

Internet Telephony Gateway Command Reference

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About This Manual

This section discusses the objectives, audience, organization, and conventions associated with this document.

Document Objectives

This document provides an in-depth description of the commands necessary for configuring and maintaining the ITG.

Audience

This publication is intended as a standalone document for experienced system administrators or engineers who will be configuring and maintaining the ITG and would like to reference commands.

Document Organization

This document is organized as follows:

1. *Introduction*, gives an overview this document and summarizes all Command Line Interface (CLI) commands supported by the ITG.
2. *Utility Commands*, describes general-purpose utility commands.
3. *IP Configuration Commands*, describes commands for configuring the network interface and displaying the configuration.
4. *Telephony Interface Port Configuration Commands*, describes commands for configuring the telephony interface ports.
5. *Voice and Fax Coder Configuration Commands*, describes commands for configuring the voice and fax coders supported by the ITG.
6. *Call Progress Configuration Commands*, describes commands for configuring the call progress detector and generator.
7. *H323 Configuration Commands*, describes commands for configuring the H.323 call control and signaling protocol stack.

8. *Configuration Management Command*, describes commands for managing the configuration parameters.
9. *The Show Command*, describes how to display various information related to the gateway.
10. *Dial Plan Management Commands*, describes commands for setting up and viewing the dial plan.
11. *The Trace Utility*, describes the trace utility and commands for using the utility.
12. *Software Upgrade Utility Commands*, describes CLI commands ITG supports under Software Upgrade Mode.

Notation Conventions

This document uses the following conventions:

- Examples that contain system prompts denote interactive sessions, indicating that the user enters commands at the prompt.
- Different type styles and characters are used. These serve a variety of purposes as described below:

Convention	Description
boldface	Commands and keywords are in boldface .
Bold Courier	User input (anything you are expected to type in) is set in bold Courier .
<i>italic</i>	Arguments for which you supply values.
courier	Messages that the ITG CLI displays are in plain courier font.
[]	Elements in square brackets are optional.
{ x y z }	Alternative but required elements are grouped in braces ({ }) and separated by vertical bars ().
[x y z]	Optional alternative keywords are grouped in brackets ([]) and separated by vertical bars ().
“string”	A non-quoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
<key>	A key on the VT-100 terminal or terminal emulator. For example <Enter> denotes the Enter key.

Designating IP Address

Some commands require an IP address, which must be designated in a standard format. The IP address format is 32 bits, written as four octets separated by periods (dotted decimal format) that are made up of a network section, an optional subnet section, and a host section, as shown in the following example:

192.168.0.1

Designating Port ID

Each telephony port of the ITG is assigned with an ID. Some commands require a telephony port ID. The ITG assigned ID 0 to the first telephony port, ID 1 to the 2nd port, and so on.

Documentation Abbreviations

Throughout this document, the user will come across a number of abbreviations that are commonly used in the industry. The user should be familiar with the following abbreviations:

ATPM	Address Translation and Parsing Manager
CLI	Command Line Interface
DHCP	Dynamic Host Configuration Protocol
DIS	Digital Identification Signal
DNS	Domain Name System
DSP	Digital Signal Processor
DTMF	Dual Tone Multi-Frequency
FXO	Foreign Exchange Office
FXS	Foreign Exchange Station
GK	Gatekeeper
H.323	ITU specification for multimedia transmission over IP networks
ICMP	Internet Control Message Protocol
IFP	Internet Facsimile Protocol
IMTC	International Multimedia Telecommunications Consortium
IP	Internet Protocol
ITG	Internet Telephony Gateway
KTS	Key Telephone System
LAN	Local Area Network
PPP	Point-to-Point Protocol
PPPoE	PPP Over Ethernet

NVS	Non-Volatile Storage
PBX	Private Branch Exchange
PSTN	Public Switched Telephone Network
RCF	Registration Confirmation
RRQ	Registration Request
RTP	Real-Time Transport
TFTP	Trivial File Transfer Protocol
UDP	User Datagram Protocol
UUIE	User-to-User Information Element
VAD	Voice Activity Detection
WAN	Wide Area Network

1. Introduction

The ITG has a built-in command line interpreter and provides users a Command Line Interface (CLI). You can configure ITG by entering commands from the CLI.

You can access the CLI from a VT-100 terminal or terminal emulator connected to the RS-232 port on the front panel or through a Telnet session.

Command Help

Help for commands is provided by the CLI. Type **help** to see a list of the top-level commands. On most cases, if you enter a command using the wrong number of arguments or inappropriate arguments, the CLI will give further usage.

CLI Commands

The ITG offers two operational modes. Under normal conditions, the ITG operates in Gateway Mode. When software upgrade is required, the ITG may be operated in Software Upgrade Mode. Under Software Upgrade Mode, the CLI supports limited commands allowing users to read new revision codes from a remote TFTP server and write it to the built-in flash non-volatile storage.

This section provides two tables (Table 1 and Table 2) that list all CLI commands supported by the ITG in alphabetical order, and provides for each command a one-line description, and the page number where you can find detailed information. Table 1 lists CLI commands supported under Gateway Mode. Table 2 lists CLI commands supported under Software Upgrade Mode. The *port* in the **set port** command and *profile_id* in the **set coding** command in Table 1 stands for port ID and coding profile ID respectively.

Table 1 Gateway Mode Commands

Command	Description	Page
arp	Manages ARP table	15
clrscr	Clears the screen	11
config	Manages configuration parameters	79
download	Enters software upgrade mode	11
help	Displays top level commands	11
net		
reset	Resets the ITG	15
set gateway	Sets default gateway' address	15
set http	Enables/Disables HTTP server	16
set ip	Sets IP address	16
set ip_preced	Sets IP Service Type	17
set mask	Sets subnet mask	17
set speed	Sets link speed for Ethernet interface	18
set telnet	Enables/Disables Telnet server	18

set user_pw	Sets password for Telnet and HTTP server login	19
show	Displays network parameters	19
show hwstat	Displays hardware configuration	20
ping	Pings a remote IP host	11
set coding <i>profile_id</i>	Configures coding profile	
adaptive_playout	Enables/Disables adaptive voice playback	54
coding_type	Sets coder type	51
copyof	Copies parameters for a coding profile to another	53
cp_tone_detect	Enables/Disables CP tone detection for a coding profile	52
dtmf_relay	Enables/Disables DTMF relay	55
fax_hs_pkt_rate	Sets the rate at which high-speed data will be sent for a fax coding profile	59
fax_hs_redundancy	Specifies the packet-level redundancy for high-speed data transmissions for a fax coding profile	59
fax_ls_redundancy	Specifies the packet-level redundancy for low-speed data transmissions for a fax coding profile.	59
fax_tcf_method	Sets the T.38 TCF method	60
fax_tone_detect	Enables/Disables V.21 fax tone detection	53
fax_tx_net_timeout	Sets the timeout period for declaring fax clear-down	60
max_delay	Sets the size of jitter buffer for a voice coding profile	55
min_delay	Sets the minimum time each voice packet stays in jitter buffer	56
nom_delay	Sets the average delay each voice packet stays in jitter buffer	56
usage	Sets allowed usage for a coding profile	53
vad	Enables/Disables voice activity detection	57
vad_thresh	Sets the threshold level for voice activity detection	57
vif	Set the size of the voice packet	58
set cp_tone_det	Enables/Disables CP tone detection	66
set cp_tone_det_cfg	Configures the CP tone detection filter	68
set h323	Configures H.323 parameters	
alias	Adds/Deletes H.323 alias	76
allow_calls_wo_gk	Enables/Disables call establishment if ITG failed registering to a H.323 gatekeeper	76
alt_dtmf	Maintains the list of remote gateways to which the ITG conveys the DTMF tones using the alternate DTMF relay technique.	69
auto_answer	Enables/Disables H.323 auto answer mode.	69
call_name	Sets the call name information that is carried in the H.323 Setup messages	70
cisco_t38	Enables/Disables interoperability with Cisco T.38 fax	70
default_dtmf	Selects the default DTMF relay technique	71
display_name	Sets the display name information that is carried in the H.323 Setup messages	71
dns_ip	Specifies the DNS server and default domain name	71
dtmf_duration	Specifies the duration the gateway plays out a DTMF tone	72

endpoint_prefix	Specifies the H.323 prefix that the ITG uses when registering to an H.323 gatekeeper.	76
endpoint_reg_type	Sets the H.323 registration type	77
gk_addr	Specifies the gatekeeper	77
gk_id	Specified which gatekeeper the ITG wishes to register with.	77
gk_max_tries	Sets the number of times ITG attempts to register to gatekeeper	78
gk_mode	Specifies the H.323 gatekeeper mode	72
h245_term_type	Specifies the H.323 terminal type.	73
h245_timeout	Sets the H.245 timeout value	73
h245_tunneling	Enables/Disables H.245 tunneling	73
in_fast_start	Enables/Disables accepting incoming H.323 fast start calls	74
nat_call	Enables/Disables the ITG to connect to remote gateways that is attached to WAN via NAT capable router	74
out_fast_start	Select the H.323 Faststart mode for outgoing calls.	74
rtp_port_base	Selects the starting port number for assignment of RTP ports	75
term_id	Sets the terminal alias that is carried in the H.323 Setup messages	75
time_to_live	Specifies duration of the validity of the registration to gatekeeper	78
set port port	Configures a telephony interface port	
ans_wait	Sets a wait-for-answer time limit	21
call_limit	Sets a call length limit	21
cid name	Sets the Caller ID Name	22
cid number	Sets the Caller ID Number	22
copyof	Copy the configuration parameters for a port to another port	23
cp_tone_det_cfg	Selects the call progress tone detection configuration	23
cp_tone_det_ctrl	Controls the detection of call progress tone	24
dial_in_plar	Configures the number to be dialed in automatically when a telephony port goes off-hook	25
em clear_conf_detect	Sets the minimum duration of on-hook response on the M-lead that is required for clear confirm to be detected	31
em clear_conf_wait_max	Sets the maximum duration to wait for an on-hook response on the M-lead after going on-hook on the E-lead	31
em clear_detect	Specifies the period of time M-lead needs to be on-hook before call clearing is declared	32
em connected_min	Specifies the minimum period of time that a connection will be maintained	32
em dial_tone	Specifies if dial tone should be generated on incoming calls	32
em disable_hangup	Specifies the time period a port will wait after hanging up a call before signaling that it is in a disabled state	33
em guard_all	Sets the period after an aborted call when no incoming/outgoing calls will be accepted/initiated	33
em guard_out	Sets an additional period of time after guard_all when incoming calls will be accepted.	33
em offhook_db	Sets the off-hook debounce interval	34
em onhook_db	Sets the on-hook debounce interval	34

em size_detect	Specifies the period of time the M-lead needs to be off-hook before an incoming call is declared	34
emd in_delay_max	Sets the maximum duration of the delay signal response to the Seize Detect on the M-lead	36
emd in_delay_min	Sets the minimum duration of the delay signal response to the seize detect on the M-lead	36
emd in_digit_ign	Sets the period of time, after completing the delay signal, before the digits will be accepted on incoming calls	36
emd out_delay_check	Sets the period of time after going off-hook on the E-lead before checking the M-lead for the delay signal response	37
emd out_delay_dur_max	Set the maximum duration of the delay signal response on the M-lead for it to be detected on outgoing calls	37
emd out_delay_dur_min	Sets the minimum duration of the delay signal response on the M-lead for it to be detected on outgoing calls	37
emd out_intg_check	Sets the Integrity Check mode.	38
emi glare_report	Sets a time period during which, if glare is detected, the interface will stay off-hook and generate congestion tone	35
emi wait_dsp_ready	Sets a time period to wait for the DSP software to be ready before digit collection can be enabled	35
emw in_wink_digit_ignore	Specifies the period of time that will be ignored after completing the wink and before digits will be accepted for incoming calls	38
emw in_wink_dur	Specifies the duration of the wink signal on the E-lead for incoming calls	38
emw in_wink_wait_max	Sets the maximum delay before beginning the wink on the E-lead after detecting a line seizure on the M-lead for an incoming call	39
emw in_wink_wait_min	Sets the minimum delay before beginning the wink on the E-lead after detecting a line seizure on the M-lead for an incoming call	39
emw out_wink_dur_max	Sets the maximum duration of the wink response on the M-lead for it to be detected	39
emw out_wink_dur_min	Sets the minimum duration of the wink response on the M-lead for it to be detected	40
emw out_wink_wait_max	Specifies the maximum time to wait for a wink response on the M-lead after going offhook on the E-lead	40
enable_user_cid	Selects which Caller ID information the ITG should be conveyed to the called party	45
fax_holdover	Sets the fax holdover delay	25
fax_prof	Selects the preferred fax coder	26
fax_tone_det_ctrl	Specifies if V.21 fax tone should be detected	25
fxo answer_after	Specifies the number of rings to elapse before a FXO port answering an incoming call	40
fxo batt_rev_times	Specifies the number of times the battery reversal signal must be detected before shutting down a FXO port	41
fxo caller_id	Enable/Disble Caller ID detection on a FXO port	41
fxo cpc_detect	Specifies the expected duration of the loss of loop current before shutting down a FXO port	42
fxo guard_out	Specifies the time, after completing a call over a FXO port and before another call can be originated.	42
fxo loop_det_db	Specifies the time for debouncing the loop current detector	43

fxo ringing_db	Specifies the time for debouncing the ring-on signal	43
fxo ringing_inter_cycle	Specifies the duration of ring-off signal	44
fxo ringing_inter_pulse	Specifies the time between consecutive ring pulses in the same ring-on signal	44
fxs answ_clear_detect	Sets the minimum time to wait, when the answering party drops the line before declaring on-hook	45
fxs caller_id	Specifies if Caller ID will be generated on a FXS port	46
fxs cpc_dur	Sets the duration of the loop current shutdown	46
fxs cpc_wait	Sets the time to wait after a FXS port shutting down loop current and before checking for on-hook	46
fxs offhook_db	Specifies the time for debouncing the off-hook signal	47
fxs offhook_detect	Sets the time to wait before an off-hook condition is declared	47
fxs onhook_db	Specifies the time for debouncing the on-hook signal	48
fxs onhook_detect	Sets the time to wait before an on-hook condition is declared.	48
fxs ring_id	Selects the ringing signal	48
hangup_wait	Sets the wait-for-hangup time limit for a telephony port	26
out_type	Selects tone-dial or pulse-dial	26
out_wait	Specifies the time to delay after going off-hook before generating outbound dial digits.	27
prof_bit	Selects which coding profiles will be available to a telephony port	27
proto	Select the signaling protocol	28
rxgain	Adjusts gain level of PCM signal received from a telephony port	28
tone_out_off	Sets off duration for DTMF tones	29
tone_out_on	Sets the on duration for DTMF tones	29
tone_out_pwr	Sets power level for DTMF tones	29
tone_table	Select the tone table for a telephony port	30
txgain	Adjusts gain level of signal ITG sends to a telephony port	30
voice_prof	Selects the preferred coding profile for voice	31
set tone	Configures on/off cadence for a CP tone	63
show	Displays configuration	
call_record	Displays information about the current call or latest call	81
coding	Displays configuration of a coding profile	81
cp_tone_det	Displays the on/off cadence for a CP tone	82
cp_tone_det_cfg	Displays parameters for the CP tone detection filter	82
h323	Displays H.323 configuration	83
port	Displays the configuration of a telephony port	84
rxtsstat	Displays the statistic information about the voice packets a telephony port has received/transmitted	84
tlevels	Displays the power level of signals for a telephony port	84
tone	Displays each element of a CP tone	85
tstat	Displays the telephony interface statistics for a telephony port	85
version	Displays information that identifies the versions of various software components	86

vpstat	Displays the statistic information about the voice packets played out by a telephony port	87
spy	Sets filtering level for a specific spy key	100
spy dump	Displays trace buffer	100
spy flush	Flushs trace buffer	100
tel erase_ivr	Erases greeting message	12
tel set ring_freq	Sets the frequency of ringing that the ITG generates	12
tel show port	Displays status of a telephony port	12
tel show ring_freq	Displays frequency of ringing signal that ITG generates	13

Table 2 Software Upgrade Mode Commands

Command	Description	Page
help	Displays commands	101
ping	Pings a remote IP host	101
quit	Quits Software Upgrade mode	101
set gateway	Sets default gateway' address	102
set ip	Sets IP address	102
set mask	Sets subnet mask	102
show	Displays network parameters	103
start	Starts downloading code image from TFTP server	103

2. Utility Commands

This chapter describes the general-purpose utility commands.

clrscr

This command clears the screen

clrscr

Syntax Description

This command has no arguments or keywords

download

Use the **download** command to enter the Software Upgrade Mode for reading code image from a TFTP server and program it to flash NVS. Refer to **Software Upgrade Utility Commands** on page 101 for detailed information on how to upgrade the system software.

download

Syntax Description

This command has no arguments or keywords

help

The **help** command lists the top-level commands.

help

Syntax Description

This command has no arguments or keywords

ping

The **ping** command sends ICMP echo request packets to another host on the network.

ping *host_ip_address*

ping -s *host_ip_address* [*count/timeout*]

Syntax description

-s	Causes ping to send one datagram per second, printing one line of output for every response received.
<i>host_ip_addr</i>	The IP address or IP alias of the host.
<i>count</i>	Number of echo request packets to send. This option takes effect only if option -s is specified.
<i>timeout</i>	Timeout value for the ping in millisecond

tel erase_ivr

This command erases the greeting message that was recorded previously.

tel erase_ivr

Syntax Description

This command has no arguments or keywords

tel set ring_freq

The ITG rings FXS port for signaling an incoming call, and provide 4 types of ringing signal, each having a unique frequency. This command is for selecting the frequency of the ringing signal that the ITG sends to FXS ports.

tel set ring_freq { 1 | 2 | 3 | 4 }

Syntax description

1	Setting ring frequency to 17 Hz
2	Setting ring frequency to 20 Hz
3	Setting ring frequency to 25 Hz
4	Setting ring frequency to 50 Hz

Factory default

1- 17 Hz

Related Command

tel show ring_freq

tel show port

This command displays the hook status of a telephony port.

tel show port [port]

Syntax description

port ID of the telephony port. If not specified, hook status for all telephony ports available will be displayed.

tel show ring_freq

This command displays the ringing frequency that was configured by the **tel set ring_freq** command.

tel show ring_freq

Syntax description

This command has no arguments or keywords

Related Command

tel set ring_freq

3. IP Configuration Commands

This chapter describes the commands to configure and monitor the LAN and IP interface for the ITG.

arp

Use the **arp -a** command to display contents of the ARP cache.

arp -a

arp -d *ip_addr*

Syntax description

-a	Display contents of ARP cache
-d	Delete an entry from the ARP cache
<i>ip_addr</i>	IP address of the ARP entry to be deleted.

net reset

Use the **net reset** command to reset the ITG. The CLI will prompt you to confirm the command before resetting the ITG.

net reset

Syntax Description

This command has no arguments or keywords

net set gateway

Use the **net set gateway** command to assign a default gateway (router) for the ITG. The default gateway routes packet data outside of the IP subnet that the ITG resides.

net set gateway *ip_addr*

Syntax description

<i>ip_addr</i>	The IP address of the default gateway. IP address of 0.0.0.0 stands for no default gateway.
----------------	---

Factory default

0.0.0.0

Note

The new setting will not take effect until the ITG is reset.

Related Commands

net set ip

net set mask

net set http

The ITG allows you to enable or disable its built-in HTTP server. This command is used to enable or disable the HTTP server.

net set http { on | off }

Syntax description

on	Enable HTTP server. This allows users to manage the ITG from web browser.
off	Disable HTTP server.

Notes

The new setting will not take effect until the ITG is reset.

Factory default

on

net set ip

This command is used to assign a static IP address to the ITG.

net set ip *ip_addr*

Syntax description

<i>ip_addr</i>	The IP address of the ITG.
----------------	----------------------------

Notes

The new IP address will not take effect until the ITG is reset.

Factory default

192.168.0.1

Related Commands

net set gateway

net set mask

net set ip_preced

The ITG allows you to set the 8-bit Service Type field in the IP header for all the voice packets it sends out. The Service Type field is broken down into five subfields, among which four subfields are user configurable. This command is used to set these subfields.

net set ip_preced *ip_preced* [*d*] [*t*] [*r*]

Syntax description

<i>ip_preced</i>	The 3-bit PRECEDENCE subfield ranging from 0 through 7.
<i>d</i>	The <i>D</i> bit subfield, either 0 or 1.
<i>t</i>	The <i>T</i> bit subfield, either 0 or 1.
<i>r</i>	The <i>R</i> bit subfield, either 0 or 1.

Notes

The new setting will not take effect until the ITG is reset.

Factory default

ip_preced: 0
d: 0
t: 0
r: 0

net set mask

This command is used to set the IP subnet mask for the ITG.

net set mask *ip_mask*

Syntax description

<i>ip_mask</i>	The subnet mask of your network.
----------------	----------------------------------

Notes

The new setting will not take effect until the ITG is reset.

Factory default

255.255.255.0

Related Commands

net set gateway

net set mask

net set speed

The ITG allows you set the link speed for its Ethernet interface. This command is used to set the Ethernet link speed.

net set mask { 10 | 100 | auto }

Syntax description

10	Fix the Ethernet speed at 10 Mbps
100	Fix the Ethernet speed at 100 Mbps
Auto	Enable the 10/100 Mbps auto-negotiation capability.

Factory default

auto

net set telnet

The ITG allows you to enable or disable its built-in Telnet server. This command is used to enable or disable the Telnet server.

net set telnet { on | off }

Syntax description

on	Enable Telnet server. This allows users to access the ITG from Telnet client.
off	Disable Telnet server.

Notes

The new setting will not take effect until the ITG is reset.

Factory default

on

net set user_pw

This command is used to change the password for Telnet client and web browser login.

net set user_pw *password password*

Syntax description

password The new password. The password must be equal to or less than 7 alphanumeric characters. It must be identically typed twice for the ITG to be certain about the new password.

Factory default

123

net show

This command displays all the network settings.

net show

Syntax Description

This command has no arguments or keywords

Example

The following example shows how to display network settings:

```
Console>net show <Enter>
***** Net Parameters *****
Configured IP address =      172.16.3.252.
Configured IP subnet mask = 255.255.0.0.
Default gateway IP address = 0.0.0.0.
Current active IP address = 172.16.3.252.
Current active subnet mask = 255.255.0.0.
IP precedence =             0 0 0 0
Ethernet MAC address =      00-50-2d-00-04-56
Ethernet speed setting =    10/100 Mbps auto-negotiation
USER password =             123
HTTP server =               enabled
Telnet server =             enabled
*****
Console>
```

net show hwstat

This command displays the hardware configuration of the ITG.

net show hwstat

Syntax Description

This command has no arguments or keywords

Example

The following example shows how to display hardware configuration:

```
Console>net show hwstat <Enter>
***** Hardware Configuration *****
Flash:      type-MX29L1611 64 sectors 64 KB/sector
RAM:        8 MB 256K x 32
LAN:        auto-netotiation on-going. Link DOWN
TIM slot A: type-FXS4  DSP-C549  codec-NW1034  Diag-OK
TIM slot B: type-FXO4  DSP-C549  codec-NW1034  Diag-OK
*****
Console>
```

4. Telephony Interface Port Configuration Commands

This chapter describes commands for configuring the telephony interface ports of the ITG. All commands in this chapter share the same syntax as follows:

set port {*port* | **all**} *option* [*option*] ...

Syntax for the *port* is as follows:

<i>port</i>	ID of the telephony port to which the command applies.
all	The command apply to all the telephony ports

This chapter is organized as follows:

- Common telephony port configuration commands
- E&M common signaling configuration commands
- E&M immediate start signaling configuration commands
- E&M delay start signaling configuration commands
- E&M wink start signaling configuration commands
- FXO signaling configuration commands
- FXS signaling configuration commands

Common Telephony Port Configuration Commands

The following sections describe commands that apply to all types of telephony interface port.

set port *port* ans_wait

This command is used to set a wait-for-answer time limit on a telephony port. If the call destination does not answer within this period, the call is automatically terminated.

set port *port* **ans_wait** *seconds*

Syntax description

<i>seconds</i>	Value in seconds, ranging from 0 to 65534, or -1 or 65535 for forever.
----------------	--

Factory default

-1

set port *port* call_limit

This command is used to set a call length limit for calls on a telephony port. If the call length is exceeded, the call is automatically terminated.

set port *port* **call_limit** *seconds*

Syntax description

seconds Value in seconds, ranging from 0 to 65534, or -1 or 65535 for forever.

Factory default

-1

set port *port* **cid** **name**

This command is used to set the Caller ID Name for a telephony port.

set port *port* **cid name** {*name* | **O**}

Syntax description

name Caller ID name, 1 to 10 characters. Use hyphen ('-') to represent spaces in the name.

O Caller ID is name is not available

Factory default

No caller ID name

Related Commands

set port *port* **enable_user_cid**

set port *port* **fxo_caller_id**

set port *port* **fxs caller_id**

set port *port* **cid** **number**

This command is used to set the Caller ID Number for a telephony port.

set port *port* **cid number** {*name* | **O**}

Syntax description

name Caller ID number, 1 to 15 digits.

O Call ID is number is not available

Factory default

No caller ID number

Related Commands

set port *port* enable_user_cid

set port *port* fxo_caller_id

set port *port* fxs caller_id

set port *port* copyof

This command is used to copy the settings of a telephony port to another telephony port.

set port *port* copyof *src_port*

Syntax description

src_port ID of the telephony port which the settings will be copied from.

set port *port* cp_tone_det_cfg

The gateway implements two call progress tone detection configurations, default and alternate, and allows users to specify which configuration will be used for call progress tone detection. A configuration includes filter information, and a table containing cadence information of all the call progress tones that are to be detected. The default configuration allows for the detection of the following tones

- busy
- ringback
- congestion
- disconnect
- disc1
- disc2
- disc3
- disc4
- disc5

The alternate configuration allows for the detection of the following tones

- busy
- ringback
- congestion
- disconnect

This commands allows the selection of which configuration for call progress tone detection.

set port *port* cp_tone_det_cfg {default | alternate}

Syntax description

default	Select the default call progress tone detection configuration
alternate	Select the alternate call progress tone detection configuration

Factory default

default

Related Commands

set cp_tone_det

set cp_tone_det_cfg

set coding *profile_id* cp_tone_detect

set port *port* cp_tone_det_ctrl

set port *port* cp_tone_det_ctrl

This command is used to control the detection of call progress tones.

set port *port* cp_tone_det_ctrl {0 | 1 | 2}

Syntax description

0	Disable call progress tone detection.
1	Enable call progress tone detection.
2	Enable/Disable call progress detection according to the cp_tone_detect parameter in the coding profile that is currently loaded. Refer to command “set coding <i>profile_id</i> cp_tone_detect” on page 52 for details about setting the call progress tone detection option for a coding profile.

Factory default

1

Related Commands

set cp_tone_det

set cp_tone_det_cfg

set coding *profile_id* cp_tone_detect

set port *port* dial_in plar

This command is used to configure the number to be dialed in automatically (automatic ring-down) when a telephony port goes off-hook. If no number is entered, operation will be as normal.

set port *port* dial_in plar *number*

Syntax description

number The phone number to be dialed automatically upon detecting off-hook.

Factory default

None

set port *port* fax_holdover

This command is used to set the fax holdover delay for a telephony port. This is the time the ITG will delay after detecting on-hook during fax mode operation before generating a call clear.

set port *port* fax_holdover *milliseconds*

Syntax description

milliseconds Value in milliseconds, ranging from 0 to 65535.

Factory default

2000

set port *port* fax_tone_det_ctrl

This command is used to control the detection of the V.21 fax tones.

set port *port* fax_tone_det_ctrl {0 | 1 | 2}

Syntax description

- | | |
|----------|--|
| 0 | Disable fax tone detection. |
| 1 | Enable fax tone detection. |
| 2 | Enable/Disable fax tone detection according to the fax_tone_detect parameter in the coding profile that is currently loaded. Refer to command “set coding <i>profile_id</i> fax_tone_detect” on page 53 for details about setting the fax tone detection option for a coding profile. |

Factory default

1

Related Command

set coding *profile_id* **fax_tone_detect**

set port *port* fax_prof

This command is used to select the preferred fax coding profile for a telephony port.

set port *port* **fax_prof** *profile_id*

Syntax description

profile_id Preferred coding profile ID for fax

Factory default

The factory default preferred fax coding profile for all the telephony ports is coding profile number 5, which is the coder for proprietary T.38 fax relay protocol.

set port *port* hangup_wait

This command is used to set a wait-for-hangup time limit on a telephony port. If the call originator does not hang up within this time period after the destination has hung up, the call is automatically terminated.

set port *port* **hangup_wait** *seconds*

Syntax description

seconds Value in seconds, ranging from 0 to 65534, or -1 or 65535 for forever.

Factory default

5

set port *port* out_type

The ITG supports tone-dial and pulse-dial. This command is used to select the dial-out characteristic of a telephony port.

set port *port* **out_type** {**tone** | **pulse**}

Syntax description

tone	Tone dial
pulse	Pulse dial

Factory default

tone

set port *port* out_wait

This command is used to specify the time to delay after going off-hook before generating outbound dial digits.

set port *port* out_wait *milliseconds*

Syntax description

milliseconds Value is milliseconds, ranging from 0 to 65535.

Factory default

400

set port *port* prof_bit

This command is used to select which coding profiles will be available to the telephony port.

set port *port* prof_bit {*profile_id* | **all} {**0** | **1**}**

Syntax description

<i>profile_id</i>	The ID of the coding profile.
all	All coding profiles
0	Coding profile ID <i>profile_id</i> is not available to the telephony port designated by <i>port</i>
1	Coding profile ID <i>profile_id</i> is available to the telephony port designated by <i>port</i>

Factory default

By factory default, all available coding profiles are available to all telephony ports.

set port *port* proto

This command is used to select the signaling protocol for a telephony port. The ITG detects its hardware and configure the signaling protocol for all the telephony ports automatically. You may change the signaling protocol for a port using this command.

set port *port* proto { fxs | fxo | emi | emd | emw }

Syntax description

fxs	Loop start FXS protocol
fxo	Loop start FXO protocol
emi	E&M immediate start
emd	E&M delay start
emw	E&M wink start

Factory default

The ITG detects the hardware of all the telephony ports and automatically sets the signaling protocol for each port according to the type of telephony interface port as shown in the following table:

Type of Telephony Interface Port	Signaling Protocol
FXS	fxs
FXO	fxo
E&M	emi

set port *port* rxgain

The ITG adjust the power level of the PCM signal coming in from the telephony ports before feeding it to the voice processor for further processing. This command allows user to specify the gain level for PCM signal received from the telephony port.

set port *port* rxgain *db*

Syntax description

<i>db</i>	Gain level in dB, ranging from –14 to 14.
-----------	---

Factory default

0

Related Command

set port *port* txgain

set port *port* tone_out_off

This command is used to set the off time for DTMF dial tones from a telephony port.

set port *port* tone_out_off *milliseconds*

Syntax description

milliseconds Value is milliseconds, ranging from 0 to 65535.

Factory default

200 ms

Related Commands

set port *port* tone_out_on

set port *port* tone_out_pwr

set port *port* tone_out_on

This command is used to set the on time for DTMF dial tones from a telephony port.

set port *port* tone_out_on *milliseconds*

Syntax description

milliseconds Value is milliseconds, ranging from 0 to 65535.

Factory default

200 ms

Related Commands

set port *port* tone_out_off

set port *port* tone_out_pwr

set port *port* tone_out_pwr

This command is used to set the power level for DTMF dial tones generated by the ITG.

set port *port* tone_out_pwr *power*

Syntax description

power Power level of DTMF tones in 0.1 dBm.

Factory default

-60. The factory setting for DTMF tone power for all telephony ports is -6.0 dBm.

Related Commands

set port *port* tone_out_on

set port *port* tone_out_off

set port *port* tone_table

The ITG has two built-in tone tables. This command is used to select the tone table for a telephony port.

set port *port* tone_table {default | alternate}

Syntax description

default Select the default tone table

alternate Select the alternate tone table

Factory default

default

set port *port* txgain

After decompressing a voice packet, the ITG adjusts the signal level of the voice stream before sending the signal toward the telephony port. This command allows user to specify the gain level for PCM signal before feeding the signal to a telephony port.

set port *port* txgain *db*

Syntax description

db Gain level in dB, ranging from -14 to 14.

Factory default

0

Related Command

set port *port* rxgain

set port *port* voice_prof

This command is used to set the preferred voice coding profile for a telephony port.

set port *port* voice_prof *profile_id*

Syntax description

profile_id Preferred coding profile ID for voice

Factory default

The factory default preferred voice coding profile for all the telephony ports is coding profile number 0, which is the coder for G.723 6.3 kbps.

E&M Common Signaling Configuration Commands

The E&M common signaling configuration commands are used to define common parameters used on all E&M interfaces, regardless of their mode of operation (Wink Start, Delay Start, or Immediate Start).

set port *port* em clear_conf_detect

This command is used to set the minimum duration of on-hook response on the M-lead that is required for clear confirm to be detected.

set port *port* em clear_conf_detect *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

5000

set port *port* em clear_conf_wait_max

This command is used to set the maximum duration to wait for an on-hook response on the M-lead after going on-hook on the E-lead.

set port *port* em clear_conf_wait_max *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

10000

set port *port* em clear_detect

This command is used to specify the period of time M-lead needs to be on-hook before call clearing is declared.

set port *port* em clear_detect *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

400

set port *port* em connected_min

This command is used to determine the minimum period of time (in milliseconds) that a connection will be maintained. If the remote end disconnects during this interval, it will be acknowledged only at the end of this interval.

set port *port* em connected_min *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

2000

set port *port* em dial_tone

This command is used to determine if dial tone should be generated on incoming calls.

set port *port* em dial_tone [on | off]

Syntax description

on	Generate dial tone.
off	Do not generate dial tone

Factory default

on

set port *port* em disable_hangup

This command is used to determine the time period (in milliseconds) a port will wait after hanging up a call before signaling that it is in a disabled state.

set port *port* em disable_hangup *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

2000

set port *port* em guard_all

This command is used to set the period after an aborted call when no incoming calls will be accepted nor outgoing calls initiated.

set port *port* em guard_all *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

400

set port *port* em guard_out

This command is used to set an additional period of time after *guard_all* when incoming calls will be accepted but outgoing calls will not be initiated for aborted call.

set port *port* em guard_all *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

400

set port *port* em offhook_db

This command is used to set the off-hook debounce interval, in milliseconds.

set port *port* em offhook_db *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

50

set port *port* em onhook_db

This command is used to set the on-hook debounce interval, in milliseconds.

set port *port* em onhook_db *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

50

set port *port* em size_detect

This command is used to specify the period of time the M-lead needs to be off-hook before an incoming call is declared.

set port *port* em size_detect *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

150

E&M Immediate Start Signaling Configuration Commands

The E&M immediate start signaling configuration commands are used to define parameters specific to E&M immediate start interface. These commands apply to E&M Immediate Start signaling protocol only.

set port *port* emi glare_report

This command is used to set a time period during which, if glare is detected, the interface will stay off-hook and generate congestion tone.

set port *port* emi glare_report *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

5000

set port *port* emi wait_dsp_ready

This command is used to set a time period (in milliseconds) to wait for the DSP software to be ready before digit collection can be enabled. If glare is detected during this period, the interface will stay offhook and generate congestion tone.

set port *port* emi glare_report *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

200

E&M Delay Start Signaling Configuration Commands

The E&M delay start signaling configuration commands are used to define parameters specific to E&M delay start interface. These commands apply to E&M Delay Start signaling protocol only.

set port *port* emd in_delay_max

This command is used to set the maximum duration of the delay signal response to the Seize Detect (of incoming calls) on the M-lead.

set port *port* emd in_delay_max *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

2500

set port *port* emd in_delay_min

This command is used to set the minimum duration of the delay signal response to the seize detect (of incoming calls) on the M-lead.

set port *port* emd in_delay_min *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

200

set port *port* emd in_digit_ign

This command is used to set the period of time, after completing the delay signal, before the digits will be accepted on incoming calls.

set port *port* emd in_digit_ign *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

30

set port *port* emd out_delay_check

This command is used to set the period of time after going off-hook on the E-lead before checking the M-lead for the delay signal response. If the response is not seen at this time, the call setup process will continue immediately.

set port *port* emd out_delay_check *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

170

set port *port* emd out_delay_dur_max

This command is used to set the maximum duration of the delay signal response on the M-lead for it to be detected on outgoing calls.

set port *port* emd out_delay_dur_max *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

8000

set port *port* emd out_delay_dur_min

This command is used to set the minimum duration of the delay signal response on the M-lead for it to be detected on outgoing calls.

set port *port* emd out_delay_dur_min *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

100

set port *port* emd out_intg_check

This command is used to set the Integrity Check mode. If On, the delay signal response is required from the PBX for outgoing calls. If Off, no Integrity Check is performed.

set port *port* emd in_digit_ign [on | off]

Syntax description

on	Perform Integrity Check
off	No Integrity Check is performed

Factory default

off

E&M Wink Start Signaling Configuration Commands

The E&M wink start signaling configuration commands are used to define parameters specific to E&M wink start interface. These commands apply to E&M Wink Start signaling protocol only.

set port *port* emw in_wink_digit_ignore

This command is used to specify the period of time that will be ignored after completing the wink and before digits will be accepted for incoming calls.

set port *port* emw in_wink_digit_ignore *milliseconds*

Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

Factory default

30

set port *port* emw in_wink_dur

This command is used to specify the duration of the wink signal on the E-lead for incoming calls.

set port *port* emw in_wink_dur *milliseconds*

Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

Factory default

200

set port *port* emw in_wink_wait_max

This command is used to set the maximum delay before beginning the wink on the E-lead after detecting a line seizure on the M-lead for an incoming call.

set port *port* emw in_wink_wait_max *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

3000

set port *port* emw in_wink_wait_min

This command is used to set the minimum delay before beginning the wink on the E-lead after detecting a line seizure on the M-lead for an incoming call.

set port *port* emw in_wink_wait_min *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

150

set port *port* emw out_wink_dur_max

This command is used to set the maximum duration of the wink response on the M-lead for it to be detected.

set port *port* emw out_wink_dur_max *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

800

set port *port* emw out_wink_dur_min

This command is used to set the minimum duration of the wink response on the M-lead for it to be detected.

set port *port* emw out_wink_dur_min *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

100

set port *port* emw out_wink_wait_max

This command is used to specify the maximum time to wait for a wink response on the M-lead after going offhook on the E-lead. If the period is exceeded, the interface will declare an error condition and abort the (outgoing) call attempt.

set port *port* emw out_wink_wait_max *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 0 to 65535.

Factory default

8000

FXO Signaling Configuration Commands

The FXO signaling configuration commands are used to define parameters specific to FXO interface. These commands apply to Loop Start FXO signaling protocol only.

set port *port* fxo answer_after

This command specifies the number of rings to elapse before a FXO port answering an incoming call.

set port *port* fxo answer_after *rings*

Syntax description

Rings Number of rings.

Factory default

2

set port *port* fxo batt_rev_times

The ITG incorporates battery reversal detector on the FXO interface. After detecting battery reversal signal on a FXO port for certain times, the ITG shuts down the port. This command is used to specify the number of times the battery reversal signal must be detected before the ITG shutting down a FXO port.

set port *port* fxo batt_rev_times *count*

Syntax description

Counts Number of time of battery reversal signal before shutting down the port, ranging from 0 to 65535.

Notes

The battery reversal detector functions only under the condition that the CPC detector is enabled. Refer to command “set port *port* fxo cpc_detect” on page 42 for information about enabling/disabling the CPC detector.

Factory default

2

Related Command

set port *port* fxo cpc_detect

set port *port* fxo caller_id

This command selects if Caller ID will be detected on the FXO port.

set port *port* fxo caller_id {on | off}

Syntax description

on Enable Caller ID detection
off Disable Caller ID detection

Factory default

on

Related Command

set port *port* enable_user_cid

set port *port* fxo cpc_detect

The ITG incorporates loop current and battery reversal detectors on the FXO interface. Upon detecting loss of loop current on a FXO port for a specific duration, the ITG shuts down the port. This command is used to specify the expected duration of the loss of loop current (CPC supervisory disconnect signal) in milliseconds. If the loop current on a FXO port drops for a time period greater than this duration, it is regarded as a supervisory disconnect and the ITG shuts down the port.

set port *port* fxo cpc_detect *milliseconds*

Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000. -1 stands for no loop current and battery reversal detection
---------------------	---

Factory default

-1. Do not detect loop current loss and battery reversal.

Related Command

set port *port* fxo loop_det_db

set port *port* fxo guard_out

After completing a call over a FXO port, there a short time interval the ITG does not allow originating outgoing calls, however, incoming calls will be received. This command is used to set this time interval in milliseconds.

set port *port* fxo guard_out *milliseconds*

Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000.
---------------------	--

Factory default

2000

set port *port* fxo loop_det_db

The ITG incorporate loop current detector on the FXO interface. This command specifies the time in milliseconds to use as a debouncer interval for debouncing the loop current detector. When the ITG detects loss of loop current on a FXO port, the duration of the loss must be greater than this debouncer interval, otherwise it is not regarded as loss of loop current.

set port *port* fxo loop_det_db *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 1000.

Factory default

20

Related Command

set port *port* fxo cpc_detect

set port *port* fxo ringing_db

This command specifies the time in milliseconds to use as a debouncer interval for debouncing the ring-on signal. For preventing from mistakenly interpreting noise signal as ring-on, the ITG incorporates this debouncer. When the ITG detect ring on signal on a FXO port, the signal must sustain for at least the debouncer time, otherwise it is not regarded as a ring-on.

set port *port* fxo ringing_db *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 1000.

Factory default

50

Related Commands

set port *port* fxo ringing_inter_cycle

set port *port* fxo ringing_inter_pulse

set port *port* fxo ringing_inter_cycle

The FXO port detects ringing for signifying an incoming call. A ring is a cycle of ring-on and ring-off signals. This command is used to specify the time between consecutive ring-on signals, that is, the duration of the ring-off signal, in milliseconds. It is used to detect ringing.

set port *port* fxo ringing_inter_cycle *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 6000.

Factory default

4000

Related Commands

set port *port* fxo ringing_db

set port *port* fxo ringing_inter_pulse

set port *port* fxo ringing_inter_pulse

The FXO port detects ringing for signifying an incoming call. A ring is a cycle of ring-on and ring-off signals. The ring-on signal is comprised of a sequence of pulses. This command is used to specify the time between consecutive ring pulses in the same ring-on signal in milliseconds (that is, one half the inverse of ring frequency). For instance, if the ring frequency is 25 Hz, then the period of a ring-on signal is 40 ms, and the ringing_inter_pulse is 20 ms. It is used to detect ring-on.

set port *port* fxo ringing_inter_pulse *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 6000.

Factory default

20

Related Commands

set port *port* fxo ringing_db

set port *port* fxo ringing_inter_cycle

set port *port* enable_user_cid

Though FXO ports can detect Caller ID and convey the detected Caller ID information to the called party. The ITG allows conveying the Caller ID information users configured to a FXO port, instead of conveying Caller ID information detected from the port. This command is used to select which Caller ID information the ITG should convey to the called party.

set port *port* enable_user_cid {on | off}

Syntax description

on	Conveying Caller ID information user configured.
off	Conveying Caller ID information the port detected.

Factory default

off

Related Commands

set port *port* cid name

set port *port* cid number

set port *port* fxo_caller_id

FXS Signaling Configuration Commands

The FXS signaling configuration commands are used to define parameters specific to FXS interface. These commands apply to Loop Start FXS signaling protocol only.

set port *port* fxs answ_clear_detect

This command is used to set the minimum time to wait, in milliseconds, when the answering party drops the line before declaring on-hook.

set port *port* fxs answ_clear *milliseconds*

Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000.
---------------------	--

Factory default

2000

set port *port* fxs caller_id

This command selects if Caller ID will be generated on a FXS port.

set port *port* fxs caller_id {on | off}

Syntax description

on	Enable Caller ID generation
off	Disable Caller ID generation

Factory default

on

Related Commands

set port *port* cid name

set port *port* cid number

set port *port* fxs cpc_dur

The ITG implements loop current shutdown feature on FXS port. It shuts down the current feeding toward a FXS port upon detecting a call is being terminated by the other party participated in the call. This command is used to set the duration, in milliseconds, of the loop current shutdown (CPC supervisory disconnect).

set port *port* fxs cpc_dur *milliseconds*

Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000. 0 stands for never shutting down loop current
---------------------	--

Factory default

0

set port *port* fxs cpc_wait

This command is used to set the time to wait, in milliseconds, after a FXS port shutting down loop current and before checking for on-hook.

set port *port* fxs cpc_wait *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 60000.

Factory default

20

set port *port* fxs offhook_db

This command specifies the time in milliseconds to use as a debouncer interval for debouncing the off-hook signal. For preventing from mistakenly interpreting noise signal as off-hook, the ITG incorporates this debouncer. When the ITG detect off-hook signal on a FXS port, the signal must sustain for at least the debouncer time, otherwise it no regarded as a off-hook.

set port *port* fxs offhook_db *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 1000.

Factory default

50

Related Command

set port *port* fxs offhook_detect

set port *port* fxs offhook_detect

This command is used to set the time to wait, in milliseconds, before an off-hook condition is declared.

set port *port* fxs offhook_detect *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 1000.

Factory default

150

Related Command

set port *port* fxs offhook_db

set port *port* fxs onhook_db

This command specifies the time in milliseconds to use as a debouncer interval for debouncing the on-hook signal. When the ITG detect on-hook signal on a FXS port, the signal must sustain for at least the debouncer time, otherwise it no regarded as a on-hook.

set port *port* fxs onhook_db *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 1000.

Factory default

50

Related Command

set port *port* fxs onhook_detect

set port *port* fxs onhook_detect

This command is used to set the time to wait, in milliseconds, before an on-hook condition is declared.

set port *port* fxs onhook_detect *milliseconds*

Syntax description

milliseconds Time in milliseconds, ranging from 1 to 1000.

Factory default

800

Related Command

set port *port* fxs onhook_db

set port *port* fxs ring_id

A ringing signal is a repetition of ring-on and ring-off cycles (the so-called cadence). The ITG can generate 11 types of ring cadence, each having a unique ID, on/off cadence and total ringing duration. Types of ringing cadence and their IDs are shown in the following table.

ID	Ring-On/Off Cycle						Ringing Duration
	On	Off	On	Off	On	Off	
0	2.0	4.0					Forever
1	1.0	3.0					3 minutes
2	0.8	0.4	0.8	4.0			3 minutes
3	0.4	0.2	0.4	0.2	0.8	4.0	3 minutes
4	0.3	0.2	1.0	0.2	0.3	4.0	3 minutes
5	0.5	0.1					0.6 seconds
6	0.5	0.2	0.3	0.2	0.5	3.0	3 minutes
7	2.0	4.0					3 minutes
8	3.0	5.0					3 minutes
9	0.5	0.1					0.6 seconds
10	1.0	3.0					3 minutes

This command is used to select which ring ID is to use on a FXS port.

set port *port* fxs ring_id *ring_id*

Syntax description

ring_id Ring ID, ranging from 0 to 10.

Factory default

0

5. Voice and Fax Coder Configuration Commands

The coding profile is used to store coding parameters for voice and fax coders that can be used by any telephony port on the ITG. The ITG has 11 built-in coding profiles, each having a unique profile ID and parameters for a specific voice, fax or modem coder. Among these 11 coding profiles, 5 may be used for voice or fax applications. The following table summarizes coding profiles available for voice and fax applications.

Coding profile ID	Coder
0	G.723 6.3 kbps voice coder
1	G.729AB voice coder
2	G723 5.3 kbps voice coder
5	Proprietary fax coder
6	G.711 μ -law voice coder
10	Standard T.38 fax coder

This chapter describes commands for setting the parameters for a particular coding profile. All the commands in this chapter are using the same syntax as follows:

set coding *profile_id* option [option] . . .

Syntax for the *profile_id* is as follows:

profile_id ID of the coding profile to be modified.

This chapter is organized as follows:

- Common coding profile configuration commands
- Voice coding profile configuration commands
- Fax coding profile configuration commands

Common Coding Profile Configuration Commands

The following sections describe commands that apply to all types of coding profiles.

set coding *profile_id* coding_type

This command is used to define the coder type for a coding profile.

set coding *profile_id* coding_type coding_type

Syntax description

coding_type Type of the codcc as defined in the following table.

Parameter	Description
g711_mu	G.711 PCM u-law coding
g723_53	G.723.1 5.3 kbps coding
g723_63	G.723.1 6.3 kbps coding
g729ab	G.729 annex A, annex B 8kbps coding
fax_t38	Fax Relay in T.38 mode

Factory default

Profile ID	0	1	2	5	6	10
Setting	g723_63	g729ab	g723_53	fax_t38	g711_mu	fax_t38

Related Command

set coding *profile_id* usage

set coding *profile_id* cp_tone_detect

This command is used to specify a secondary level control of call progress tone detection. If the call progress detection control for a telephony port is set to "As per coding profile" (refer to command "set port *port* cp_tone_det_ctrl" on page 24), this parameter determines if detection is to be enabled or not.

set coding *profile_id* cp_tone_detect {on | off}

Syntax description

on Enable call progress tone detection.

off Disable call progress tone detection.

Related Commands

set cp_tone_det

set cp_tone_det_cfg

set port *port* cp_tone_det_cfg

set port *port* cp_tone_det_ctrl

Factory default

Profile ID	0	1	2	5	6	10
Setting	on	on	on	off	off	off

set coding *profile_id* copyof

This command is used to copy the settings of the coding profile to another coding profile.

set coding *profile_id* copyof *src_profile_id*

Syntax description

src_profile_id ID of the coding profile which the setting will be copied from

set coding *profile_id* fax_tone_detect

This command is used to specify a secondary level control of V.21 fax tone detection. If the fax tone detection control for a telephony port is set to "As per coding profile" (refer to command "set port *port* fax_tone_det_ctrl" on page 25), this parameter determines if detection is to be enabled or not. For a voice coder, fax tone detection has to be enabled, otherwise, a telephony port never switches to fax mode while the voice coder is active. For a fax profile it does not matter if the fax tone detection is enabled or disabled.

set coding *profile_id* fax_tone_detect {on | off}

Syntax description

on Enable V.21 fax tone detection.

off Disable V.21 fax tone detection.

Factory default

Profile ID	0	1	2	5	6	10
Setting	on	on	on	on	on	on

Related Command

set port *port* fax_tone_det_ctrl

set coding *profile_id* usage

This command is used to specify if a coding profile is to be used as voice coder or fax coder.

set coding *profile_id* usage {voice | fax} {on | off}

Syntax description

voice The coding profile is allowed, if the parameter that follows is "on", for being used as voice coder.

The coding profile is not allowed, if the parameter that follows is "off", for

being used as voice coder.

fax

The coding profile is allowed, if the parameter that follows is “on”, for being used as fax coder.

The coding profile is not allowed, if the parameter that follows is “off”, for being used as fax coder.

Notes

A coding profile is allowed to be used as voice coder only or fax coder only. It cannot be used as voice coder and fax coder simultaneously. That is, if you specify a coding profile of being used as a voice coder, the ITG automatically disables it of being used as a fax coder. Likewise, if you specify a coding profile of being used as a fax coder, the ITG automatically disables it of being used as a voice coder.

Factory default

Profile ID	0	1	2	5	6	10
Setting	voice on	voice on	voice on	fax on	voice on	fax on

Voice Coding Profile Configuration Commands

The following sections describe commands that apply to coding profiles for voice coder.

set coding *profile_id* adaptive_playout

The ITG has a built-in voice packet buffer, which allows the ITG to remove the packet jitter from the incoming packet stream. The ITG also implements an adaptive voice packet playback algorithm, which automatically adjust the time each voice packet is buffered in the voice packet buffer before being played out. This command is used to enable/disable the adaptive playback function for a voice coding profile.

set coding *profile_id* adaptive_playout {on | off}

Syntax description

on Enable adaptive playback.

off Disable adaptive playback.

Factory default

Profile ID	0	1	2	5	6	10
Setting	on	on	on	off	on	off

Related Commands

set coding *profile_id* max_delay

set coding *profile_id* min_delay

set coding *profile_id* nom_delay

set coding *profile_id* dtmf_relay

The ITG supports DTMF Relay, in which DTMF tones are detected during voice processing, encoded into H323-UserInformation packets and conveyed to the remote ITG via the H.323 call control band. This command is used to enable or disable the DTMF Relay feature.

set coding *profile_id* dtmf_relay {on | off}

Syntax description

on	Detect DTMF tones while voice session is on-going, and send detected DTMF digits to remote gateway via the H.323 call control band.
off	Do not detect DTMF tones. DTMF tones are compressed and send to remote gateway the same as regular voice frame.

Factory default

Profile ID	0	1	2	5	6	10
Setting	on	on	on	off	on	off

set coding *profile_id* max_delay

The ITG has a built-in voice packet buffer, which stores voice packets received from the network. Voice packets from network may have traversed variable path and each packet has experienced different propagation delay. The effect of non-uniform delay among packets is known as jitter. The voice buffer allows the ITG to remove the packet jitter from the incoming packet stream before decompressing and sending the packet to telephony port for playing out. This command is used to set the size of the voice buffer.

set coding *profile_id* max_delay *delay*

Syntax description

delay Value in milliseconds.

Notes

1. The maximum delay should be at least 2 packet times greater than the nominal delay. Refer to command “set coding *profile_id* nom_delay” on page 56 for details about setting nominal delay.
2. The maximum delay for each coder is shown in the following table:

Coding Type	Maximum Delay
G.711 μ -law	145 ms
G.723	500 ms
G.729AB	500 ms

Factory default

Profile ID	0	1	2	5	6	10
Setting	240 ms	120 ms	300 ms	400 ms	120 ms	400 ms

Related Commands

set coding *profile_id* adaptive_playout

set coding *profile_id* nom_delay

set coding *profile_id* min_delay

This command is used to set the time each voice packet is stored in the voice packet buffer before the ITG playing out the packet. It is only meaningful when the adaptive playback feature is disabled. Refer to command “set coding *profile_id* adaptive_playout” on page 54 for details about adaptive playback feature.

set coding *profile_id* min_delay delay

Syntax description

delay Value in milliseconds.

Factory default

Profile ID	0	1	2	5	6	10
Setting	0 ms	0 ms	0 ms	0 ms	0 ms	0 ms

Related Command

set coding *profile_id* adaptive_playout

set coding *profile_id* nom_delay

While the “set coding ***profile_id*** max_delay” command sets the size of the voice packet buffer, this command sets the average time in milliseconds each voice packet is stored in the buffer.

set coding *profile_id* nom_delay delay

Syntax description

Delay Value in milliseconds.

Notes

The nominal delay should be at least twice the packet time. Refer to command “set coding *profile_id* vif” on page 58 for details about setting the packet time.

Factory default

Profile ID	0	1	2	5	6	10
Setting	120 ms	60 ms	180 ms	200 ms	60 ms	200 ms

Related Commands

set coding *profile_id* adaptive_playout

set coding *profile_id* max_delay

set coding *profile_id* vif

set coding *profile_id* vad

This command is used to enable/disable the Voice Activity Detector (VAD) for a coding profile.

set coding *profile_id* vad {on | off}

Syntax description

On Enable VAD.

Off Disable VAD.

Factory default

Profile ID	0	1	2	5	6	10
Setting	on	on	on	off	on	off

Related Command

set coding *profile_id* vad_thresh

set coding *profile_id* vad_thresh

This command is used to set threshold level for the VAD for a coding profile.

set coding *profile_id* vad_thresh *threshold*

Syntax description

threshold Value in dBm, ranging from -20 to +10.

Factory default

Profile ID	0	1	2	5	6	10
Setting	-1 dB	-1 dB	-1 dB	0 dB	-1 dB	0 dB

Related Command

set coding *profile_id* vad

set coding *profile_id* vif

This command is used to set the size of the Voice Information Field (VIF), in bits, for a voice coder.

set coding *profile_id* vif *no_of_bits*

Syntax description

no_of_bits Size of the Voice Information Field (VIF), in bits, for a voice coder. The appropriate VIF sizes to use are related to the coding type and the rate the voice coder samples a voice frame (the packet time), as shown in the following table. VIF sizes of a coder of values other than those shown in the table are not valid.

Coding type	Sampling time	VIF
G.711 μ -law	10 ms	640
	20 ms	1,280
	30 ms	1,920
G.723	30 ms	192
	60 ms	384
G.729AB	10 ms	80
	20 ms	160
	30 ms	240
	40 ms	320
	50 ms	400
	60 ms	480

Factory default

Profile ID	0	1	2	5	6	10
Setting	192	240	384	240	640	240

Related Command

set coding *profile_id* nom_delay

Fax Coding Profile Configuration Commands

The following sections describe commands that apply to coding profiles for fax.

set coding *profile_id* fax_hs_pkt_rate

This T.38 mode command is used to set the rate at which high-speed data will be sent across the network, for a fax coder (i.e., determines the size of the high-speed IFP packets).

set coding *profile_id* fax_hs_pkt_rate *milliseconds*

Syntax description

milliseconds Value in milliseconds

Factory default

Profile ID	0	1	2	5	6	10
Setting	20 ms	20 ms	20 ms	30 ms	0 ms	30 ms

set coding *profile_id* fax_hs_redundancy

The T.38 mode command is used to specify the packet-level redundancy for high-speed data transmissions (i.e., T.4 image data) for a fax coder profile.

set coding *profile_id* fax_hs_redundancy *pkt*

Syntax description

pkt Number of prior primary packets to be encapsulated in each fax payload, ranging from 0 to 2.

Factory default

Profile ID	0	1	2	5	6	10
Setting	1	1	1	1	0	1

Related Command

set coding *profile_id* fax_ls_redundancy

set coding *profile_id* fax_ls_redundancy

This T.38 mode command is used to specify the packet-level redundancy for low-speed data transmissions (i.e., T.30 handshaking information), for a fax coder.

set coding *profile_id* fax_ls_redundancy *pkt*

Syntax description

pkt Number of prior primary packets to be encapsulated in each fax payload, ranging from 0 to 5.

Factory default

Profile ID	0	1	2	5	6	10
Setting	3	3	3	5	0	5

Related Command

set coding *profile_id* fax_hs_redundancy

set coding *profile_id* fax_tcf_method

This T.38 mode command is used to control the method with which data is handled over the network, for a fax coding profile. Method 1 (Local) requires that the TCF training signal be generated and checked locally by the gateway and is not forwarded over the network. In Method 2 (Network), TCF data is sent over the network. These correspond to Data Management methods 1 and 2 in specification T.38.

set coding *profile_id* fax_tcf_method {1 | 2}

Syntax description

- 1** TCF method 1
- 2** TCF data is sent over the network.

Factory default

Profile ID	0	1	2	5	6	10
Setting	2	2	2	2	2	2

set coding *profile_id* fax_tx_net_timeout

This command sets the timeout period after which the ITG will declare a fax cleardown event, if no data is received from the IP network while the gateway is in a local transmit state. It is safeguard to ensure the channel is not left in a fax relay state in a transparent signaling environment.

set coding *profile_id* fax_tx_net_timeout *seconds*

Syntax description

seconds Value in seconds, ranging from 10 to 32000.

Factory default

Profile ID	0	1	2	5	6	10
Setting	150 seconds	150 seconds	150 seconds	150 seconds	150 seconds	150 seconds

6. Call Progress Tone Configuration Commands

Call Progress (CP) tones such as ring-back, busy, congestion and disconnect tone are signaling tones PBXs and CO switches present at various stage of a call. Telephony device, or user operating it, must act upon the CP tones generated by device connected to it for completing a call. The ITG implements a CP generator for generating CP tones and a detector for detecting CP tones. Since the frequency specifications and on/off cadence of CP tones are not uniform over all telephone administrations globally, the ITG implements user configurable CP tone generator/detector allowing user to customize the CP tone generator and detector. This chapter describes commands for configuring the CP tone generator and detector.

Configuring CP Tones

A CP tone is a sequence of tones of up to 6 elements, and each tone element is characterized by a composition of up to 4 mono-frequency tones and a duration that the tone generator plays out these tones. Once configured, the CP tone generator plays these tone elements, in sequence, repeatedly. The ITG allows users to define the tone elements and duration for the following CP tones:

- Dial tone
- Busy tone
- Congestion tone
- Disconnect tone

This section describes the command for configuring these tones.

set tone

This interactive command is used to configure each element of CP tones that the ITG generates.

```
set tone {dial | busy | congest | disconnect}
```

Syntax description

dial	Dial tone
busy	Busy tone
congest	Congestion tone
disconnect	Disconnect tone

After entering the command, the CLI first prompts to enter the number of tone elements, then prompts to enter each tone element in sequence. For each tone element, you'll need to specify the following parameters:

- Number of mono-frequency tone components, up to 4, that comprise the tone.
- Frequency (in Hz) and power level (in unit of 0.1 dBm) for all the mono-frequency tone components. Since a tone may be comprised of up to 4 mono-frequency tone components, you need to provide the frequency and power level of all the 4 tone components. If a tone element is comprised of less than 4 mono-frequency tone components, you need to specify frequency of 0 Hz and power level of 0 dBm to the components that do not exist.
- Duration (in milliseconds) of the tone. The duration of -1 specifies playing out the tone forever.

Factory default

Tone	No. of element	Element	No. of mono freq tones	Tone 1		Tone 2		Tone 3		Tone 4		Duration
				Freq (Hz)	Power (dBm)	Freq (Hz)	Power (dBm)	Freq (Hz)	Power (dBm)	Freq (Hz)	Power (dBm)	
Dial	1	1	2	350	-13	440	-13	0	0	0	0	Forever
Busy	2	1	2	480	-24	620	-24	0	0	0	0	500 ms
		2	0	0	0	0	0	0	0	0	0	500 ms
Congestion	2	1	2	480	-24	620	-24	0	0	0	0	250 ms
		2	0	0	0	0	0	0	0	0	0	250 ms
Disconnect	4	1	2	480	-24	620	-24	0	0	0	0	250 ms
		2	0	0	0	0	0	0	0	0	0	250 ms
		3	2	480	-24	620	-24	0	0	0	0	250 ms
		4	0	0	0	0	0	0	0	0	0	Forever

Example

Assuming you want to define a congestion tone, which is a repetition of two tone elements as shown in the following table:

Tone Element	Tone Composition					Duration (ms)	Remark
	No. of mono-freq. tones	Tone 1		Tone 2			
		Freq (Hz)	Power (dBm)	Freq (Hz)	Power (dBm)		
1	2	480	-24.0	620	-24.0	250	The first tone element is a composition of a 420 Hz tone of power level −24.0 dBm and a 620 Hz tone of power level −24.0 dBm of duration 250 milliseconds.
2	0						The 2 nd tone element is a silence of duration 250 ms.

The following example explains how this interactive command is used to define this tone. Command and keywords user entered are designated in **boldface**.

```

Console>set tone congest <Enter>
How many sets of tone do you want the whole tone to be? (1~6)
2 <Enter>
Please enter set 1 parameters in the following order:
num_freq freq1 amp1 freq2 amp2 freq3 amp3 freq4 amp4 duration (-1: forever)
2 480 -240 620 -240 0 0 0 0 250 <Enter>
Please enter set 2 parameters in the following order:
num_freq freq1 amp1 freq2 amp2 freq3 amp3 freq4 amp4 duration (-1: forever)
0 0 0 0 0 0 0 0 0 250 <Enter>
OK
Use 'config store' cmd to save all the tone generation settings you've made.
Console>

```

The following example explains how to define a dial tone, which is a continuous playing out of a 400 Hz tone of power level -20 dBm.

```

Console>set tone dial <Enter>
How many sets of tone do you want the whole tone to be? (1~6)
1 <Enter>
Please enter set 1 parameters in the following order:
num_freq freq1 amp1 freq2 amp2 freq3 amp3 freq4 amp4 duration (-1: forever)
1 400 -200 0 0 0 0 0 0 -1 <Enter>
OK
Use 'config store' cmd to save all the tone generation settings you've made.
Console>

```

Related Command

show tone

Configuring CP Tone Detector

The CP tones that the ITG can detect include busy, ring-back, congestion and 6 types of disconnect tones. The ITG allows user to configure its CP tone detection configuration. The CP tone detection configuration includes tone filter information, and a table containing cadence information of all the CP tones that are to be detected. The CP tone filter is a band-pass filter, which filters all the tones present on the telephony ports. After filtering, if a tone is regarded as a CP tone, the ITG matches the on/off cadence of the tone against the cadence table users configured. If a match is found, the ITG regards it as a specific tone. This section describes

command for configuring the tone detection filter and the tone on/off cadence for all the CP tone the ITG can detect.

set cp_tone_det

This command is used to configure the on/off cadence for all the CP tones the ITG can detect.

```
set cp_tone_det {busy | ringback | congestion | disconnect |  
disc1 | disc2 | disc3 | disc4 | disc5}
```

Syntax description

busy	Busy tone
ringback	Ring-back tone
congestion	Congestion tone
disconnect	Disconnect tone type 1
disc1	Disconnect tone type 2
disc2	Disconnect tone type 3
disc3	Disconnect tone type 4
disc4	Disconnect tone type 5
disc5	Disconnect tone type 6

The cadence of a CP tone that user may configure includes a sequence of tone-on and tone-off duration and the number or repetition of the sequence. For each CP tone, user may define up to 8 tone-on and tone-off duration, each is defined by a minimum and maximum duration.

After entering the command, the CLI first prompts to enter the number of on/off cadence elements, then prompts to enter each cadence element in sequence. For each cadence element, you'll need to specify the following parameters:

- Tone on or tone off.
- Minimum duration (in milliseconds) of the tone.
- Maximum duration (in milliseconds) of the tone.

Factory default

Tone	No. of element	Element	Tone on/off	Minimum duration	Maximum duration	Repetition
Ringback	2	1	on	1800 ms	2200 ms	1
		2	off	3600 ms	4400 ms	
Busy	2	1	on	450 ms	550 ms	5
		2	off	450 ms	550 ms	
Congestion	2	1	on	234 ms	286 ms	5
		2	off	216 ms	264 ms	

Disconnect	2	1	on	270 ms	330 ms	5
		2	off	270 ms	330 ms	
Disc1	2	1	on	330 ms	400 ms	5
		2	off	310 ms	380 ms	
Disc2	2	1	on	290 ms	350 ms	5
		2	off	165 ms	195 ms	
Disc3	2	1	on	450 ms	550 ms	5
		2	off	450 ms	550 ms	
Disc4	2	1	on	450 ms	550 ms	5
		2	off	450 ms	550 ms	
Disc5	2	1	on	450 ms	550 ms	5
		2	off	450 ms	550 ms	

Example

Assuming you want to define a busy tone, which is a sequence of the following tone-on and tone-off:

Tone	Minimum Duration	Maximum Duration
On	450 ms	550 ms
Off	350 ms	450 ms
On	450 ms	550 ms
Off	350 ms	450 ms

The following example explains how this interactive command is used to define the cadence. Command and keywords user entered are designated in **boldface**.

```

Console>set cp_tone_det busy <Enter>

How many sets of elements do you want the whole CP tone to be detected? (1~8)
2 <Enter>

Please enter set 1 parameters in the following order:
on/off min.-duration max.-duration
on 450 550 <Enter>

Please enter set 2 parameters in the following order:
on/off min.-duration max.-duration
off 350 450 <Enter>

Please enter the repeat count now (1~10):
2 <Enter>

OK

Use 'config store' cmd to save all the CPTone detection settings you've made.
Console>

```

Related Commands

```

set cp_tone_det_cfg
set coding profile_id cp_tone_detect
set port port cp_tone_det_cfg
set port port cp_tone_det_ctrl
show cp_tone_det

```

set cp_tone_det_cfg

This command is used to configure the CP tone detection filter for the default CP tone detection configuration.

```

set cp_tone_det_dfg on_frac [threshold|0|-]
[hold_over_time|0|-] [low_freq|0|-] [high_freq|0|-]

```

Syntax description

on_frac	Percentage of tone on fraction ranging from 10 to 95. If the ratio between the tone energy and total energy is below this fraction, the call progress tone is ignored. “0” specifies the default of 50%. “-” specifies using the original setting.
threshold	Tone detection threshold, in dBm, ranging from -35 to -20. “0” specifies the default of -37 dBm. “-” specifies using the original setting.
hold_over_time	Minimum time duration in millisecond, ranging from 5 to 32767 for the call progress tone to be detected. “0” specifies the default of 200 ms. “-” specifies using the original setting.
low_freq	Low cut off frequency, ranging from 150 to 500 Hz. “0” specifies the default of 300. “-” specifies using the original setting.
high_freq	High cut off frequency, ranging from 400 to 1200 Hz. “0” specifies the default of 550. “-” specifies using the original setting.

Factory default

on_frac	30 %
threshold	-37 dBm
hold_over_time	200 ms
low_freq	180 Hz
high_freq	620 Hz

Related Commands

```

set cp_tone_det
set coding profile_id cp_tone_detect
set port port cp_tone_det_cfg
set port port cp_tone_det_ctrl
show cp_tone_det_cfg

```

7. H323 Configuration Commands

The ITG employs ITU-T H.323 protocol for call signaling and call control. The gatekeeper is an H.323 entity on the network that provides admission control and address translation services. The ITG allows calls to remote gateways be routed through a H.323 gatekeeper or not. This chapter describes commands for configuring the H.323 protocol.

This chapter is organized as follows:

- General H.323 configuration commands
- H.323 gatekeeper related configuration commands

General H.323 Configuration Commands

The following sections describe the general H.323 configuration commands.

set h323 alt_dtmf

There are two ways VoIP gateway handles DTMF Relay, per H.323 and IMTC specifications. While the **set h323 default_dtmf** command (Page 71) specifies the DTMF relay technique the ITG employs for conveying DTMF digits to remote VoIP devices over Internet. There is still a need for conveying DTMF digits using the alternate DTMF relay technique to certain remote VoIP devices. This command allows users to maintain a table of IP address of remote gateways to which the ITG will convey the DTMF tones using the DTMF relay technique other than the one defined by CLI command **set h323 default_dtmf**.

set h323 alt_dtmf {add | del} *ip_addr*

Syntax Description

add	Add an entry to the table of IP address of remote gateways to which the ITG convey DTMF tone using the alternate DTMF relay technique.
del	Delete an entry from the table.
<i>ip_addr</i>	IP address of the remote gateway.

Related Command

set h323 default_dtmf

set h323 auto_answer

This command is used to enable or disable early call setup connection. If disabled, the call is not set up until the user initiates the connection.

set h323 auto_answer {on | off}

Syntax Description

on	Enable H323 early call setup connection.
off	Disable H323 early call setup connection.

Factory default

off

set h323 call_name

One of the UIEs in the H.323 Setup message that the ITG sends to a remote gateway when initiating a call is **sourceAddress**. The **sourceAddress** UIE is a list of alias addresses, by which the remote gateway identifies the ITG. This command is used to set a string that the ITG will place in the 3rd alias address field of the **sourceAddress** UIE in the H.323 Setup message.

set h323 call_name *call_name*

Syntax Description

<i>call_name</i>	Call name, up to 30 characters, to be encapsulated in the 3 rd alias address field of sourceAddress UIE of the H.323 Setup message.
------------------	---

Factory default

Null

Related Commands

set h323 display_name

set h323 term_id

set h323 cisco_t38

Cisco FoIP solutions support standard T.38 fax. However, they expect their peer gateways initiating Open Logical Channel (OLC) request, when it determines itself as a H.323 Master. For the ITG to be aware of initiating OLC request when interoperating with Cisco gateway, this command is provided.

set h323 cisco_t38 {on | off}

Syntax Description

on	Initiates H.323 OLC under slave mode.
off	Waits for H.323 OLC from maser under slave mode.

Factory default

off

set h323 default_dtmf

There are two ways VoIP gateway handles DTMF Relay, per H.323 and IMTC specifications. By default, the ITG conveys DTMF digits in H.323 format. This command is used to specify how DTMF digits are to be conveyed to a remote VoIP device.

set h323 default_dtmf {imtc | h323v2}

Syntax Description

h323v2 Convey DTMF digits per H.323 specification.

imtc Convey DTMF digits per IMTC specification.

Factory default

h323v2

Related Command

set h323 alt_dtmf

set h323 display_name

One of the UIEs in the H.323 Setup message that the ITG sends to a remote gateway when initiating a call is **sourceAddress**. The **sourceAddress** UIE is a list of alias addresses, by which the remote gateway identifies the ITG. This command is used to set a string that the ITG will place in the 2nd alias address field of the **sourceAddress** UIE in the H.323 Setup message.

set h323 display_name *display_name*

Syntax Description

display_name The string, up to 64 characters, to be is encapsulated the 2nd alias address field of **sourceAddress** UIE of the H.323 Setup message.

Factory default

'Customer'

Related Commands

set h323 call_name

set h323 term_id

set h323 dns_ip

When setting up a call with a remote gateway, the ITG needs to know the IP address of the remote gateway. However, the ITG allows designating a remote destination by an IP address or a

host name in its dial plan. To be able to map a host name to an IP address, the ITG needs to consult a Domain Name Service (DNS) server. This command is used to set the IP address of the default DNS server and the default domain name for the ITG.

set h323 dns_ip *ip_addr domain_name*

Syntax Description

<i>ip_addr</i>	IP address of the default DNS server
<i>domain_name</i>	Name of the domain for the ITG.

Factory default

0.0.0.0

set h323 dtmf_duration

When the ITG employs IMTC relay mode, users may specify the duration the gateway plays out a DTMF tone. This command is used to set the duration of a DTMF tone, when IMTC DTMF relay technique is employed.

set h323 dtmf_duration *milliseconds*

Syntax Description

<i>millisecond</i>	Duration for the DTMF tone in millisecond.
--------------------	--

Factory default

300

set h323 gk_mode

The H.323 protocol allows calls to be established through H.323 gatekeeper. This command is used to specify if calls are established through a gatekeeper.

set h323 gk_mode {**off** | **manual** | **auto**}

Syntax Description

off	Disable gatekeeper operation
manual	Enable gatekeeper in manual discovery mode. The gk_addr must be set appropriately.
auto	Enable auto-discovery of the gatekeeper

Factory default

off

Related Command

H.323 Gatekeeper Related Configuration Commands

set h323 h245_term_type

This command is used to set the H.245 terminal type. The terminal type is used as part of the master/slave determination process of H.245.

set h323 h245_term_type *terminal_type*

Syntax Description

termmal_type A numerical value designating the H245 terminal type. Typically, setting the H.245 terminal type to a value less than 50 will force the slave operation, and a value greater than 200 will force the master operation.

Factory default

60

set h323 h245_timeout

This command is used to set the timeout value, in milliseconds, for an outgoing H.245 packet.

set h323 h245_timeout *milliseconds*

Syntax Description

milliseconds H.245 timeout value in milliseconds

Factory default

30000

set h323 h245_tunneling

In order to conserve resources, synchronize call signaling and control, and reduce call setup time, it may be desirable to convey H.245 messages within the Q.931 Call Signaling Channel instead of establishing a separate H.245 channel. This process is known as "tunneling" of H.245 messages. This command is used to set tunneling feature.

set h323 h245_tunneling { **on** | **off** }

Syntax Description

on Turn on H.245 tunneling feature
off Turn off H.245 tunnelling feature

Factory default

off

set h323 in_fast_start

This command is used to enable or disable accepting incoming call in H.323 Fast Start mode.

set h323 in_fast_start {on | off}

Syntax Description

on Accept incoming calls with H323 Faststart mode

off Do not accept incoming calls with Set H323 Faststart mode

Factory default

off

Related Command

set h323 out_fast_start

set h323 nat_call

When the ITG is installed in a network that connects to WAN via a router with Network Address Translation (NAT) feature, the NAT might block calls. This command is used to enable the ITG to connect to remote gateways connecting to WAN via NAT capable router.

set h323 nat_call {on | off}

Syntax Description

on Enable.

off Disable.

Factory default

on

set h323 out_fast_start

This command is used to select the H.323 mode for outgoing calls.

set h323 out_fast_start {on | off}

Syntax Description

on Initiate outgoing calls with H323 Fast Start mode

off Initiate outgoing calls with H323 Non Fast Start mode

Factory default

off

Related Command

set h323 in_fast_start

set h323 rtp_port_base

This command is used to select the starting port number for assignment of RTP ports. When calls are made to remote gateways, an RTP and RTCP ports are opened for each call. The ITG uses the *port_base* as the RTP port number and *port_base* + 1 as the RTCP port for the first call, the next call uses the next two successive ports, and so on.

set h323 rtp_port_base *port_base*

Syntax Description

<i>port_base</i>	The starting port number for the assignment of RTP port. If <i>port_base</i> is assigned a value of 0, the assignment of port number will be dynamic. The port number can be specified from 0 to 32767, and per H.323 Standard, it must be an even number. Typically, numbers from 0 to 1023 are reserved on most systems. The recommended value is 30000.
------------------	--

Factory default

30000

set h323 term_id

One of the UIEs in the H.323 Setup message that the ITG sends to a remote gateway when initiating a call is **sourceAddress**. The **sourceAddress** UIE is a list of alias addresses, by which the remote gateway identifies the ITG. This command is used to set a string that the ITG will place in the 1st alias address field of the **sourceAddress** UIE in the H.323 Setup message. This string is also placed in the 1st alias address field in the **terminalAlias** field in RRQ the gateways sends to the gatekeeper for registration.

set h323 term_id *string*

Syntax Description

<i>string</i>	The string, up to 64 characters, to be encapsulated the 1 st alias address field of sourceAddress UIE of the H.323 Setup message
---------------	--

Factory default

Null

Related Commands

set h323 call_name
set h323 display_name

H.323 Gatekeeper Related Configuration Commands

The following sections describe the general H.323 configuration commands.

set h323 alias

This command is used to create and delete aliases that are registered with the gatekeeper.

set h323 alias {**add** | **del**} {*alias* | **all**}

Syntax description

add	Create an alias <i>alias</i>
del	Delete a previously created alias <i>alias</i> or all previously created aliases, if the parameter that follows is all .
<i>alias</i>	Alias to be created or deleted
all	Delete all previously created aliases. This optional applies to del only

set h323 allow_calls_wo_gk

This command is used to inform the H.323 stack to allow incoming calls from a remote gateway which is not registered with a gatekeeper.

set h323 allow_calls_wo_gk {**true** | **false**}

Syntax description

true	Allow calls from gateway that is not registered with a gatekeeper.
false	Do not allow calls from gateway that is not registered with a gatekeeper.

Factory default

true

set h323 endpoint_prefix

This command is used to set the H.323 prefix that the ITG uses when registering to an H.323 gatekeeper. After registering to a gatekeeper using the prefix, the gatekeeper will map all Admission Request with destination matching the prefix to the ITG.

set h323 endpoint_prefix *alias*

Syntax Description

alias H.323 alias of the prefix.

Factory default

Null

set h323 endpoint_reg_type

When the ITG registers to a gatekeeper, it specifies the H.323 entity type it is registering in the RRQ message it sends to the gatekeeper. This command is used to set the H.323 registration type. This should not be confused with the H.245 terminal type, although the two parameters should be programmed consistently.

set h323 endpoint_reg_type {gw | terminal}

Syntax Description

gw The ITG registers itself to gatekeeper as a H.323 Gateway

terminal The ITG registers itself to gatekeeper as a H.323 Terminal

Factory default

gw

set h323 gk_addr

This command is used to specify the address of the gatekeeper when configured for manual mode.

set h323 gk_addr *ip_addr*

Syntax Description

ip_addr IP address of the H.323 gatekeeper

Factory default

0.0.0.0

set h323 gk_id

When the ITG registers to a gatekeeper, it specifies the gatekeeper it wishes to register with in the **gatekeeperIdentifier** field in the RRQ message it sends to the gatekeeper. This command is for setting the string to be placed in the **gatekeeperIdentifier** field in the RRQ message the ITG sends to gatekeeper.

set h323 gk_id *string*

Syntax Description

string Character string to be placed in the **gatekeeperIdentifier** filed in the RRQ message.

Factory default

Null

set h323 gk_max_tries

This command is used to control how many registration attempts will be made before the ITG considers itself has failed registration. Once this number of unsuccessful attempts have been made, the ITG will only be able to place calls if **allow_calls_wo_gk** is true.

set h323 gk_max_tries *count*

Syntax Description

count Number of registration attempts

Factory default

2

set h323 time_to_live

When the ITG registers to a gatekeeper, it specifies the duration of the validity of the registration in the **timeToLive** field in the RRQ message it sends to the gatekeeper. The gatekeeper may optional change the **timeToLive** by returning a different value in the RCF message it returns to the ITG. This command is for setting the **timeToLive** to be encapsulated in the RRQ message.

set h323 time_to_live *seconds*

Syntax Description

milliseconds Value in seconds

Factory default

0

8. Configuration Management Command

The CLI maintains three areas where the parameters for telephony interface ports, voice and fax coders, and H.323 configuration are stored:

- Temporary
- Active
- Non-volatile Storage (NVS)

When a **set** command is entered and processed, it changes the parameter value in the Temporary area. This does not affect current operation of the ITG, which is using the values in the Active area. The **config activate** command moves configuration data from the Temporary area to the Active area, where it can actually be used. Thus a user can make multiple changes in the Temporary area using **set** commands, then put them into use with a single **config activate** command. (Note that the **config activate** command may only be used between calls, and will usually tear down any in-progress calls when invoked.)

Configuration data in the Active area is only available while the ITG remains in operation. If the ITG is reset, the Active area is reloaded from the data stored in NVS. Data in the Active area may be saved to NVS by entering the **config store** command.

For most of the H.323 parameter, settings won't take effect until the ITG is reset. To ensure the H.323 setting to take effect, it is recommended to reset the ITG after changing the settings using the **set h323** command.

In summary:

- Use **set** commands to make configuration parameters changes in the Temporary area
- Use the **config activate** command to move the new values into the Active area, available for use
- Use the **config store** command to save the new Active values in NVS
- Reset the ITG after changing H.323 settings and storing the setting to NVS.

config

This command is used to move data among Temporary, Active and NVS areas.

config {activate | store | erase}

Syntax Description

activate	Move the configuration from Temporary area to Active area.
store	Store the active configuration data into NVS.
erase	Erase the configuration from NVS. After resetting the ITG, all parameters for telephony interface ports, coding profiles, call progress tone and H.323 reset to their factory default values.

9. The Show Command

The **show** commands are used to display information related to the ITG. This chapter describes the **show** commands.

show call_record

This command displays the information about the current call, if call is on-going, or the last call, if the call has been completed, for a telephony port. Information displayed include:

- Originator of the call, local or remote.
- Terminator of the call, local or remote.
- State of the call
- Release reason of the call
- Time, since system was powered up, the line was seized.
- Time, since seizure of the line, the call was connected.
- Duration of the call
- Coding profile the call employed.

show call_record *port*

Syntax description

port ID of the telephony port whose call record is to be displayed.

Example

The following example shows how to display the record of the latest call that telephony port 0 has completed:

```
Console>show call_record 0 <Enter>

Port 0, Call Record
Originated: local
Terminated: remote
Call state: IDLE
Release reason: GG_REL_LOCAL_ONHOOK
Seized ts      = 8135931 msec (since system startup)
Connected ts   =  9672 msec (since line seizure)
Call duration  = 23964 msec (since line seizure)
               = 14292 msec (since connected ts)
Neg. coding    =      0, ts =  20 msec (since line seizure)
Console>
```

show coding

This command displays parameters of a coding profile.

show coding [*profile_id*]

Syntax description

profile_id ID of the coding profile. If not specified, parameters for all coding profile available will be displayed.

show cp_tone_det

This command displays the on/off cadence of a CP tone that was configured using the **set cp_tone_det** command.

show cp_tone_det {busy | ringback | congestion | disconnect | disc1 | disc2 | disc2 | disc4 | disc5}

Syntax description

busy	Busy tone
ringback	Ring-back tone
congestion	Congestion tone
disconnect	Disconnect tone type 1
disc1	Disconnect tone type 2
disc2	Disconnect tone type 3
disc3	Disconnect tone type 4
disc4	Disconnect tone type 5
disc5	Disconnect tone type 6

Example

The following example shows how to display the on/off cadence for disconnect tone:

```
Console>show cp_tone_det disconnect <Enter>

The settings for CP detection are:
Number of on/off cadence elements: 2 for Disconnect-Tone
      min. duration      max. duration
Cadence ON for          270          330
Cadence OFF for         270          330
Repeat for 5 times.
OK
Console>
```

Related Command

set cp_tone_det

show cp_tone_det_cfg

This command displays the CP tone detection filter for the default and alternate CP tone detection configurations.

show cp_tone_det_cfg

Syntax description

This command has no arguments or keywords

Example

The following example shows how to display the on/off cadence for disconnect tone:

```
Console>show cp_tone_det_cfg <Enter>
CP tone detection filter config

           on_frac  thresh  ho_time  lo_freq  hi_freq
Default   39 %    -37 dBm   200 ms   180 Hz   620 Hz
Alternate  50 %    -37 dBm   200 ms   300 Hz   550 Hz
Console>
```

Related Command

set cp_tone_det_cfg

show h323

This command displays H.323 configuration parameters that were set using the set h323 command.

show h323

Syntax description

This command has no arguments or keywords

Example

The following example shows how to display H.323 configuration:

```
Console>show h323 <Enter>

h323 display_name   = 'Customer'
h323 h245_term_type = 60
h323 rtp_port_base  = 30000
h323 out_fast_start = off
h323 in_fast_start  = off
h323 h245_tunneling = off
h323 master_delay   = on
h323 cisco_t38       = on
h323 auto_answer     = off   User picks up the phone to answer.
h323 nat_call        = on
h323 call_name       =
h323 g723_frame_rate = 2
h323 default_dtmf    = H323 V2 Signal
h323 dtmf_duration   = 300 ms
```

```
No Alternate IP Defined!
h323 dns_ip = 0
h323 gk_mode      = off
h323 h245_timeout  = 30000
h323 term_id      =
Console>
```

show port

This command displays the configuration of a telephony port.

show port [*port*]

Syntax description

port ID of the telephony port. If not specified, parameters for all telephony ports available will be displayed.

show rtxstat

This command displays the statistic information about the voice packets that a telephony port has ever received and transmitted.

show rtxstat *port* [**clear**]

Syntax description

port ID of the telephony port whose voice packet information is to be displayed.

clear Clear the original statistics after displaying

show tlevels

This command displays the power level, in 0.1 dBm, of the following signals for a telephony port:

- Current receive signal level
- Current transmit signal level
- Average receive signal level
- Average transmit signal level
- Current background noise level

show tlevels *port*

Syntax description

port ID of the telephony port whose signal level is to be displayed.

Example

The following example shows how to display the power levels for signals for telephony port 0:

```

Console>show tlevels 0 <Enter>

Console>
Port 0, Tele Levels: (0.1 dBm)
  rx_level = -220,
  tx_level = -110,
  rx_mean  = 490,
  tx_mean  = 440.
  Bkg noise = 0
Console>

```

show tone

This command displays each element of a CP tone that was configured using the `set cp_tone` command.

show tone [**dial** | **busy** | **congest** | **disconnect**]

Syntax description

dial	Dial tone
busy	Busy tone
congest	Congestion tone
disconnect	Disconnect tone

Example

The following example shows how to display information about the dial tone:

```

Console>show tone dial

The settings are:
Number of tone elements: 1 for Dial-Tone
 num_freq freq1 amp1  freq2 amp2  freq3  amp3  freq4  amp4  duration
    2      350 -130   440 -130    0      0      0      0      -1
    0        0  0     0  0      0      0      0      0
    0        0  0     0  0      0      0      0      0
    0        0  0     0  0      0      0      0      0
    0        0  0     0  0      0      0      0      0
    0        0  0     0  0      0      0      0      0
OK
Console>

```

Related Command

set tone

show tstat

This command displays the telephony interface statistics for a telephony port, cumulative since the ITG was powered up. Information displayed include:

- Number of off-hooks detected.

- Number of on-hooks detected.
- Number of seizures detected
- Number of DTMF tone digits detected
- Number of pulse dial digits detected

show tstat *port*

Syntax description

port ID of the telephony port whose call record is to be displayed.

Example

The following example shows how to display tstat for that telephony port 0:

```
Console>show tstat 0 <Enter>

Port 0, Tele Stats
  num_offhooks      = 48
  num_onhooks       = 48
  num_seizures      = 48
  num_tone_digits   = 1028
  num_pulse_digits  = 0
Console>
```

show version

This command is used to display information that identifies the versions of various software components that are implemented in the ITG.

show version

Syntax Description

This command has no arguments or keywords

Example

The following example shows how to use the **show version** command

```
Console>show version

Internet Telephony Gateway (ACC) Version: 3.13
Boot Loader Version: 4.12
RTOS Version:      2.5.0/BE
H.323 Stack Version: 3.0.9.0
DSP image Version:  8.1.2.1.
TSG Version:       R8.0 Gateway (Build 4)
Console>
```


show vpsat

This command displays the statistic information about the voice packets played out by a telephony port.

show vpsat *port* [**clear**]

Syntax description

port ID of the telephony port whose voice packet information is to be displayed.

clear Clear the original statistics after displaying

10. Dial Plan Management Commands

The dial plan is a database, that the Address Translation and Parsing Manager (ATPM) of the ITG looks up for translating a dial string to a destination. The dial plan management commands allow you to modify and display the dial plan. Commands that change the dial plan are only allowed when the ITG is in the database update state. This chapter describes the dial plan management commands.

This chapter is organized as follows:

- Database update control commands
- Destination table management commands
- Hunt group table management commands
- Address table management commands
- Dialling control commands

Database Update Control Commands

atpm done

This command ends the dial plan update session and re-enables the address translation.

atpm done

Syntax description

This command has no arguments or keywords

Allowed only in database update mode

No

Related Command

atpm req

atpm erase

This command erases the dial plan database from the non-volatile memory.

atpm erase

Syntax description

This command has no arguments or keywords

Allowed only in database update mode

No

atpm purge

This command deletes all entries from the dial plan database.

atpm purge {all | addr | dest | hunt}

Syntax description

all	Delete all entries from ATPM address, destination and hunt group tables.
addr	Delete all entries from ATPM address table.
dest	Delete all entries from ATPM destination table.
hunt	Delete all entries from ATPM hunt group table.

Allowed only in database update mode

Yes

Related Commands

atpm restore

atpm store

atpm req

This command starts the dial plan database update session. Upon starting the database update session, the ATPM address translation is disabled, hence no phone calls can be made, until a **atpm done** command is issued.

atpm req

Syntax description

This command has no arguments or keywords

Allowed only in database update mode

No

Related Command

atpm done

atpm restore

This command restores the whole dial plan from non-volatile storage to the ATPM address, destination and hung group tables.

atpm restore

Syntax description

This command has no arguments or keywords

Allowed only in database update mode

Yes

Related Command

atpm store

atpm store

This command stores the ATPM address, destination and hung group tables to the non-volatile storage.

atpm store [erase]

Syntax description

erase	Erase the non-volatile storage before storing the dial plan database. This option is not recommended except at the very first time you use the atpm store command.
-------	---

Allowed only in database update mode

No

Related Command

atpm restore

Destination Table Management Commands

atpm dadd

This command adds a destination entry into the ATPM destination table. A local destination entry is one of the telephony ports on the ITG.

atpm dadd *dest_id* {**h323** *ip_addr* | **dns** *host_name* | **port** *port#*}

Syntax description

<i>dest_id</i>	Destination ID. For each destination, you need to assign it a unique identifier between 0 and 99.
h323	The destination is a remote gateway, whose IP address is <i>ip_addr</i> .
<i>ip_addr</i>	The IP address of the remote destination.
dns	The destination is a remote gateway, whose host name is <i>host_name</i> .
<i>host_name</i>	The host name of the remote destination.
port	The destination is a local telephony, whose ID is <i>port#</i> .
<i>port#</i>	The ID of the telephony port.

Allowed only in database update mode

Yes

Related Commands

atpm ddel

atpm dfind

atpm dlist

atpm ddel

This command deletes an entry from the ATPM destination table.

atpm ddel *dest_id*

Syntax description

dest_id ID of a previously added destination entry to be deleted from destination table.

Allowed only in database update mode

Yes

Related Commands

atpm dadd

atpm dfind

atpm dlist

atpm dfind

This command finds and displays an entry in the ATPM destination table.

atpm dfind *dest_id*

Syntax description

dest_id ID of a previously added destination entry to be displayed.

Allowed only in database update mode

No

Related Commands

atpm dadd

atpm ddel

atpm dlist

This command displays all entries in the ATPM destination table.

atpm dlist

Syntax description

This command has no arguments or keywords

Allowed only in database update mode

No

Related Commands

atpm dadd

atpm ddel

Hunt Group Table Management Commands

atpm hadd

This command adds an entry into the ATPM hunt group table.

atpm hadd *id* {1 | 2} *dest_id* [*dest_id*] [*dest_id*] . . .

Syntax description

- | | |
|-----------|--|
| <i>id</i> | Hunt group ID. For each hunt group, you need to assign it a unique identifier between 0 and 99. |
| 1 | Hunt type 1. Hunt type 1 hunts destination within a hunt group starting from the destination member just after the last used member. |
| 2 | Hunt type 2. Hunt type 2 hunts destination within a hunt group starting from the first destination member. |

dest_id List of ID's of destination members in the hunt group

Allowed only in database update mode

Yes

Related Commands

atpm hdel

atpm hfind

atpm hlist

atpm hdel

This command deletes an entry from the ATPM hunt group table.

atpm hdel *id*

Syntax description

id ID of the hunt group to be deleted from the hunt group table.

Allowed only in database update mode

Yes

Related Commands

atpm hadd

atpm hfind

atpm hlist

atpm hfind

This command finds and displays an entry in the ATPM hunt group table.

atpm hfind *id*

Syntax description

id ID of the hunt group to be displayed.

Allowed only in database update mode

No

Related Commands

atpm hadd

atpm hdel

atpm hlist

This command displays all entries in the ATPM hunt group table.

atpm hlist

Syntax description

This command has no arguments or keywords

Allowed only in database update mode

No

Related Commands

atpm hadd

atpm hdel

Address Table Management Commands

atpm aadd

Use the **atpm aadd** command to add an entry into the ATPM address table.

atpm aadd *tel# min_digits max_digits hunt_group_id prefix_strip_len [prefix#]*

Syntax description

<i>tel#</i>	Telephone number to match. This is only part of the total dialed string.
<i>min_digits</i>	Minimum number of digits to be collected before the ATPM starting matching the dialed string with entries in the address table.
<i>max_digits</i>	Maximum number of digits to be collected before the ATPM starting matching the dialed string with entries in the address table.
<i>hunt_group_id</i>	Hung group ID for this telephone number
<i>prefix_strip_len</i>	The number of digits to be stripped at the beginning of the collected dial string and before forwarding the string to the destination.
<i>prefix#</i>	Digit to be added before the beginning of the collected dial string and before forwarding it to the destination.

Allowed only in database update mode

Yes

Related Commands

atpm adel

atpm afind

atpm alist

atpm adel

This command deletes an entry from the ATPM address table.

atpm adel *tel#*

Syntax description

tel# Number of a previously added entry to be deleted from the address table.

Allowed only in database update mode

Yes

Related Commands

atpm adel

atpm adel

atpm alist

atpm afind

This command finds and displays an entry in the ATPM address table.

atpm afind *tel#*

Syntax description

tel# Number of a previously added entry in the address table to be displayed.

Allowed only in database update mode

No

Related Commands

atpm aadd

atpm adel

atpm alist

The **atpm alist** displays all entries in the ATPM address table.

atpm alist

Syntax description

This command has no arguments or keywords

Allowed only in database update mode

No

Related Commands

atpm adel

atpm afind

Dialing Control Commands

atpm slist

This command displays the parameters that controls the dialing

atpm slist

Syntax description

This command has no arguments or keywords

Allowed only in database update mode

No

Related Commands

atpm sys

atpm sys

This command sets the time constraints for the collection of dialed digits.

atpm sys *dial_time* *1st_digit_wait* *inter_digit_wait* [*dial_term_digit*]

Syntax description

dial_time The maximum time, in millisecond, allowed for entry of the entire string of dialed digits. At expiration, ATPM starts address lookup.

<i>1st_digit_wait</i>	The maximum time, in millisecond, allowed between off-hook and when the first dialed digit is entered. At expiration, ATPM considers address lookup to fail.
<i>inter_digit_wait</i>	The maximum time allowed between entry of each digit after the previous digit. At expiration, ATPM starts address lookup.
<i>dial_term_digit</i>	End of the dial string is declared when the digit is entered.

Allowed only in database update mode

Yes

Related Commands

atpm slist

11. The Trace Utility

The ITG implements a trace buffer, which logs messages generated by various modules of the software. The message buffer is display on the console also. The ITG also implements a facility called spy allowing users to manage the trace buffer and filtering message to be logged. Each module of the ITG software is assigned one or more spy keys, and each spy key is associated with a significance level, which is used by the spy facility to filter information to be logged and displayed. The significance level ranges from 0 to 5 with increasing level of significance. The CLI command **spy** allows users to set the filtering level for each spy key.

Only those messages whose significance levels are greater than the current filtering level will be displayed. As an example, if the user sets the spy filter level for a particular key to 3, then none of the messages with the significance levels of 0, 1 and 2 will be displayed. Messages with significance level 3, 4, and 5 will be displayed. Filtering level 6 is used to turn off all spy messages for a particular key.

To track a specific module of the software, a user may set the spy key designating to that module and set its filtering level to 2 to display messages of significance levels 2 and higher for this module of software. Decreasing the filtering level increases number of messages, since the trace uility displays messages of less significance also.

The following table describes major spy keys supported by the ITG.

Spy key	Description
ATPM	The A ddress T ranslation and P arsing M anager provides address translation services based on a database of telephone numbers and corresponding destinations configured through the Network Management Module.
CCU	The C ontrol and C oordination U nit enables the Signaling Protocol Unit (SPU) to set up DSP channels. In addition, the CCU controls the DSP for generating supervisory tone.
CMGR	The C all M anager is called by the PSU at each phase of call establishment and release and at significant events during a call.
CPS	While the Line State Machine (LSS) handles state changes that are unique to a signaling protocol. The C all P rocessing S tate machine handles functions that are common across all line protocols.
DIM	All access to the DSP resources within the ITG software system are made through the D SF I nterface M odule.
DSPA	The D SF A llocator is called by the CCU whenever a call is about to be established to a telephony port.
HSMU	The H .323 S witched M ode U nit provides the capability to set up voice, fax, or data connections over the IP network.
LSS	The L ine S tate machines handles state changes for loop start FXS, FXO, and E&M signaling protocol.

NMM	The N etwork M anagement M odule handles the configuration of the ITG.
PSU	The P rotocol S witching U nit provides the capability to interwork between the H.323 switched mode unit and TCP/IP protocol stack.
RADH	The ITG software incorporates RAD Vision H .323 protocol for call signaling and control.
SPU	The S ignaling P rotocol U nit controls the LSS and CPS for facilitating telephony channel signaling.
TIU	The T elephony I nterface U nit detects changes in telephony channels, for example, hook state. The TIU also supplies signals, such as loop power denial, to each of the telephony channels, and generates various ring cadences.

The following sections describe commands for managing the spy facility.

spy [*key*] [*level*]

This command is for setting and displaying spy keys the ITG support and the current filtering level for each key.

spy [*key*] [*level*]

Syntax description

<i>key</i>	Spy key specifying which module of code to be tracked. 0 stands for all keys.
<i>level</i>	Filtering level

If the command is entered without specifying the spy key and filtering level, spy keys supported by the ITG and the current filtering level for each key will be displayed.

spy dump

This command displays the content of the spy trace buffer.

spy dump

Syntax description

This command has no arguments or keywords

spy flush

This command flushes the spy trace buffer.

spy flush

Syntax description

This command has no arguments or keywords

12. Software Upgrade Utility Commands

The ITG offers two operation modes. Under normal conditions, the ITG operates in Gateway Mode. When software upgrade is required, the ITG may be operated in Software Upgrade Mode. Under Software Upgrade Mode, the CLI supports limited commands allowing users to read new revision codes from a remote TFTP server and write it to the built-in flash non-volatile storage. This chapter describes CLI commands available when the ITG operates in Software Upgrade Mode.

help

The **help** command lists the top-level commands.

help

Syntax Description

This command has no arguments or keywords

ping

The **ping** command sends Internet Control Message Protocol (ICMP) echo request packets to another node on the network.

ping *host_ip_address*

ping -s *host_ip_address* [*count/timeout*]

Syntax description

-s Causes ping to send one datagram per second, printing one line of output for every response received.

host_ip_addr The IP address or IP alias of the host.

count

timeout Timeout value for the ping in millisecond

quit

The **quit** command is used to terminate the Software Upgrade Mode and return to Gateway Mode.

quit

Syntax Description

This command has no arguments or keywords

Notes

Switching mode from Telnet session will terminate current active session. You'll need to connect to the ITG again to be able to access the CLI.

set gateway

Use the **set gateway** command to assign a default gateway (router) for the ITG. The default gateway routes packet data outside of your IP subnet.

set gateway *ip_addr*

Notes

The new setting will not take effect until the ITG is reset.

Syntax description

ip_addr The IP address of the default gateway. IP address of 0.0.0.0 stands for no default gateway.

set ip

Use the **set ip** command to assign a static IP address to the ITG.

set ip *ip_addr*

Syntax description

ip_addr The IP address of the ITG.

Notes

The new IP address will not take effect until the ITG is reset.

set mask

Use the **set mask** command to set the IP subnet mask for the ITG.

set mask *ip_mask*

Syntax description

ip_mask The subnet mask of your network.

Notes

The new setting will not take effect until the ITG is reset.

show

The **show** command displays all the network settings.

show

Syntax Description

This command has no arguments or keywords

start

This interactive command is for downloading code from a TFTP server. The ITG will prompt for the IP address of the TFTP server and the file to download.

start

Syntax Description

This command has no arguments or keywords

Example

The following example explains how this interactive command is used to download a code image file `itga312.img` from a TFTP server whose IP address is 192.168.0.253. Command and keywords user entered are designated in **boldface**.

```
EITGLoader>start
IP address of the TFTP server? [0.0.0.0] 192.168.0.253 <Enter>
File name? [itga310.img] itga312.img <Enter>

Starting download file: itga312.img
.....
.....
.....
Download complete, file size = 2278800
Application code (non-pkzip'd) downloaded successfully
Do you want to write downloaded image to flash EEPROM (y/n)? [y] y <Enter>
Press <Enter> to start flash EEPROM programming <Enter>
Flash EPROM programming on-going, BE CERTAIN NOT TO TURN POWER OFF...
Flash sector no.  4 write done
Flash sector no.  5 write done
Flash sector no.  6 write done
Flash sector no.  7 write done
Flash sector no.  8 write done
Flash sector no.  9 write done
Flash sector no. 10 write done
Flash sector no. 11 write done
Flash sector no. 12 write done
Flash sector no. 13 write done
Flash sector no. 14 write done
Flash sector no. 15 write done
Flash sector no. 16 write done
Flash EEPROM programming completed
All sectors programmed successfully
Download another file (y/n)? [n] n <Enter>
EITGLoader>
```

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