# of received Advertisements with Security Violations: 0
```

show ip-rule

Use the **show ip-rule** command to display the attributes of a specific rule. Leave the ***rule_number*** parameter blank to display all rules.

Syntax

show ip-rule [*rule_number*]

Parameters

Parameter	Description	Possible Values	Default Value
rule_ number	The specific rule for which attributes are displayed		

User level

read-write

Context

ip access-control-list, ip access-control-list ip-rule, ip qos-list, ip qos-list ip-rule, ip capture-list, ip capture-list ip-rule, ip pbr-list, ip pbr-list ip-rule

Example

To display information about ip rule 22 in access-control-list 320:

```
G350-001(ACL 320/ip rule 22)# show ip-rule 22

I.D.  Protocol      IP              Wildcard Port   Operation
----- -------- --- --------------- --------- ---- --------------
22    Ip       Src Any                             permit
               Dst Any
```

show isdn bri link

Use the **show isdn bri link** command to view the status of all BRI links on a media module.

Syntax

show isdn bri link *mmID*

Parameters

Parameter	Description	Possible Values	Default Value
mmID	The Media Module ID		

User level

read-only

Context

general

Example

To display the status of all BRI links on media module 1:

```
G350-011> show isdn bri link 1

LOCATION  TYPE    LINK ID    DLCI       SIDE  STATE
--------- ------- ---------- ---------- ----- ------------
v1        NO LINK N/A        N/A        N/A   N/A
```

show isdn link summary

Use the **show isdn link summary** command to view a summary of all ISDN links.

Syntax

show isdn link summary

User level

read-only

Context

general

Example

To display information about all ISDN links:

```
G350-001> show isdn link summary

LOCATION      TYPE          NO. OF LINKS UP
---------     --------      ---------------
MG            NO LINK       N/A
```

show isdn pri link

Use the **show isdn pri link** command to view the status of all PRI links on a media module.

Syntax

show isdn pri link *mmID*

Parameters

Parameter	Description	Possible Values	Default Value
mmID	The Media Module ID		

User level

read-only

Context

general

Example

To display PRI link information for media module 1:

```
G350-001> show isdn pri link 1

LOCATION  TYPE    LINK ID    DLCI       SIDE  STATE
--------- ------- ---------- ---------- ----- ------------
v1        NO LINK N/A        N/A        N/A   N/A
```

show keepalive

Use the **show keepalive** command to display information about the extended keepalive settings.

Syntax

show keepalive

User level

read-only

Context

Interface: FastEthernet (L2, L2-L3)

Example

To display extended keepalive information for the FastEthernet interface:

```
G350-001(if:FastEthernet 10/2)# show keepalive

Mode:                   Disable
Status:                 Disable
Destination IP:         172.16.1.228
Next-Hop MAC:           00:40:0d:b9:3e:45
Source IP:              0.0.0.0
Timeout:                1 Sec
Interval:               20 Sec
Success Retries:        1
Failure Retries:        4
Success Retries Counter:  0
Failure Retries Counter:0
```

show list

Use the **show list** command to display information about the specified list.

Syntax

show list

User level

read-write

Context

ip access-control-list, ip qos-list, ip capture-list, ip pbr-list

Example

To show detailed information about access control list 330:

```
G350-011(ACL 330)# show list

Index Name                             Owner
----- -------------------------------- --------------------------
330   SplitPriority                    Admin

ip options: Permit
ip fragments : Permit


Index Protocol    IP               Wildcard        Port        Operation
----- --------- --- ---------------- --------------- ------------ ------
22     tcp      Src  Any                             Any         Permit
                Dst  Any                             Any
Deflt  Any      Src  Any                             Any         Permit
                Dst  Any                  Any
```

show logging file condition

Use the **show logging file condition** command to display all conditions that have been defined for the file output sink.

Syntax

show logging file condition

User level

read-only

Context

general

Example

To show information about conditions that are defined for the file output:

```
G350-011> show logging file condition

******************************************************
*** Message logging configuration of FILE     sink ***

Sink Is Enabled
Sink default severity: Informational

Facility             ! Severity Override
-------------------------------------------
FAN                  ! Error
VLAN                 ! Critical
```

show logging file content

Use the **show logging file content** command to output the messages in the log file to the CLI console. The output is arranged with the most recent event first. The content of the file is output according to the current filter settings and user access.

Syntax

show logging file content [*severity*] [all|*Msgfacility*] [*number*]

Parameters

Parameter	Description	Possible Values	Default Value
severity	Minimal severity of messages to be displayed		
all	Keyword specifying to display messages from all facilities		
Msgfacility	Display messages from this facility only		
number	Maximum number of messages to display		

User level

read-only

Context

general

Example

To display contents of the message file for all message facilities and severities:

```
G350-011> show logging file content

CLI-Notification: root: exit
CLI-Notification: root: exit
CLI-Notification: root:      ip
SECURITY-Warning: Unauthorized Access from IP address = 0.0.0.0, User = super,
Protocol = 23
CLI-Notification: root: exit
```

show logging server condition

Use the **show logging server condition** command to display the filter conditions that have been defined for the Syslog output sink. If an IP address or hostname is not specified, the configuration of all of the Syslog servers is displayed.

Syntax

show logging server condition [*ip_address* | *hostname*]

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	The IP address of the Syslog server		
hostname	The name of the Syslog server host		

User level

read-only

Context

general

Example

To display filter conditions defined for the Syslog server at IP address 172.16.1.139:

```
G350-011> show logging server condition 172.16.1.139

Logging:         enabled
Logging severity: warning

Facility          Severity Override
-------------     ----------------------
System            Critical

Syslog server 222.222.222.222
Logging:         enabled
Logging severity: Debug

Facility          Severity Override
-------------     ----------------------
Kernel            Critical
```

show logging session condition

Use the **show logging session condition** command to display the filter conditions defined for message logging to the current console session.

Syntax

show logging session condition

User level

read-only

Context

general

Example

To display filter conditions defined for console messaging:

```
G350-011> show logging session condition

Logging console: enabled
Logging session severity: warning

Facility          Severity Override
-------------     ----------------------
System            Critical
```

show logout

Use the **show logout** command to display the amount of time in minutes the terminal remains idle before timing out. If the logout value is 0, there is no timeout limit. The default logout value is 15 minutes.

Syntax

show logout

User level

read-only

Context

general

Example

To display the timeout value:

```
G350-001> show logout

CLI timeout is 15 minutes
```

show map-class frame-relay

Use the **show map-class frame-relay** command to display the map-class Frame Relay table.

Syntax

show map-class frame-relay

User level

read-only

Context

general

Example

To display the map class Frame Relay table:

```
G350-001> show map-class frame-relay

Showing 1 frame-relay map-class entry
Map Class Name    CIR       BC        BE      De Pre-Mark Fragment
--------------- --------- --------- --------- ----------- ---------
default          56000     7000        0        100%         0
```

show mediaserver

Use the **show mediaserver** command to show media server configuration information.

Syntax

show mediaserver

User level

read-only

Context

general

Example

To display media server configuration information:

```
G350-001# show mediaserver


MGC IP ADDRESS    SAT IP ADDRESS    SAT PORT   SERVER IP ADDRESS   SERVER PORT
--------------- --------------- -------- ----------------- -----------
135.8.65.107    135.8.65.107      5023      135.8.65.107        23
```

show mg list_config

Use the **show mg list_config** command to show the installed media gateway equipment. It displays the current hardware and firmware configurations of the media gateway.

The **show mg list_config** command is an alias for <u>show module</u> on page 329.

Syntax

show mg list_config

User level

read-only

Context

general

Example

To display the list of installed equipment:

```
G350-001# show mg list_config

SLOT  TYPE   CODE    SUFFIX  HW VINTAGE  FW VINTAGE
----  ------ ------  ------  ----------  -----------
v0    G350   PC1053  B       00          0.0.15(B)
v1     -- Not Installed --
v2     -- Not Installed --
v3     -- Not Installed --
v4     -- Not Installed --
v5     -- Not Installed --
v6     -- Not Installed --
v7     -- Initilalizing --
```

show mgc

Use the **show mgc** command to display the currently active Media Gateway Controller state and setup parameters.

Syntax

show mgc

User level

read-only

Context

general

Example

To display media gateway controller information:

```
G350-001# show mgc

CALL CONTROLLER STATUS
-------------------------------------------
Registered         : NO
Active Controller  : 255.255.255.255
H248 Link Status   : DOWN
H248 Link Error Code: 0x0

CONFIGURED MGC HOST
--------------------
-- Not Available --
-- Not Available --
-- Not Available --
-- Not Available --
```

show mgc list

Use the **show mgc list** command to display the list of available Media Gateway Controllers and their IP addresses.

Syntax

show mgc list

User level

read-only

Context

general

Example

To display the list of media gateway controllers:

```
G350-001> show mgc list

CONFIGURED MGC HOST
--------------------
135.8.48.220
-- Not Available --
-- Not Available --
-- Not Available --
```

show mm

Use the **show mm** command to show the media gateway Media Module information. It displays the types and serial numbers of Media Modules installed on the media gateway.

If no Media Module ID is specified, information for all Media Modules is displayed.

Syntax

show mm [*mmID*]

Parameters

Parameter	Description	Possible Values	Default Value
mmID	The Media Module ID number		

User level

read-only

Context

general

Example

To display information about media module 7:

```
G350-001> show mm 7
MEDIA MODULE DESCRIPTION: v7
-------------------------------------------------
Uptime(d,h:m:s): 0, 00:23:19
Type          : Voice (Initializing)
Description   : N/A
Serial Number : N/A
HW Vintage    : N/A
HW Suffix     : N/A
FW Version    : N/A
No. of ports  : 0
Faults        : No Fault Messages
```

show module

Use the **show module** command to view information about a Media Module. To view information about all Media Modules, do not specify a Media Module.

Syntax

show module [*mmID*]

Parameters

Parameter	Description	Possible Values	Default Value
mmID	The Media Module ID		

User level

read-only

Context

general

Example

To show information about media module 3:

```
G350-001> show module v3
SLOT TYPE        CODE      SUFFIX  HW VINTAGE  FW VINTAGE
---- --------- ----      ------  ----------  ----------
v3   DS1         MM710     A       4           5
```

To show information about all media modules:

```
G350-001> show module
SLOT TYPE        CODE      SUFFIX  HW VINTAGE  FW VINTAGE
---- --------- ----      ------  ----------  ----------
v0   G350        DAF1      A       00          10(B)
v1   ICC         S8300     A       4           6
v2   DCP         MM712     A       3           3
v3   DS1         MM710     A       4           5
v4   -- Not Installed -
v5   -- Not Installed -
v6   PoE         MM314
v7   Analog      (on-board)
```

show next-hop

Use the **show next-hop** command to show the next-hop entries in the current list.

Syntax

show next-hop

User level

read-only

Context

ip next-hop-list

Example

```
G350-001> show next-hop

Index Name
----- -------
3 list #3

Index Next Hop IP/Interface Status
------- ------------------------- -------
1 149.49.200.3 Down
4 Serial5/1:0 Up
```

show pmi

Use the **show pmi** command to view the current Primary Management Interface.

Syntax

show pmi

User level

read-only

Context

general

Example

To view information about the current PMI:

```
G350-001> show pmi
Active PMI     : interface Vlan 1 (172.16.1.139)
Configured PMI : interface Vlan 1 (172.16.1.139)
```

show port

Use the **show port** command to display port status on I/O modules. If no port is specified, information for all ports is displayed.

Syntax

show port [*module*[*/port*]]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		

User level

read-only

Context

general

Example

To display the status for port 4 on module 3:

```
G350-001> show port 3/4

Port Name     Status  Vlan Level  Neg    Dup. Spd. Type
---- ------- ------- ---- ----- ------- ---- ---- -------------
3/4 NO NAME no link   1    0    enable  half 10M  10/100BaseTx Port
```

Output fields

Name	Description
Port	Module and port number
Name	Name of port
Status	Status of the port — connected, faulty, disabled
Vlan	VLAN ID of the port
Level	Priority level of the port — 0-7
Neg	Autonegotiation status of the port — enabled, disabled
Dup	Duplex setting for the port — full, half
Speed	Speed setting for the port — 10, 100, 1000
Type	Port type, for example: 10/100BASE-TX, GBIC_SX, GBIC_LX, GBIC_not present, GBIC_unknown

show port auto-negotiation-flowcontrol-advertisement

Use the **show port auto-negotiation-flowcontrol-advertisement** command to display the flowcontrol advertisement for a Gigabit port used to perform auto-negotiation. If no port is specified, information for all ports is displayed.

Syntax

set auto-negotiation-flowcontrol-advertisement [*module*/*port*]

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number		
port	The port number		

User level

read-only

Context

general

Example

To display the flowcontrol advertisement for all ports:

```
G350-001> show port auto-negotiation-flowcontrol-advertisement

asym-tx-only 4/49

Port 4/49 pause capabilities was set
```

show port classification

Use the **show port classification** command to display a port's classification. If no port is specified, information for all ports is displayed.

Syntax

show port classification [module/[port]]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		

User level

read-only

Context

general

Example

To display information for port 8 of module 4:

```
G350-001> show port classification 4/8

Port   Port Classification
------ ---------------------
4/8    regular
```

show port edge state

Use the **show port edge state** command to display the edge state of the specified port. If no port is specified, information for all ports is displayed.

Syntax

show port edge state [module/[port]]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		

User level

read-only

Context

general

Example

To show edge state for all ports:

```
G350-001> show port edge state
```

show port flowcontrol

Use the **show port flowcontrol** command to display port flow control information. If no port is specified, information for all ports is displayed.

Syntax

show port flowcontrol [*module*[/*port*]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module		

User level

read-only

Context

general

Example

To display flowcontrol information for port 4 of module 3:

```
G350-101> show port flowcontrol 3/4

Port   Send-Flowcontrol Receive-Flowcontrol
Admin Oper       Admin Oper
------ ----- ----       ----- ----
3/4   off   off         off   off
```

Output fields

Field	Description
Port	Module and port number
Send-Flowcontrol-Admin	Send flow-control administration. Possible settings: ON — indicates that the local port is allowed to send flow control frames to the far end. OFF — indicates that the local port is *not* allowed to send flow control frames to the far end.
Send-Flowcontrol-Oper	Send flow-control operation mode. Possible modes: ON — indicates that the local port will send flow control frames to the far end. OFF — indicates that the local port will *not* send flow control frames to the far end.
Receive-Flowcontrol-Admin	Receive flow-control administration. Possible settings: ON — indicates that the local port will act upon flow control indications if received from the far end. OFF — indicates that the local port will discard flow control frames if received from the far end.
Receive-Flowcontrol-Oper	Receive flow-control operation mode. Possible modes: ON — indicates that the local port will act upon flow control indications received from the far end. OFF — indicates that the local port will discard flow control frames received from the far end.

show port mirror

Use the **show port mirror** command to display mirroring information for the specified port. If no port is specified, information for all ports is displayed.

Syntax

show port mirror [*module/port*]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module		

User level

read-only

Context

general

Example

To display port mirroring information for all ports:

```
G350-011> show port mirror
```

show port point-to-point status

Use the **show port point-to-point status** command to display the point-to-point status of the specified port. If no port is specified, information for all ports is displayed.

Syntax

show port point-to-point status [module/port]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module		

User level

read-only

Context

general

Example

To display point-to-point information for all ports:

```
G350-011> show port point-to-point status
```

show port redundancy

Use the **show port redundancy** command to display information about software port redundancy pairs defined on the media gateway.

Syntax

show port redundancy

User level

read-only

Context

general

Example

To display port redundancy information:

```
G350-001> show port redundancy

Redundancy Name      Primary Port        Secondary Port      Status
----------------     --------------      ----------------    --------
bud                      3/48                3/47            secondary
jack                     3/46                3/45            secondary
tony                     3/1                 3/2             primary
wayne                    3/34                3/33            secondary
Minimum Time between Switchovers: 1

Switchback interval: 3
```

show port trap

Use the **show port trap** command to display information on SNMP generic link up/down traps sent for a specific port. If no port is specified, information for all ports is displayed.

Syntax

show port trap [*module*[/*port*]]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can also specify a range of ports separated by a dash, for example, 4/5-13 for ports 5 to 13 on module 4.		

User level

read-only

Context

general

Example

To display trap information for port 1 of module 4:

```
G350-455> show port trap 4/1

Port 4/1 up/down trap is disabled
```

show port vlan-binding-mode

Use the **show port-vlan-binding** command to display port VLAN binding mode information. If no module number is specified, information for all ports on all modules is displayed. If no port number is specified, information for all ports on the specified module is displayed.

Syntax

show port vlan-binding-mode [*module*[/*port*]]

Parameters

Parameter	Description	Possible Values	Default Value
module	The number of the module		
port	The number of the port on the module. You can also specify a range of ports, for example, 4/5-13 for ports 5 to 13 on module 4.		

User level

read-only

Context

general

Example

To display VLAN binding information for all ports:

```
G350-001> show port vlan-binding-mode

port 2/1 is statically bound
port 2/2 is statically bound
port 2/3 is statically bound
port 2/4 is statically bound
port 2/5 is statically bound
port 2/6 is statically bound
port 2/7 is statically bound
port 2/8 is statically bound
port 2/9 is statically bound
port 2/10 is statically bound
```

show powerinline

Use the **show powerinline** command to display the current inline power status of the specified module or port. If no port is specified, information for all ports is displayed.

Syntax

show powerinline [*module_number*/*port_number*]

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The module number		
port_ number	The port number		

User level

read-only

Context

general

Example

To display power information for ports on module 6:

```
G350-001> show powerinline 6

Port                          Inline              Powering
                              Operational         Priority
                              Status
----                          -----------         ---------
6/1                           Searching           Low
6/2                           Searching           Low
6/3                           Disabled            Low
6/4                           Disabled            High
6/5                           Disabled            High
6/6                           Disabled            High
6/7                           Searching           High
```

show protocol

Use the **show protocol** command to display the status of a specific management protocol, or all protocols.

Syntax

show protocol [ssh | telnet-client | ssh-client | https | SNMP | telnet | http | scp | icmp | recovery-password]

Parameters

Parameter	Description	Possible Values	Default Value
ssh	Keyword indicating to display the status of the ssh protocol		
telnet-client	Keyword indicating to display the status of the telnet-client protocol		
ssh-client	Keyword indicating to display the status of the ssh-client protocol		
https	Keyword indicating to display the status of the https protocol		
SNMP	Keyword indicating to display the status of the SNMP protocol		
telnet	Keyword indicating to display the status of the telnet protocol		
http	Keyword indicating to display the status of the http protocol		
scp	Keyword indicating to display the status of the scp protocol		
icmp	Keyword indicating to display the status of the icmp protocol		
recovery-password	Keyword indicating to display the status of the recovery-password protocol		

User level

admin

Context

general

Example

To display information about all protocols:

```
G350-011(super)# show protocol
```

For services up and running, the output displays:

```
SSH v2 service is up and running (using port 22).
HTTPS with TLS 1.0 and SSL 3.0 support is up and running (port 443)
etc.
```

For services shut down, the output displays:

```
xxxx service is shut down.
```

For management protocols not supported the output displays:

```
xxxx service is not available.
```

For ICMP service the status message displays the list of enabled services:

```
ICMP service is up and running. Services available - {all, echo, redirect}.
```

show qos-rtcp

Use the **show qos-rtcp** command to display QoS and RTCP parameters.

Syntax

show qos-rtcp

User level

admin

Context

general

Example

To display QoS and RTCP information:

```
G350-001(super)# show qos-rtcp

PARAMETERS IN EFFECT: -- Downloaded --

QOS PARAMETERS          LOCALLY SET      DOWNLOADED
-------------------     ---------------  ---------------
Signal 802 Priority:    7                0
Signal DSCP       :     34               0
Bearer 802 Priority:    6                6
Bearer BBE DSCP   :     43               43
Bearer EF DSCP    :     46               46
Minimum RTP Port  :     3                2048
Maximum RTP Port  :     65535            65535

RSVP PARAMETERS         LOCALLY SET      DOWNLOADED
-------------------     ---------------  ---------------
State             :     Enabled          Disabled
Retry on Failure  :     Yes              Yes
Retry Delay(secs) :     15               15
Service Profile   :     Guaranteed       Guaranteed

RTCP MON  PARAMETERS    LOCALLY SET      DOWNLOADED
-------------------     ---------------  ---------------
State             :     Enabled          Disabled
IP Address        :     0.0.0.0          0.0.0.0
Listening Port    :     5005             5005
Report Period(secs):    5                5
```

show flow

Use the **show flow** command to display information about the real-time status of micro-flows within output queues for the current interface.

> **NOTE:**
> This command is only applicable in fair-voip-queue mode.

Syntax

show flows *type identifier*

Parameters

Parameter	Description	Possible Values	Default Value
type	The type of interface	`Fast Ethernet` `Serial`	

identifier	The identifier depends on the interface type:
	
	For Fast Ethernet: ***module/port***
	
	For Serial: ***module/port:channel-group***
		channel-group:
		`E1: 0-30`
		`T1: 0-23`	

User level

read

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP FR L2, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3) - when traffic shaping is configured

Examples

```
G350-001> show flows FastEthernet 10/2

G350-001> show flows Serial 3/1:2
```

show queue

Use the **show queue** command to display information about the real-time status of output queues for the current interface.

> **NOTE:**
> This command is only applicable in fair-voip-queue mode.

Syntax

show queue *type identifier*

Parameters

Parameter	Description	Possible Values	Default Value
type	The type of interface	`Fast Ethernet` `Serial`	

identifier	The identifier depends on the interface type:
	
	For Fast Ethernet: ***module/port***
	
	For Serial: ***module/port:channel-group***
		channel-group:
		`E1: 0-30`
		`T1: 0-23`	

User level

read-only

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP FR L2, USP PPP L2, USP PPP L2-L3), FastEthernet (L2, L2-L3) - when traffic shaping is configured

Examples

```
G350-001> show queue FastEthernet 10/2

G350-001> show queue Serial 3/1:2
```

show queueing

Use the **show queueing** command to display the priority queue size, in packets.

Syntax

show queueing [*interface_type if_number*]

Parameters

Parameter	Description	Possible Values	Default Value
interface_ type	The type of interface	`Serial, Fast-Ethernet`	

if_number	The port number of this interface in the form: <port>[:<channel_group>]	port: `1, 2`
		
		channel_group:
		  E1: `0-30`
		  T1: `0-23`	

User level

read

Context

general

> **NOTE:**
> This command is also used for the FastEthernet interface when traffic shaping has been configured.

Example

```
G350-001> show queueing

Current priority queue configuration:

Interface                                                                   DE
Name            VOIP    Est. Delay [ms]    Q.1(High)    Q.2    Q.3    Q.4(Low)    Buf

Serial 2/1      OFF     OFF                524          524    524    524         -

Serial 5/1:1    OFF     OFF                507          507    507    507         507


Current voip fair queue configuration:

                Total         Flow
Interface       discard       discard      Dynamic      Max voip      Priority
Name            threshold     threshold     Queue        delay (ms)    queues

Serial 3/1:1    256           64           16           20            1
```

Output fields

Field	Description
Total discard threshold	The total buffer credits limit for WFQ, configurable through **fair-queue-limit** command.
Flow discard threshold	Per subqueue buffer credits. Not configurable.
Dynamic queues	The total number of subqueues. Not configurable.
Max voip delay [ms]	Maximum delay for voip bearer. Configurable through the **voip-queue-delay** command.
Priority queues	The number of priority queues in the system. Not configurable. From the user's point of view control and bearer queues are the same queue.

show radius authentication

Use the **show radius authentication** command to display all RADIUS authentication configurations. Shared secrets are not displayed.

Syntax

show radius authentication

User level

read-only

Context

general

Example

To show RADIUS authentication information:

```
G350-001> show radius authentication

Mode:              Disable
Primary-server:    0.0.0.0
Secondary-server:  0.0.0.0
Retry-number:      4
Retry-time:        5
UDP-port:          1812
```

show recovery

Use the **show recovery** command to show the media gateway monitoring and recovery setup.

Syntax

show recovery

User level

read-only

Context

general

Example

To show recovery information:

```
G350-011> show recovery

RECOVERY TIMES
-------------------------------
Primary Search  : 1
Total Search    : 30
Transition Point: 1
```

show restart-log

Use the **show restart-log** command to retrieve restart data that is stored in a log in flash memory.

Syntax

show restart-log

User level

read-only

Context

general

Example

To display restart information:

```
G350-011> show restart-log

RESET ID  MM/DD-hh:mm:ss.hs     STR
---------- ------------------- -----------------------------------
0000000000 01/01-02:54:17.00   MgFw#:48.46.48 REBOOT
0000000000 01/01-02:54:12.00   MgFw#:48.46.48 WWD-STYCRINO-XXXXX REBOOT from
RecoveryEngineUti
EOF
```

show rmon alarm

Use the **show rmon alarm** command to display information about existing alarm entries. If no alarm index is specified, information for all alarms is displayed.

Syntax

show rmon alarm [*alarm_index*]

Parameters

Parameter	Description	Possible Values	Default Value
alarm_ index	The alarm about which to display information		

User level

read-only

Context

general

Example

To show information for all existing RMON alarms:

```
G350-001> show rmon alarm


alarm 1 is active, owned by billp
Monitors ifEntry.1.218106371 every 20 seconds
Taking delta samples, last value was 0
Rising threshold is 500, assigned to event # 1
Falling threshold is 100, assigned to event # 2
On startup enable rising or_falling alarms
```

show rmon event

Use the **show rmon event** command to display information about existing event entries. If no index is specified, information for all events is displayed.

Syntax

show rmon event [*event_index*]

Parameters

Parameter	Description	Possible Values	Default Value
event_ index	The index of the event about which to display information		

User level

read-only

Context

general

Example

To display RMON event information for all events:

```
G350-001> show rmon event

Event 32 is active, owned by config
Description is resetTrap
Event firing causes trap to community public, last fired 0:0:0
```

show rmon history

Use the **show rmon history** command to display information about existing history entries. If no index is specified, information for all history entries is displayed.

Syntax

show rmon history [*history_index*]

Parameters

Parameter	Description	Possible Values	Default Value
history_ index	The history entry about which to display information		

User level

read-only

Context

general

Example

To display RMON history information for entry 32:

```
G350-001> show rmon history 32

history

Entry 32 is active, owned by config
Monitors the port 10/2 every 20 seconds
Requested # of time intervals, ie buckets, is 100
Granted # of time intervals, ie buckets, is 100
Sample # 47 began measuring at 8:32:17
Received 664636 octets, 1912 packets,
2 broadcast and 0 multicast packets,
0 undersize and 0 oversize packets,
22 fragments and 0 jabbers,
0 CRC alignment errors and 3 collisions,
# of dropped packet events (due to a lack of resources): 0
Network utilization is estimated at 0
```

show rmon statistics

Use the **show rmon statistics** command to display traffic statistics for an interface. If no module is specified, information for all modules and ports is displayed.

Syntax

show rmon statistics [*module/port*]

Parameters

Parameter	Description	Possible Values	Default Value
module	The module number of the interface		
port	The port or range of ports of the interface		

User level

read-only

Context

general

Example

To display traffic statistics for all modules and ports:

```
G350-001> show rmon statistics

Statistics for switch is active, owned by Monitor
Received 1150436284 octets, 1344680977 packets,
3301887234 broadcast and 3286425893 multicast packets,
3088727251 undersize and 3613263278 oversize packets,
1062765319 fragments and 3882972139 jabbers,
1956639312 CRC alignment errors and 725598320 collisions,
# of dropped packet events (due to a lack of resources): 181377479
# of packets received of length (in octets):
64:1508486650, 65-127:3587014782, 128-255:1989866214,
256-511:378421598, 512-1023:2746475436, 1024-1518:3976219609,
```

show running-config

Use the **show running-config** command to display the media gateway's current configuration.

Syntax

show running-config

User level

read-only

Context

general

Example

To display the current configuration:

```
G350-011> show running-config

G350-011>
! version 0.0.13
!
!
!
ds-mode t1
!
interface Vlan 1
icc-vlan
ip address 172.16.1.139    255.255.255.240
pmi
!
interface FastEthernet 10/2
!
interface Console
ip address  10.3.0.1  255.255.255.0
!
```

show snmp

Use the **show snmp** command to display SNMP configuration information.

Syntax

show snmp

User level

read-only

Context

general

Example

To display SNMP information:

```
G350-001> show snmp

  Community-Access        Community-String

  read-only               public

  read-write              private

  trap                    secret



  Trap-Rec-Addr                   Status      Traps configured



  SNMPv3 Notifications Status

  Traps: Disabled

  Informs: Disabled      Retries: 3   Timeout: 3 seconds



  SNMP Rec-Addr        Model    Level    Notification    Trap/      User
                                                         Inform     Name

  129.22.22.22         v1       noauth   all             trap       ReadCommN
  UDP port: 162 DM

  129.11.33.44         v2c      noauth   all             inform     WriteCommN
  UDP port: 162
```

show snmp engineID

Use the **show snmp engineID** command to display the SNMP engine ID for the G350.

Syntax

show snmp endingid

User level

admin

Context

general

Example

To display the SNMP engine ID:

```
G350-001(super)# show snmp engineid

EngineId: 00:00:00:09:00:d0:00:4c:18:00

Engine Boots: 1234455
```

show snmp group

Use the **show snmp group** command to display configuration information about the SNMP groups.

Syntax

show snmp group

User level

admin

Context

general

Example

```
G350-001(super)# show snmp group

Group Name: defaultROgroup Context:
Security Model: v1
Security Level: noauth
Context Match: exact
Read View: defaultUserView
Write View:
Notify View: defaultUserView
Group Name: defaultROgroup Context:
Security Model: v2c
Security Level: noauth
Context Match: exact
Read View: defaultUserView
Write View:
Notify View: defaultUserView
```

show snmp retries

Use the **show snmp retries** command to display the number of retry attempts to make when attempting to communicate with a node.

Syntax

show snmp retries

User level

read-only

Context

general

Example

To display the number of retry attempts:

```
G350-001> show snmp retries

the SNMP Retries Number is 100
```

show snmp timeout

Use the **show snmp timeout** command to display the time to wait before resending a communication.

Syntax

show snmp timeout

User level

read-only

Context

general

Example

To display the timeout value:

```
G350-001> show snmp timeout

the SNMP Timeout is 60
```

show snmp user

Use the **show snmp user** command to display configuration information for the specified SNMP user.

Syntax

show snmp user *username* **[remote** *EngineID***]**

Parameters

Parameter	Description	Possible Values	Default Value
username	The username of the user whose information you wish to display		
EngineID	The EngineID of the remote user		

User level

admin

Context

general

Example

```
G350-001(super)# show snmp user <john>

EngineId: 00:11:22:33:44
User Name: john
Authentication Protocol: md5
Privacy Protocol: des56
Group for Security Model v1:  RestrictedGroup
Group for Security Model v2:  RestrictedGroup
Group for Security Model v3:  RestrictedGroup
Storage Type: volatile
Row status: active
```

show snmp usertogroup

Use the **show snmp usertogroup** command to show the mapping table between SNMPv3 users and groups.

Syntax

show snmp usertogroup [*username*]

Parameters

Parameter	Description	Possible Values	Default Value
username			

User level

admin

Context

general

Example

```
G350-001(super)# show snmp usertogroup

Security Model: v1
Security Name: WriteCommN
Group Name: WriteCommG

Security Model: v2c
Security Name: ReadCommN
Group Name: ReadCommG

Security Model: v2c
Security Name: WriteCommN
Group Name: WriteCommG
```

show snmp user summary

Use the **show snmp user summary** command to display configuration information for all SNMP users.

Syntax

show snmp user summary

User level

admin

Context

general

show snmp view

Use the **show snmp view** command to display configuration information for all SNMP views.

Syntax

show snmp view

User level

admin

Context

general

Example

```
G350-001(super)# show snmp view

View Name: iso
Subtree Oid: 1
Subtree Mask:
View Type: include
Storage Type: nonVolatile
Status: active
```

show spantree

Use the **show spantree** command to display spanning-tree information. If no port is specified, information for all ports is displayed.

Syntax

show spantree [*module*[/*port*]]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module		

User level

read-only

Context

general

Example

To display spanning tree information for all ports:

```
G350-001> show spantree

Spanning tree enabled
Designated Root:  00-40-0d-88-06-c8
Designated Root Priority: 32768
Designated Root Cost: 20
Designated Root Port: 1/1
Root Max Age: 20   Hello Time: 2

Bridge ID MAC ADDR: 00-40-0d-92-04-b4
Bridge ID priority: 32768

Port   State         Cost        Priority
------ ------------- ---------- ------------
4 /1   Forwarding    20          128
4 /2   not-connected 20          128
4 /3   LAG-member    20          128
4 /4   LAG-member    20          128
4 /5   not-connected 20          128
4 /6   not-connected 20          128 ...
4/100 Output fields
```

Output fields:

Field	Description
Spanning tree	Spanning-Tree Protocol status (enabled or disabled)
Designated root	MAC address of the designated spanning-tree root bridge
Designated Root Priority	Priority of the designated root bridge
Designated Root Cost	Total path cost to reach the root
Designated Root Port	Port through which the root bridge can be reached (shown only on non root bridges)
Root Max Age	Amount of time a BPDU packet should be considered valid
Hello Time	Number of times the root bridge sends BPDUs
Bridge ID MAC ADDR	Bridge MAC address used in the sent BPDUs
Bridge ID Priority	Bridge Priority
Port	Port number
Port-State	Spanning-tree port state (disabled, inactive, not-connected, blocking, listening, learning, forwarding, bridging, or type-pvid-inconsistent)
Cost	Cost associated with the port
Priority	Priority associated with the port

show startup-config

Use the **show startup-config** command to show the NVRAM based configuration loaded automatically at startup.

Syntax

show startup-config

User level

read-only

Context

general

Example

To display the startup configuration:

```
G350-011> show startup-config

G350-011>
! version 0.0.13
ds-mode t1
interface Vlan 1
icc-vlan
ip address 172.16.1.139    255.255.255.240
pmi
interface FastEthernet 10/2
interface Console
ip address  10.3.0.1  255.255.255.0
```

show status

Use the **show status** command to display the status of the current file copy process to or from the device.

Syntax

show {download | upload} {software [*mmID*] | config} status

Parameters

Parameter	Description	Possible Values	Default Value
download	Keyword specifying that the download status is displayed		
upload	Keyword specifying that the upload status is displayed		

1 of 2

Parameter	Description	Possible Values	Default Value
software	Keyword specifying that software download or upload information is displayed		
mmId	The Media Module ID number		
config	Keyword specifying that configuration download or upload information is displayed		

2 of 2

User level

read-only

Context

general

Example

To display the status of software downloads for all media modules:

```
G350-001# show download software status

TFTP STATUS
-------------------------------------------
Module                                      : MGP
Source File                                 : mg01_3.com
Destination File: BANK B
Host                                        : 0.0.0.0
Running State                               : idle
Last Failure                                : No Error
Last Warning                                : (null)
Progress                                    : [0/0]      0%
```

show sync timing

Use the **show sync timing** command to display the status of the primary, secondary, and local clock sources.

Syntax

show sync timing

User level

read-only

Context

general

Example

To display clock source information:

```
G350-001# show sync timing

SOURCE     MM                   STATUS                  FAILURE
--------   -------------------  ----------------------  -----------
Primary                         Not Configured
Secondary                       Not Configured
Local      v0                   Active                  None

Active Source: v0               Sync Source Switching: Enabled
```

show system

Use the **show system** command to display information about the device.

Syntax

show system

User level

read-only

Context

general

Example

To display device information:

```
G350-001# show system
System Name      :
System Location  :
System Contact   :
Uptime (d,h:m:s) : 0,7:36:43
MV Time          : N/A
MAC Address      : 00:04:0d:29:c5:11
WAN MAC address  : 00:04:0d:29:c5:10
Serial No        : 03IS12345678
Model No         : G350 Chassis
HW Vintage       : 00
HW Suffix        : B
FW Vintage       : 0.0.15
```

show temp

Use the **show temp** command to view the device temperature.

Syntax

show temp

User level

read-only

Context

general

Example:

To display temperature information:

```
G350-011> show temp

Ambient
-------
Temperature : 40C
High Warning: 45C
Low Warning : -5C
```

show timeout

Use the **show timeout** command to display the amount of time in minutes the terminal remains idle before timing out. If the timeout value is 0, there is no timeout limit. The default timeout value is 15 minutes.

Syntax

show timeout

User level

read-only

Context

general

Example

To display the timeout value:

```
G350-001> show timeout

CLI timeout is 15 minutes
```

show trunk

Use the **show trunk** command to display VLAN tagging information for the media gateway. If no port is specified, information for all ports is displayed.

Syntax

show trunk [*module*[/*port*[-*port*]]]

Parameters

Parameter	Description	Possible Values	Default Value
module	Number of the module		
port	Number of the port on the module. You can specify a range of ports. For example, use the syntax 4/1-3 to specify ports 1 through 3 on module 4.		

User level

read-only

Context

general

Example

To display binding information for ports 1-3 of module 4:

```
G350-001# show trunk 4/1-3

Port   Mode  Binding mode Native vlan Vlans allowed on trunk
------ ----- --------------- ----------- ----------------
Port   Mode  Binding mode Native vlan Vlans allowed on trunk
------ ----- --------------- ----------- ---------------------
Port   Mode  Binding mode Native vlan Vlans allowed on trunk
------ ----- --------------- ----------- ---------------------
4/3   off   statically bound 1        1
```

Output fields:

Field	Description
Port	Module and port numbers
Mode	VLAN tagging status of the port. Possible values: • `dot1q` - the port uses dot1Q tagging mode • `off` - the port uses clear tagging mode
Binding mode	Binding mode of the port. Possible values: • `statically bound` • `bound-to-configured`
Native vlan	Number of the Port VLAN ID. This is the VLAN to which received untagged traffic is assigned.

show upload status

Use the **show upload status** command to display status information regarding the upload of a configuration file for a specific module or for all modules.

Syntax

show upload status [*module_number*]

Parameters

Parameter	Description	Possible Values	Default Value
module_ number	The module number for which to display upload information	0 – 10	

User level

read-only

Context

general

Example

To display upload status information for module 10:

```
G350-001> show upload status 10

Module #10
==========
No source file for upload operation - no upload operation was done.
```

show username

Use the **show username** command to display local user accounts.

Syntax

show username

User level

admin

Context

general

Example

To display all the defined user accounts:

```
G350-001(super)# show username

User account           password     access-type

----------------------  ------------ --------------
root                      *****         admin
gkohll                    *****         read-only
readwrite                 *****         read-write
```

show utilization

Use the **show utilization** command to display information about CPU usage. If no module is specified, information for all modules is displayed.

Syntax

show utilization [*module*]

Parameters

Parameter	Description	Possible Values	Default Value
module	Module to display		

User level

read-write

Context

general

Example

To display utilization information for all modules:

```
G350-011# show utilization
Mod   CPU      CPU      RAM       RAM

      5sec     60sec    used(%)   Total(Kb)
---   ------   -----    -------   ----------
10     4%       4%       21%       105313 Kb
```

show vlan

Use the **show vlan** command to display the VLANs configured in the media gateway. If no VLAN is specified, information for all VLANs is displayed.

Syntax

show vlan [*vlan_id* | name *vlan_name*]

Parameters

Parameter	Description	Possible Values	Default Value
vlan_id	VLAN number to display	1 – 3071	
name	Keyword indicating to specify the VLAN by name		
vlan_name	VLAN name to display		

User level

read-only

Context

general

Example

To display information for all VLANs:

```
G350-001> show vlan

VLAN ID Vlan-name
------- --------------------------------
1       v1
5       V5
10      V10
15      V15
20      V20
25      V25
```

To display information for VLAN 1:

```
G350-001# show vlan 1

VLAN ID Vlan-name
------- --------------------------------
1       V1

Switch Ports currently bound to this vlan:
In module 10: 3
Switch Ports statically bound to this vlan:
None
```

show voip-parameters

Use the **show voip-parameters** command to display information about the current VoIP engine.

Syntax

show voip-parameters

User level

read-only

Context

general

Example

To display VoIP information:

```
G350-001> show voip-parameters

VOIP ENGINE PARAMETERS
----------------------------------------------------------
IP (PMI)          : 172.16.1.139
DSP Firmware Version: 200
Fault Status      : No Fault Messages
Additional Status : No Status Messages

CURRENT STATE
----------------------------------------------------------
In Use     : 0 channels, 0 of 32 resources
DSPs State : Idle
Admin State: Release
```

show voltages

Use the **show voltages** command to view power supply voltages.

Syntax

show voltages

User level

read-only

Context

general

Example

To display voltage information:

```
G350-011> show voltages
Voltage Actual  Status  Usage
------- ------  ------  -----
-48.0   -48.761 OK        5V DC2DC, Analog/DCP ports, Fans
5.0     4.947   OK        3.3V DC2DC,1.8V DC-to-DC,Modules logic,
                          TDM buses TSI
3.3     3.277   OK        2.5V voltage regulator, Motherboard logic
2.5     2.533   OK        CPU & companion chip I/O
1.8     1.787   OK        1.6V voltage regulator,
                          CPU & companion chip core
1.6     1.583   OK        VoIP DSP
```

show web aux-files-url

Use the **show web aux-files-url** command to display the URL of the Web server containing online help files and the Java plug-in.

Syntax

show web aux-files-url

User level

read-only

Context

general

Example

To display the URL of the Web server:

```
G350-001> show web aux-files-url

the web aux-files-url is http://176.2.3.66/DMweb
```

shutdown

Use the **shutdown** command to set the administrative status of the current interface to down. Use the **no** form of this command to restore the administrative status for the interface to up.

Syntax

[no] shutdown

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, DS1 FR-SUB L2-L3, DS1 FR-SUB L2, USP PPP L2, USP PPP L2-L3, USP FR L2, USP FR-SUB L2, USP FR-SUB L2-L3), FastEthernet (L2, L2-L3), VLAN (L2-L3, L2), Console, Loopback (L2-L3, L2), Controller, Tunnel (L2-L3, L2)

Example

To shutdown the VLAN 2 interface:

```
G350-001(if:Vlan 2)# shutdown

Interface Vlan 2, changed state to administratively down
Line protocol on Interface Vlan 2, changed state to down
Done!
```

shutdown

Use the **shutdown** command to disable the usb-modem interface. When the interface is disabled, calls to the modem are immediately hung up. No PPP initialization is performed, and there is no access to the device.

Use the **no** form of this command to enable the usb-modem interface. For security reasons, the usb-modem interface is disabled by default. The USB modem can only be connected after the interface is manually brought up using this command.

Syntax

[no] shutdown

User level

For **shutdown**: read-write

For **no shutdown**: admin

Context

interface usb-modem

Example

```
G350-001(super-if:USB-Modem)# shutdown

Done!
```

snmp trap link-status

Use the **snmp trap link-status** command to enable Link Up and Link Down traps. Use the **no** form of this command to restore the default value, interface traps deactivated.

Syntax

[no] snmp trap link-status

User level

read-write

Context

Interface: Serial (DS1 PPP L2, DS1 PPP L2-L3, DS1 FR L2, DS1 FR-SUB L2, DS1 FR-SUB L2-L3, USP PPP L2, USP PPP L2-L3, USP FR L2), FastEthernet (L2, L2-L3), Tunnel (L2, L2-L3)

snmp-server community

Use the **snmp-server community** command to enable access to SNMP services via community strings. Use the **no** form of the command to prevent access to SNMP services using community strings. By default, community string access is enabled.

Syntax

[no] snmp-server community

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server community

Done!
```

snmp-server dynamic-trap-manager

Use the **snmp-server dynamic-trap-manager** command to modify the SNMP settings of the dynamic trap manager. Use the **no** form of the command to restore the dynamic trap manager to its default settings, and remove all notification type filters.

Syntax

snmp-server dynamic-trap-manager {traps | informs} {v1 | v2c *community*} [udp-port *port*] [*notification_type_list*]

no snmp-server dynamic-trap-manager *notification_type_list*

Parameters

Parameter	Description	Possible Values	Default Value
traps	Specifies that the dynamic trap manager sends messages without requesting acknowledgement. This is the default.		
informs	Specifies that the dynamic trap manager sends messages requiring acknowledgement.		
v1	Specifies that the dynamic trap manager uses SNMP v1 functionality. This is the default.		
v2c	Specifies that the dynamic trap manager uses SNMP v2c functionality.		
community	The community string for accessing SNMP services.		
port	The udp port of the SNMP host.		
notification_ type_list	The specific types of messages that the dynamic trap manager sends. Use this list to filter the messages controlled by the dynamic trap manager.		All

User Level

admin

Context

general

Example

```
G350-001(super)# snmp-server dynamic-trap-manager 10.1.2.4 traps v2c public
all
```

snmp-server enable notifications

Use the **snmp-server enable notifications** command to enable the sending of all traps and informs from the G350. Use the **no** form of the command to disable the sending of all traps and informs from the G350.

> **NOTE:**
> This command overrides the enabling of individual notifications using the **snmp-server host** command.

Syntax

[no] snmp-server enable notifications

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server enable notifications
```

```
Done!
```

snmp-server engineID

Use the **snmp-server engineID** command to specify the SNMP Engine ID for the G350. Use the **no** form of the command to return the device to its default Engine ID.

> **NOTE:**
> The SNMP Engine ID must be unique for all devices on the network.

> **NOTE:**
> When you change the SNMP Engine ID, all users other than the default user are invalidated and must be redefined.

NOTE:
When the IP address of the G350 changes, the SNMP Engine ID is automatically changed.

Syntax

snmp-server engineID *engineID*

no snmp-server engineID

Parameters

Parameter	Description	Possible Values	Default Value
engineID	12 byte hexadecimal string, with each byte separated by a colon. For example, 00:00:00:81:0a:fe:ff:12:97:33:45:12.		

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server engineid 00:02:00:81:00:d0:00:4c:18:00

Done!
```

snmp-server group

Use the **snmp-server group** command to define a new SNMPv3 group, or to configure settings for the group. An SNMP group associates users with views. Use the **no** form of the command to remove the specified group.

NOTE:
If you use the **no** form of the command with no additional parameters, all instances of the specified group are removed. If you specify a particular security group, only that group instance is removed.

Syntax

snmp-server group *groupname* **{v1|v2c|v3 {auth|noauth|priv}} [read** *readviewname***] [write** *writeviewname***] [notify** *notifyviewname***]**

no snmp-server group *groupname* **[v1|v2c|v3 {noauth|auth|priv}]**

Parameters

Parameter	Description	Possible Values	Default Value
groupname	A character string of at most 32 characters specifying the group name		
v1	The group is limited to SNMP v1 functionality		
v2c	The group is limited to SNMP v2c functionality		
v3	The group has full SNMP v3 functionality (this is the default)		
auth	The group authenticates packets		
noauth	The group does not authenticate packets (this is the default)		
priv	The group authenticates and encrypts packets		
readviewname	A character string of at most 64 characters specifying the view name for the read view. Users of this group have read access to the set of MIB objects specified in the read view. If no view is specified, the default is an empty view.		
writeviewname	A character string of at most 64 characters specifying the view name for the write view. Users of this group have write access to the set of MIB objects specified in the write view. If no view is specified, the default is an empty view.		
notifyviewname	A character string of at most 64 characters specifying the view name for the notify view. Users of this group have notify access to the set of MIB objects specified in the notify view. If no view is specified, the default is an empty view.		

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server group 12groupRO v3 auth read view1 notify view2

Done!
```

snmp-server host

Use the **snmp-server host** command to identify an SNMP management server, and specify the kind of messages it receives. Use the **no** form of the command to remove the specified server, or to disable a particular set of notification types.

> **NOTE:**
> If you specify no snmp-server host without a notification type list, all notification types are disabled.

Syntax

snmp-server host {*host_address|hostname*} {traps|informs} {{{v1|v2c} *community*} | {v3 [auth|noauth|priv] *user*}} [udp-port *port*] [*notification-type-list*]

no snmp-server host *host_address* [{traps|informs} *notification-type-list*]

Parameters

Parameter	Description	Possible Values	Default Value
host_address	IP address of the SNMP host		
hostname	A character string no longer than 32 characters, specifying the hostname of the SNMP host		
traps	Send traps to this host (messages not requiring acknowledgement). This is the default.		
informs	Send informs to this host (messages requiring acknowledgement)		
v1	Use SNMP v1 functionality with this host		
v2c	Use SNMP v2c functionality with this host		
community	The community string to use to connect to the specified host (for v1 or v2c)		
v3	Use SNMP v3 functionality with this host		
auth	Authenticate messages to this host		
noauth	Do not authenticate messages to this host (this is the default)		
priv	Authenticate and encrypt messages to this host		
user	The username to use for authentication on the specified host		

1 of 2

Parameter	Description	Possible Values	Default Value
port	Which port of the target host to use		162
notification-type-list	List of notification types that are enabled for this host. Use the no form of the command to disable specific notification types. The default is none.	`all` `generic` `config` — configuration change notifications `eth-port-faults` — notifications of Ethernet port faults `sw-redundancy` — software redundancy notifications `temperature` — temperature warning notifications `cam-change` — notifications about changes in CAM `l3-faults` — notifications about L3 faults (duplicate IP, VLAN violations) `lag-event` — notifications about link aggregation faults and configuration changes `policy` — notifications about changes in policy (for L3 devices) `link-down-faults` — link-down notifications `supply` — power supply notifications `fan` — notifications about fan faults (main and backup) `cascade` — notifications about cascade connection faults	

2 of 2

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server host 10.1.2.4 informs v3 auth John udp-port 789
config generic

Done!
```

snmp-server informs

Use the **snmp-server informs** command to configure settings for SNMP inform messages.

Syntax

snmp-server informs [retries *retries*] [timeout *timeout*] [pending *pending*]

Parameters

Parameter	Description	Possible Values	Default Value
retries	The maximum number of times to resend an inform message		3
timeout	The number of seconds to wait for an acknowledgement before resending an inform message		3
pending	The maximum allowable number of inform messages that can be waiting for acknowledgement at any given time. When the maximum is reached, the oldest pending inform messages are discarded.		25

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server informs retries 5 timeout 3

Done!
```

snmp-server remote-user

Use the **snmp-server remote-user** command to configure settings for a remote SNMPv3 user. If the user does not exist, it is created. Use the **no** form of the command to remove the user from specific groups. If no groups are specified, the user is removed from all groups.

Syntax

snmp-server remote-user *username SNMPEngineID groupname* {v1|v2c|v3} [auth {md5|sha} *auth-password* [priv des56 *priv-password*]]

no snmp-server remote-user *username* [*groupname* {v1|v2c|v3}]

Parameters

Parameter	Description	Possible Values	Default Value
username	A character string no longer than 32 characters, specifying the username of this user		
SNMPEngineID	The remote device Engine ID for this user		
groupname	A character string no longer than 32 characters, specifying the groupname this user is associated with		
v1	The user is authorized for SNMP v1 functionality in the specified group		
v2c	The user is authorized for SNMP v2c functionality in the specified group		
v3	The user is authorized for SNMP v3 functionality in the specified group		
md5	Use the MAC-MD5-96 authentication protocol		
sha	Use the HMAC-SHA-96 authentication protocol		
auth-password	A character string no longer than 64 characters specifying the authentication password. An authentication password is required if the auth keyword is used. The minimum length is 8 characters.		
priv-password	A character string no longer than 64 characters specifying the privacy password. The minimum length is 8 characters.		

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server remote-user john 00:02:00:81:00:d0:00:4c:18:00
L2Group

Done!
```

snmp-server user

Use the **snmp-server user** command to configure settings for an SNMPv3 user. If the user does not exist, it is created. Use the **no** form of the command to remove the user from specific groups. If no groups are specified, the user is removed from all groups.

Syntax

snmp-server user *username groupname* **{v1|v2c|v3} [auth {md5|sha}** *auth-password* **[priv des56** *priv-password***]] [volatile]**

no snmp-server user <username> [<groupname> {v1|v2c|v3}]]

Parameters

Parameter	Description	Possible Values	Default Value
username	A character string no longer than 32 characters, specifying the username of this user		
groupname	A character string no longer than 32 characters, specifying the groupname this user is associated with		
v1	The user is authorized for SNMP v1 functionality in the specified group		
v2c	The user is authorized for SNMP v2c functionality in the specified group		
v3	The user is authorized for SNMP v3 functionality in the specified group		
md5	Use the MAC-MD5-96 authentication protocol		
sha	Use the HMAC-SHA-96 authentication protocol		
auth-password	A character string between 8 and 64 characters specifying the authentication password. An authentication password is required if the auth keyword is used. The minimum length is 8 characters.		
priv-password	A character string between 8 and 64 characters specifying the privacy password. The minimum length is 8 characters.		
volatile	Specifies that the user configurations are only set temporarily, until the system is reset. After reset, the user settings return to their previous values.		

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server user john L2Group v3 auth md5 katmandu priv des56
uktanatan

Done!
```

snmp-server view

Use the **snmp-server view** command to configure settings for an SNMP MIB view. If the view does not exist, it is created. A MIB view specifies a particular section or subsection of the MIB tree. You can create a view that includes a particular subsection, or excludes one.

Syntax

snmp-server view *viewname oidtree* **{included|excluded}**

no snmp-server view *viewname* [*oidtree*]

Parameters

Parameter	Description	Possible Values	Default Value
viewname	The name of the view		
oidtree	The subtree to be included in or excluded from this view. Oidtree is specified as a series of period-separated numbers. In order to include a subtree family, use an asterisk as a wildcard character. Symbolic MIB object names are not supported.		
groupname	A character string no longer than 32 characters, specifying the groupname this user is associated with		
included	Keyword indicating that the view includes the specified subtree (this is the default).		
excluded	Keyword indicating that the view excludes the specified subtree.		

User level

admin

Context

general

Example

```
G350-001(super)# snmp-server view internet 1.3.6.1 included

Done!
```

source-ip

Use the **source-ip** command to indicate that the current rule applies to packets from the specified source IP address. Use the **no** form of the command to indicate that the current rule applies to all packets *except* those coming from the specified IP address.

Syntax

[no] source-ip {host *ip* | any | *ip wildcard*}

Parameters

Parameter	Description	Possible Values	Default Value
host	Keyword that indicates a specific host IP address		
ip	The IP address of packets to which the rule is applied		
any	Keyword that indicates any IP address		
wildcard	A range of IP addresses		

User level

read-write

Context

ip pbr-list ip-rule, ip qos-list ip-rule, ip capture-list ip-rule, ip access-control-list ip-rule

Example

To specify that rule 22 of QoS policy list 460 applies to any packet coming from IP address 135.64.104.102:

```
G350-110(QoS 460/rule 22)# source-ip host 135.64.104.102
```

speed

Use the **speed** command to set the PPP baud rate to be used by asynchronous PPP ports.

> **NOTE:**
> The peer baud-rate must be set to the same value.

Syntax

speed *speed_rate*

Parameters

Parameter	Description	Possible Values	Default Value
speed_rate	The PPP baud rate	9600, 19200, 38400	38400

User level

read-write

Context

Interface: Console, USB-modem

Example

To set the PPP baud rate to 9600:

```
G350-001(if:CON)# speed 9600
```

speed

Use the **speed** command to control the speed setting for the interface.

> **NOTE:**
> This command functions only in `no autoneg` mode.

Syntax

speed speed_rate

Parameters

Parameter	Description	Possible Values	Default Value
speed_rate	The interface speed	10MB, 100MB	

User level

read-write

Context

Interface: FastEthernet (L2, L2-L3)

Example

To set the interface speed to 100MB:

```
G350-001(if:FastEthernet 10/2)# speed 100MB
```

tcp destination-port

Use the **tcp destination-port** command to define a destination port with the TCP protocol for which to apply the current rule. Use the **no** form of the command to specify that the rule applies to all ports other than the defined port.

> **NOTE:**
> Issuing this command also sets the protocol to be TCP, if it is not already.

Syntax

tcp destination-port any | {{eq | lt | gt}
                              {*port_name* | *port_number*}} | {range *start_port end_port*}

Parameters

Parameter	Description	Possible Values	Default Value
any	Keyword that specifies to apply the rule to a port with any name or number		
eq	Keyword that specifies to apply the rule to a port whose name or number matches exactly to the specified name or number		
lt	Keyword that specifies to apply the rule to a port whose name or number is less than the specified name or number		
gt	Keyword that specifies to apply the rule to a port whose name or number is greater than the specified name or number		
port_name	The name of the port for which to apply the rule		
port_ number	The number of the port for which to apply the rule		
range	Keyword indicating that a range of ports is specified		
start_port	The start of a port range for which to apply the rule		
end_port	The end of a port range for which to apply the rule		

User level

read-write

Context

ip pbr-list ip-rule, ip capture-list ip-rule, ip qos-list ip-rule, ip access-control-list ip-rule

Example

To specify that the current rule applies to all packets whose destination port is 300:

```
G350-001(ACL 330/ip rule 22)# tcp destination-port eq 300
```

tcp established

Use the **tcp established** command to specify that the current rule applies only to packets that are part of an established TCP session. Use the **no** form of the command to specify that the current rule applies to any TCP packets.

> **NOTE:**
> The **tcp established** and **no tcp established** commands also set the IP protocol to TCP.

Syntax

[no] tcp established

User level

read-write

Context

ip access-control-list ip-rule

Example

To specify that rule 27 applies only to packets from an established TCP session:

```
G350-001(ACL 330/ip rule 27)# tcp established

Rule protocol changed.
```

tcp source-port

Use the **tcp source-port** command to define a source port with the TCP protocol for which to apply the current rule. Use the **no** form of the command to specify that the rule applies to all ports other than the defined port.

> **NOTE:**
> Issuing this command also sets the protocol to be TCP, if it is not already.

Syntax

[no] tcp source-port any | {{eq | lt | gt} {*port_name* | *port_number*}}
                                    | {range *start_port end_port*}
no tcp source-port

Parameters

Parameter	Description	Possible Values	Default Value
any	Keyword that specifies to apply the rule to a port with any name or number		
eq	Keyword that specifies to apply the rule to a port whose name or number matches exactly to the specified name or number		
lt	Keyword that specifies to apply the rule to a port whose name or number is less than the specified name or number		
gt	Keyword that specifies to apply the rule to a port whose name or number is greater than the specified name or number		
port_name	The name of the port for which to apply the rule		
port_ number	The number of the port for which to apply the rule		
range	Keyword indicating that a range of ports is specified		
start_port	The start of a port range for which to apply the rule		
end_port	The end of a port range for which to apply the rule		

User level

read-write

Context

ip pbr-list ip-rule, ip capture-list ip-rule, ip qos-list ip-rule, ip access-control-list ip-rule

Example

To specify that rule 22 applies to all packets whose source port is greater than 95:

```
G350-001(ACL 330/ip rule 22)# tcp source-port gt 95
```

tech

Use the **tech** command to enter tech mode, where additional tech-related commands are available.

> **NOTE:**
> This command is reserved for service personnel use only.

Syntax

tech

User level

tech

Context

general

Example

To enter tech mode:

```
G350-001# tech

Password:

G350-001(tech)#
```

telnet

Use the **telnet** command to initiate a login session via Telnet to a network host.

Syntax

telnet *ipaddress* [*port_number*]

Parameters

Parameter	Description	Possible Values	Default Value
ipaddress	The Telnet IP address		
port_number	The Telnet port number		23

User level

read-only

Context

general

Example

To initiate a Telnet session to IP address 133.23.6.66:

```
G350-011> telnet 133.23.6.66
```

terminal length

Use the **terminal length** command to set the length of the terminal display in characters.

Syntax

terminal length [*lines*]

Parameters

Parameter	Description	Possible Values	Default Value
lines	The number of lines in the terminal display	none - Displays the current length. 3 – 200 - Sets the new screen length to the value.	

User level

read-only

Context

general

Example

To set the screen to display 24 lines:

```
G350-001> terminal length 24
```

terminal width

Use the **terminal width** command to set the width of the terminal display in characters.

Syntax

terminal width [*characters*]

Parameters

Parameter	Description	Possible Values	Default Value
characters	The number of characters in the width of the terminal display	`none` - Displays the current width. `10 – 200` - Sets the new screen width to the value.	

User level

read-only

Context

general

Example

To limit the display to a width of 6 characters:

```
G350-001> terminal width 6
```

test led

Use the **test led** command to run a test of the device's LED operation.

Syntax

test led

User level

read-only

Context

general

Example

To run a test of the device's LED operation:

```
G350-001> test led
```

The Box level ALM, CPU and MDM LEDs should be BLINKING for 5 seconds each.

test voip-dsp

Use the **test voip-dsp** command to start a BTR test on the VoIP engine. Also refer to:

> **NOTE:**
> If you do not run the `busyout voip-dsp` command before the `test voip-dsp` command, only non-disruptive tests will run.

> **NOTE:**
> Status changes during the test create SNMP traps.

> **NOTE:**

Syntax

test voip-dsp

User level

read-write

Context

general

Example:

To start a BTR test:

```
G350-001# test voip-dsp

DSP TEST RESULTS
-------------------------
DSP 0                    PASS
DSP 1                    PASS
```

timeout absolute

Use the **timeout absolute** command to set the number of minutes until the system automatically disconnects an idle PPP incoming session.

Syntax

timeout absolute *time*

Parameters

Parameter	Description	Possible Values	Default Value
time	Interval, in minutes, after which the system automatically disconnects the PPP session. An interval of 0 minutes indicates that no timeout should occur.	`0 - 999`	0

User level

read-write

Context

Interface: Console, USB-modem

Example

To set the PPP timeout to 30 minutes:

```
G350-011(if:Console)# timeout absolute 30

PPP incoming session will automatically disconnect after 30 minutes of idle
time.
```

timers basic

Use the **timers basic** command to set RIP timers. Use the **no** form of this command to set the RIP timers to their default values.

Syntax

timers basic *update invalid*

no timers basic

Parameters

Parameter	Description	Possible Values	Default Value
update	The RIP update timer, in seconds	`30` or more	
invalid	The RIP invalid route timer, in seconds	`30` or more	

User level

read-write

Context

Router: rip

Example

To set the update timer to 30 seconds, and the invalid route timer to 180 seconds:

```
G350-001(router:rip)# timers basic 30 180
```

timers spf

Use the **timers spf** command to configure the delay between SPF calculations when using OSPF. Use the **no** form of this command to restore the default value.

Syntax

timers spf *spf_holdtime*

no timers spf

Parameters

Parameter	Description	Possible Values	Default Value
spf_ holdtime	The time in seconds of the delay between SPF calculations	1–3600	3

User level

read-write

Context

Router: ospf

Example

To set the SPF delay time to 5 seconds:

```
G350-001(router:ospf)# timers spf 5
```

traceroute

Use the **traceroute** command to trace the network routing path to a destination IP address.

Syntax

traceroute *ip_address*

Parameters

Parameter	Description	Possible Values	Default Value
ip_address	Destination IP address to which a route is traced		

User level

read-only

Context

general

Example

To trace the route to IP address 172.16.1.47:

```
G350-001# traceroute 172.16.1.47

Press any key to stop traceroute ...

172.16.1.47                10 ms   (ttl = 1)
```

traffic-shape rate

Use the **traffic-shape rate** command to configure traffic shaping for outbound traffic on the current interface.

Syntax

traffic-shape rate *bit_rate*

Parameters

Parameter	Description	Possible Values	Default Value
bit_rate	The bit-rate that traffic is shaped to, in bits per second	64000 – 2048000	

User level

read-write

Context

Interface: FastEthernet(L2, L2-L3)

Example

To set the traffic-shaping rate to 128000:

```
G350-001(if:FastEthernet 10/2)# traffic-shape rate 128000
```

transmitter-delay

Use the **transmitter-delay** command to set the minimum number of flags to be sent between successive packets. Use the **no** form of the command to restore the transmitter-delay value to the default of 0.

Syntax

transmitter-delay *number*

no transmitter-delay

Parameters

Parameter	Description	Possible Values	Default Value
number	The number of flags	0 – 15	

User level

read-write

Context

Interface: Serial (USP FR L2, USP PPP L2, USP PPP L2-L3)

Example

To set the transmitter-delay to send at least 10 flags between packets:

```
G350-001(if:Serial 5/1)# transmitter-delay 10
```

tree

Use the **tree** command to display the commands that are available at your current location in the CLI hierarchy. All commands are listed alphabetically.

Syntax

tree *depth*

Parameters

Parameter	Description	Possible Values	Default Value
depth	The level of depth at which to display the list of CLI commands		

User level

read-only

Context

general

Example

To display the list of available commands to two levels:

```
G350-001> tree 2

> arp
> arp timeout
> banner login
  banner login > line
> banner post-login
  banner post-login > line
--type q to quit or space key to continue--
```

tunnel checksum

Use the **tunnel checksum** command to specify that the router adds a checksum bit to the outgoing GRE packet, for data verification. Use the **no** form of the command to specify that no checksum bit should be added.

> **NOTE:**
> Checksum validation must be configured on the tunnel endpoint in order for the validation to be performed correctly.

Syntax

[no] tunnel checksum

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel checksum
```

tunnel destination

Use the **tunnel destination** command to specify the destination IP address for the GRE tunnel. The destination is the IP address of the tunnel's endpoint.

> **NOTE:**
> The CLI does not verify that the specified IP address actually exists.

Syntax

tunnel destination *ip-address*

Parameters

Parameter	Description	Possible Values	Default Value
ip-address	The destination IP address for the GRE tunnel		

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel destination 168.30.10.2
```

tunnel dscp

By default, the GRE header copies the DSCP value from the header of the original packet. Use the **tunnel dscp** command to override the original packet's DSCP with the specified DSCP value. Use the **no** form of the command to use the DSCP value of the original packet.

Syntax

tunnel dscp *dscp*

no tunnel dscp

Parameters

Parameter	Description	Possible Values	Default Value
dscp	The DSCP value to be used instead of the DSCP from the header of the original packet	0-63	

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel dscp 0
```

tunnel keepalive

Use the **tunnel keepalive** command to specify that the tunnel sends keepalive packets to determine if the tunnel endpoint is up. Packets are sent according to the interval specified in the seconds parameters, and resent according to the number of the retries parameter.

Use the **no** form of the command to disable keepalive packets.

If keepalive is enabled, the tunnel interface is only considered "up" when the tunnel endpoint is up. If keepalive is disabled, the tunnel interface is up as long as the tunnel has a source, a destination, and a route to the destination.

Syntax

tunnel keepalive [*seconds* [*retries*]]

no keepalive

Parameters

Parameter	Description	Possible Values	Default Value
seconds	The rate at which keepalive packets are sent	0-32767	10
retries	The number of times that a device continues to send keepalive packets without a response before the interface becomes inactive	0-255	3

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel keepalive 10 3
```

tunnel key

Use the **tunnel key** command to instruct the router to send GRE packets with a security key number. The tunnel endpoint must also be configured to use a security key, and the key numbers must be identical. If a security key is not configured on the tunnel endpoint, or a different key number is used, the packets are discarded. Use the **no** form of the command to specify that no security key should be sent.

Syntax

tunnel key *key id*

no tunnel key

Parameters

Parameter	Description	Possible Values	Default Value
key id	The ID number of the security key to be sent with GRE packets	`0-2147483647`	

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel key 7
```

tunnel mode

Use the **tunnel mode** command to specify the encapsulation method of the tunnel. This command is only included for future development, and for conformity with other systems. Currently, the tunnel can only perform GRE encapsulation.

Syntax

tunnel mode *encapsulation*

no tunnel mode

Parameters

Parameter	Description	Possible Values	Default Value
encapsulation	The encapsulation method of the tunnel	`gre`	

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel mode gre
```

tunnel path-mtu-discovery age-timer

Use the **tunnel path-mtu-discovery age-timer** command to specify that the tunnel maintain information on the maximum allowable packet size (smallest MTU) for the entire routing path of the tunnel. Packets entering the tunnel that are larger than the tunnel's MTU are either rejected, or sent back with a request for fragmentation (depending on the DF bit of the packet).

Use the age-timer parameter to force the tunnel to update the MTU after a specified number of minutes. Specify infinite to make the MTU value permanent (no updating).

Use the **no** form of the command to disable MTU discovery.

> **NOTE:**
> When MTU discovery is disabled, packets traversing the tunnel may be rejected due to the MTU limit of one of the routers along the way. In this case, the packets will not be returned, even if fragmentation was requested. It is highly recommended to enable the MTU-discovery feature on a tunnel, to avoid lost packets.

Syntax

tunnel path-mtu-discover age-timer *min*

no tunnel path-mtu-discovery

Parameters

Parameter	Description	Possible Values	Default Value
min	Specifies how often the tunnel must update the MTU. If the value is 'infinite', the tunnel does not update the MTU and its value remains permanent.	`10-30` `infinite`	

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel path-mtu-discovery age-timer 20
```

tunnel source

Use the **tunnel source** command to specify the IP address of the source interface for the GRE tunnel. The source interface is the interface used to direct all traffic into the tunnel.

> **NOTE:**
> The CLI does not verify that the specified IP address actually exists.

Syntax

tunnel source *ip-address*

Parameters

Parameter	Description	Possible Values	Default Value
ip-address	The IP address of the source interface for the GRE tunnel		

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel source 90.0.0.10
```

tunnel ttl

By default, GRE packets are given a ttl value of 225, since there are an unknown number of hops to reach the tunnel endpoint. Use the **tunnel ttl** command to override this default. Use the **no** form of the command to use the default ttl value.

Syntax

tunnel ttl *ttl*

no tunnel ttl

Parameters

Parameter	Description	Possible Values	Default Value
ttl	The ttl value to be used instead of the default ttl value of 225	1-225	

User level

read-write

Context

Interface: Tunnel (L2, L2-L3)

Example

```
G350-001# tunnel ttl 16
```

udp destination-port

Use the **udp destination-port** command to define a destination port with the UDP protocol for which to apply the current rule. Use the **no** form of the command to specify that the rule applies to all ports *other* than the defined port.

> **NOTE:**
> Issuing this command also sets the protocol to be UDP, if it is not already.

Syntax

udp destination-port any | {{eq | lt | gt}
                                                    {*port_name* | *port_number*}} | {range *start_port end_port*}

Parameters

Parameter	Description	Possible Values	Default Value
any	Keyword that specifies to apply the rule to a port with any name or number		
eq	Keyword that specifies to apply the rule to a port whose name or number matches exactly to the specified name or number		
lt	Keyword that specifies to apply the rule to a port whose name or number is less than the specified name or number		
gt	Keyword that specifies to apply the rule to a port whose name or number is greater than the specified name or number		
port_name	The name of the port for which to apply the rule		
port_ number	The number of the port for which to apply the rule		
range	Keyword indicating that a range of ports is specified		
start_port	The start of a port range for which to apply the rule		
end_port	The end of a port range for which to apply the rule		

User level

read-write

Context

ip pbr-list ip-rule, ip qos-list ip-rule, ip capture-list ip-rule, ip access-control-list ip-rule

Example

To specify that rule 22 applies to all packets whose destination port is 300:

```
G350-001(ACL 330/ip rule 22)# udp destination-port eq 300
```

udp source-port

Use the **udp source-port** command to define a source port with the UDP protocol for which to apply the current rule. Use the **no** form of the command to specify that the rule applies to all ports other than the defined port.

> **NOTE:**
> Issuing this command also sets the protocol to be UDP, if it is not already.

Syntax

udp source-port any | {{eq | lt | gt} {*port_name* | *port_number*}}
| {range *start_port end_port*}

Parameters

Parameter	Description	Possible Values	Default Value
any	Keyword that specifies to apply the rule to a port with any name or number		
eq	Keyword that specifies to apply the rule to a port whose name or number matches exactly to the specified name or number		
lt	Keyword that specifies to apply the rule to a port whose name or number is less than the specified name or number		
gt	Keyword that specifies to apply the rule to a port whose name or number is greater than the specified name or number		
port_name	The name of the port for which to apply the rule		
port_ number	The number of the port for which to apply the rule		
range	Keyword indicating that a range of ports is specified		

1 of 2

Parameter	Description	Possible Values	Default Value
start_port	The start of a port range for which to apply the rule		
end_port	The end of a port range for which to apply the rule		

2 of 2

User level

read-write

Context

ip pbr-list ip-rule, ip qos-list ip-rule, ip capture-list ip-rule, ip access-control-list ip-rule

Example

To specify that rule 22 applies to all packets whose source port is greater than 95:

```
G350-001(ACL 330/ip rule 22)# udp source-port gt 95
```

username

Use the **username** command to add a local user account. Use the **no** form of the command to remove the user account from the system.

By default there is only a single user account, named root, with password root, which accesses the administrator level. You cannot delete this basic user account, nor modify its access level. But you can modify its basic password.

> **NOTE:**
> For security reasons, you should change the root password immediately.

Syntax

username *name* **password** *passwd* **access-type** *access_type*

no username *name*

Parameters

Parameter	Description	Possible Values	Default Value
name	New user name	minimum four character string	
passwd	User's password	minimum four character string	

access_type	Access type definition	`read-only,`
		`read-write,`
		`admin`	

User level

admin

Context

general

Example

To create a new user account with username john, password johnny and access type of read-write:

```
G350-011(super)# username john password johnny access-type read-write
```

User account added.

You cannot change the access type of the root user:

```
G350-011(super)# username root password secret access-type read-write
```

ERROR: User account root has always an administrator access type.

To change the password of the root user:

```
G350-011(super)# username root password secret access-type admin
```

User account modified.

> **NOTE:**
> If you wish to define a name which includes spaces, you must enclose the entire name in quotation marks, for example "new york".

voip-queue

Use the **voip-queue** command to select custom queueing for VoIP traffic. By default, VoIP queuing is off.

Syntax

[no] voip-queue

User level

read-write

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP FR L2, USP PPP L2,
USP PPP L2-L3), FastEthernet (L2, L2-L3)

> **NOTE:**
> This command is also used in FastEthernet context when traffic shaping is configured.

Example

To enable VoIP queuing:

```
G350-001(if:Serial 2/1:1)# voip-queue
```

voip-queue-delay

Use the **voip-queue-delay** command to set the maximum query delay for which to estimate.

Syntax

voip-queue-delay *queue_delay_ms*

Parameters

Parameter	Description	Possible Values	Default Value
queue_ delay_ms	The maximum amount of time that voice traffic is allowed to wait in the queue	1-1000	

User level

admin

Context

Interface: Serial (DS1 PPP L2-L3, DS1 PPP L2, DS1 FR L2, USP FR L2, USP PPP L2,
USP PPP L2-L3), FastEthernet (L2, L2-L3)

> **NOTE:**
> This command is also used in Serial and WAN FastEthernet context when traffic shaping is configured.

Example

To set the maximum query delay to 30 milliseconds:

```
G350-001(super)# voip-queue-delay 30

Done!
```