

Mediant™ Family of Session Border Controllers (SBC) & Media Gateways

Version 7.0

Table of Contents

1	Introduction.....	15
1.1	Document Conventions.....	17
Getting Started.....		19
2	Connecting to the CLI	21
2.1	RS-232	21
2.2	SSH.....	21
2.3	Telnet	21
3	CLI Structure.....	23
3.1	Authentication.....	23
3.2	Understanding CLI Modes	23
3.2.1	Basic Command Mode.....	23
3.2.2	Enable Command Mode	23
3.2.2.1	enable	24
3.2.2.2	disable	25
3.2.2.3	enable password.....	26
3.2.3	Configuration Modes.....	27
3.2.4	CLI Mode Commands	28
3.2.4.1	username administrator.....	28
3.2.5	telnet	29
3.3	CLI Shortcuts.....	31
3.4	Common CLI Commands	33
3.5	Working with Tables	35
3.5.1	<table name> new.....	35
3.5.2	<table name> <index> insert	36
3.5.3	<table name> <index to move> move-up move-down.....	37
3.6	CLI Error Messages.....	38
Root-Level Commands.....		39
4	Introduction.....	41
5	Debug Commands.....	43
5.1	debug auxiliary-files dial-plan info.....	43
5.2	debug auxiliary-files dial-plan match-number.....	44
5.3	debug auxiliary-files user-info info	45
5.4	debug debug-recording.....	46
5.5	debug fax.....	48
5.6	debug log.....	49
5.7	debug ha.....	50
5.8	debug pstn.....	51
5.9	debug sip.....	52
5.10	debug syslog-server	53
5.11	debug capture voip interface.....	54
5.12	debug capture voip physical.....	56
5.13	debug voip interface	58

5.14	debug speedtest	59
5.15	debug voip open-and-activate	61
5.16	debug voip dial-string	62
5.17	debug voip close-channels	63
5.18	debug usb devices	64
5.19	debug usb serial-trace	65
5.20	debug test-call ip dial	66
5.21	debug test-call ip drop	67
5.22	debug test-call ip set	68
6	Show Commands	69
6.1	show users	69
6.2	show running-config	70
6.3	Show System Commands	71
6.3.1	show system assembly	72
6.3.2	show system active-alarms	73
6.3.3	show system alarms-history	74
6.3.4	show system feature-key	76
6.3.5	show system high-availability	77
6.3.6	show system ntp-status	78
6.3.7	show system hardware	79
6.3.8	show system power	80
6.3.9	show system tls	81
6.3.10	show system radius	82
6.4	Show VoIP Commands	83
6.4.1	show voip interface network	83
6.4.2	show voip ports	84
6.4.3	show voip calls active	85
6.4.4	show voip calls active descending	86
6.4.5	show voip calls statistics	87
6.4.6	show voip calls active summary	88
6.4.7	show voip calls active ip2ip	89
6.4.8	show voip calls active gw	90
6.4.9	show voip calls active sbc	91
6.4.10	show voip calls active <session ID>	92
6.4.11	show voip calls history	95
6.4.12	show voip coders-stats	96
6.4.13	show voip interface	97
6.4.13.1	show voip interface e1-t1 bri	97
6.4.13.2	show voip interface fxs-fxo	99
6.4.14	show voip cpu-stats	100
6.4.15	show voip dsp	101
6.4.15.1	show voip dsp perf	101
6.4.15.2	show voip dsp status	102
6.4.16	show voip groups	103
6.4.17	show voip e911	104
6.4.18	show voip gw	105
6.4.18.1	show voip gw statistics basic-statistics	105
6.4.19	show voip devices	106
6.4.20	show voip other-dialog statistics	107
6.4.21	show voip proxy	108
6.4.22	show voip register	109
6.4.23	show voip security ids	111
6.4.24	show voip subscribe list	112
6.4.25	show voip subscribe statistics	113
6.4.26	show voip voip-network	114

6.4.27	show voip firewall	116
6.4.28	show voip groups	117
7	Clear Commands	119
7.1	clear voip gw	119
7.2	clear voip calls	120
7.3	clear voip statistics	121
7.4	clear voip register	122
7.5	clear alarms-history	123
7.6	clear user	124
7.7	clear ip access-list counters	125
7.8	clear counters	126
7.9	clear qos counters	127
8	Maintenance and File Commands	129
8.1	copy Commands	129
8.1.1	copy <file>	129
8.1.2	copy <packaged Auxiliary .tar file name>	131
8.1.3	Progress Indication for File Transfer	132
8.1.4	usb list	133
8.1.5	usb remove	134
8.2	cmdshell	135
8.3	dir	136
8.4	reload	137
8.5	write	139
8.6	write factory	140
8.7	write-and-backup	141
8.8	erase	142
8.9	nslookup	143
8.10	ping	144
8.11	pstn nfas-group-switch-activity	146
8.12	admin register	147
System CLI Commands		149
9	Introduction	151
9.1	configure system	152
10	Banner Message	153
10.1	welcome-msg	153
10.2	text	154
11	Application Commands	155
11.1	NTP Commands	155
11.1.1	ntp	155
11.1.2	auth-key-md5	156
11.1.3	primary-server	157
11.1.4	secondary-server	158
11.1.5	update-interval	159
11.1.6	utc-offset	160
11.1.7	auth-key-id	161

11.1.8 ntp-server	162
12 Syslog Commands	163
12.1 logging.....	163
12.2 syslog	164
12.3 activity-log.....	165
12.4 activity-trap	166
12.5 debug-level	167
12.6 clear system-log.....	168
13 Regional Setting Commands.....	169
13.1 clock	169
13.2 summer-time.....	170
14 Certificate Commands	171
14.1 copy <cert file>	171
14.2 tls.....	172
14.2.1 certificate create-self-signed	173
14.2.2 certificate subject clear	174
14.2.3 certificate subject field-set.....	175
14.2.4 certificate status	176
14.2.5 certificate export.....	177
14.2.6 certificate import.....	178
14.2.7 certificate details	179
14.2.8 private-key import.....	180
14.2.9 private-key generate	181
14.2.10 trusted-root detail	182
14.2.11 trusted-root export.....	183
14.2.12 trusted-root import.....	184
14.2.13 trusted-root delete	185
14.2.14 trusted-root summary.....	186
15 High Availability (HA) Commands.....	187
15.1 high-availability	187
16 Management Commands	189
16.1 oamp-default-network-src	189
16.2 Telnet/SSH Commands	190
16.2.1 cli-terminal.....	190
16.2.2 telnet-max-sessions	192
16.2.3 window height	193
16.3 Web and Telnet Access List Commands	194
16.3.1 web.....	194
16.3.2 mgmt-access-list	195
16.4 TR-069 (CWMP) Commands.....	197
16.4.1 cwmp.....	197
16.5 SNMP Commands	198
16.5.1 snmp	198
16.5.2 snmp trap	199
16.5.3 ro-community-string	200
16.5.4 rw-community-string.....	201
16.5.5 delete-ro-community-string	202
16.5.6 delete-rw-community-string.....	203
16.5.7 engine-id	204

16.5.8	port	205
16.5.9	snmp trap destination	206
16.5.10	snmp v3-users	207
16.6	Multi-tenancy Command	209
16.6.1	srd-view	209
17	Test Call Commands	211
17.1	test-call	211
18	Feature and Product Keys Update Commands.....	213
18.1	feature-key.....	213
18.2	product-key.....	214
19	Automatic Update Commands	215
19.1	automatic-update	215
19.2	auto-firmware.....	217
19.3	crc-check	218
19.4	http-user-agent	219
19.5	predefined-time.....	220
19.6	pwd.....	221
19.7	run	222
19.8	run-on-reboot.....	223
19.9	source.....	224
19.10	template-files-list.....	225
19.11	template-url.....	226
19.12	ftftp-block-size	228
19.13	update-firmware.....	229
19.14	update-frequency.....	230
19.15	verify-certificate.....	231
19.16	verify-ssl-subject-name	232
VoIP CLI Commands.....		233
20	Introduction.....	235
21	Network Commands.....	237
21.1	Ethernet Group Table Commands	237
21.1.1	ether-group.....	237
21.1.2	mode	238
21.2	IP Interface Table Commands	239
21.2.1	interface network-if.....	239
21.2.2	interface vlan.....	241
21.2.3	application-type	242
21.2.4	ip-address	243
21.2.5	ip gateway	244
21.2.6	ip name-server	245
21.2.7	desc.....	246
21.3	Ethernet Device Table Commands	247
21.3.1	interface network-dev.....	247
21.4	Static Routing Commands	248
21.4.1	routing static.....	248

21.5	Quality of Service (QoS) Commands	250
21.5.1	qos vlan-mapping	250
21.5.2	qos application mapping	252
21.6	Domain Name Server (DNS) Commands.....	253
21.6.1	voip-network dns-to-ip.....	253
21.6.2	voip-network srv2lp	254
22	Time Division Multiplexing (TDM) Commands.....	255
22.1	tdm	255
22.2	configure voip tdm	256
23	Security Commands.....	257
23.1	access-list.....	257
23.2	Intrusion Detection System Commands	258
23.2.1	security ids policy	258
23.2.2	security ids rule	259
23.2.3	security ids match	260
24	PSTN Commands	261
24.1	interface.....	261
25	Media Commands.....	265
25.1	Voice Commands	265
25.1.1	media voice-processing	265
25.1.2	media voice-processing codecs.....	267
25.2	Fax/Modem/CID Commands.....	268
25.2.1	media fax-modem	268
25.2.2	media fax-modem t38	269
25.2.3	media fax-modem V1501.....	270
25.2.4	media fax-modem bypass.....	271
25.3	RTP/RTCP Commands.....	272
25.3.1	media RTP-RTCP	272
25.3.2	media RTP-payload-types	273
25.4	IP Media Commands	274
25.4.1	ip-media ip-media-settings.....	274
25.4.2	media IPM-detectors	275
25.5	Media Realm Commands	276
25.5.1	media realm	276
25.6	General Media Commands	277
25.6.1	media general	277
25.7	Media Security Commands.....	278
25.7.1	media security	278
26	QoE Commands.....	279
26.1	media qoe.....	279
26.2	media bw-management	280
26.3	media qoe-rules	281
26.4	qoe media-enhancement	282
26.5	qoe media-enhancement-rules	283
27	Applications Enabling Commands	285
27.1	appli-enabling	285

27.2	enable-crp.....	286
27.3	enable-sbc.....	287
28	VoIP Network Commands.....	289
28.1	voip-network realm	289
28.2	voip-network srd	290
28.3	voip-network srd clone	291
28.4	voip-network sip-interface	292
28.5	voip-network ip-group	293
28.6	voip-network proxy-ip.....	295
28.7	voip-network proxy-set.....	296
28.8	voip-network NATTranslation.....	297
28.9	always-use-source-address	298
28.9.1	account setting	299
28.9.2	advanced settings	300
28.9.3	general settings.....	302
29	Configuring In-band Signaling Commands.....	305
29.1	media in-band-signaling.....	305
29.2	Advanced Parameter Commands.....	307
29.2.1	advanced settings	307
29.2.2	enbl-non-inv-408	309
29.2.3	net-node-id	310
29.3	Account Table Commands.....	311
29.3.1	account.....	311
29.3.2	account setting.....	312
29.4	SIP Proxy and Registration Commands.....	313
29.4.1	proxy and registration.....	313
29.5	Message Policy and Manipulation Commands.....	315
29.5.1	sbc message-policy.....	315
29.5.2	manipulations message-manipulations.....	316
29.6	Configuring User Information / Registration Database Commands	317
29.6.1	user-info	317
30	Coders and Profiles Commands	321
30.1	coders-and-profiles coders-group	321
30.2	coders-and-profiles ip-profile.....	322
30.3	coders-and-profiles tel-profile.....	325
31	Gateway Commands	327
31.1	interface fxs-fxo	327
31.1.1	analog-port-enable	329
31.2	Analog	330
31.2.1	authentication.....	330
31.2.2	automatic-dialing	331
31.2.3	caller-display-info	332
31.2.4	call-forward.....	333
31.2.5	call-waiting	334
31.2.6	enable-caller-id.....	335
31.2.7	enable-did	336
31.2.8	charge-code	337
31.2.9	fxo-setting.....	338

31.2.10 keypad-features	339
31.2.11 metering-tones	340
31.2.12 gen-mtr-tones.....	341
31.2.13 reject-anonymous-calls	342
31.2.14 tone-index	343
31.3 Digital	344
31.3.1 digital-gw-parameters.....	344
31.3.2 isdn-supp-serv.....	346
31.3.3 rp-network-domains	347
31.4 DTMF and Supplementary	348
31.4.1 dtmf-and-suppl dtmf-and-dialing	348
31.4.2 dtmf-and-suppl supplementary-services	349
31.5 Hunt or Trunk Group.....	351
31.5.1 hunt-or-trunk-group trunk-group.....	351
31.5.2 hunt-or-trunk-group trunk-group-setting.....	353
31.6 Manipulations	354
31.6.1 cause-map-isdn2sip	354
31.6.2 cause-map-sip2isdn	355
31.6.3 cause-map-isdn2isdn	356
31.6.4 dst-number-map-ip2tel.....	357
31.6.5 dst-number-map-tel2ip	358
31.6.6 src-number-map-ip2tel	359
31.6.7 src-number-map-tel2ip	360
31.6.8 calling-name-map-ip2tel.....	361
31.6.9 calling-name-map-tel2ip.....	362
31.6.10 general-setting	363
31.6.11 phone-context-table	364
31.6.12 redirect-number-map-ip2tel.....	365
31.6.13 redirect-number-map-tel2ip.....	366
31.7 Routing	367
31.7.1 gw routing alt-route-cause-tel2ip.....	367
31.7.2 gw routing alt-route-cause-ip2tel.....	368
31.7.3 gw routing fwd-on-busy-trk-dst.....	369
31.7.4 gw routing general-setting.....	370
31.7.5 gw routing ip2tel-routing.....	371
31.7.6 gw routing tel2ip-routing.....	372
32 SBC Commands	373
32.1 General Settings.....	373
32.1.1 sbc general-setting.....	373
32.1.2 sbc-rtcp-r-report-mode.....	375
32.1.3 sbc-server-auth-mode.....	376
32.1.4 sbc-usr-reg-grace-time.....	377
32.2 Admission Control.....	378
32.2.1 sbc-admission-control	378
32.3 Allowed Coders Group.....	379
32.3.1 allowed-coders-group.....	379
32.4 Routing SBC.....	380
32.4.1 classification.....	380
32.4.2 condition-table.....	381
32.4.3 ip2ip-routing	382
32.4.4 sbc-alternative-routing-reasons	383
32.5 Manipulations SBC	384
32.5.1 manipulations ip-inbound-manipulation	384
32.5.2 manipulations ip-outbound-manipulation	385

33 Cloud Resilience Package (CRP) Commands	387
33.1 crp-emerg-nb	387
34 IP Media Commands	389
34.1 voice-streaming ivr.....	389
35 Services Commands	391
35.1 RADIUS Setting Commands	391
35.1.1 radius	391
35.1.2 auth-server-ip	392
35.1.3 auth-server-port.....	393
35.1.4 enable-mgmt-login	394
35.1.5 source voip.....	395
35.2 SIP Recording	396
35.2.1 enable-sip-rec	396
35.2.2 siprec-server-dest-username	397
35.2.3 sip-rec-routing	398
35.3 LDAP	399
35.3.1 ldap	399
35.3.2 ldap-servers-search-dns	400
35.4 Least Cost Routing	401
35.4.1 services least-cost-routing cost-group-time-bands	401
35.4.2 services least-cost-routing routing-rule-groups.....	402
35.4.3 services least-cost-routing cost-group	403
35.5 Call Detail Records	404
35.5.1 cdr	404
35.5.2 cdr-format.....	405
35.5.3 cdr-format show-title.....	407

List of Tables

Table 3-1: CLI Shortcuts	31
Table 3-2: Common CLI Commands	33
Table 3-3: CLI Error Messages.....	38

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Notice

This document describes Command Line Interface (CLI) commands for the AudioCodes Mediant product line.

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Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used.

Related Documentation

Manual Name
Mediant 500 E-SBC User's Manual
Mediant 800B Gateway & E-SBC User's Manual
Mediant 1000B Gateway & E-SBC User's Manual
Mediant 2600 E-SBC User's Manual
Mediant 4000 SBC User's Manual
Mediant 9000 SBC User's Manual
Mediant Software SBC User's Manual

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17913	Initial document release for Version 7.0.
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17915	Updated <i>switchport</i> commands.
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17917	<ul style="list-style-type: none"> ▪ NFS removed ▪ E&M related commands removed ▪ Path to CDR commands updated ▪ New command: <i>cdr-format show-title</i> ▪ New command: <i>configure system > automatic-update license</i> ▪ Miscellaneous formatting and editing
17919	Updated commands: <ul style="list-style-type: none"> ▪ <i>show voip security ids</i> ▪ <i>cli-terminal</i> New commands added: <ul style="list-style-type: none"> ▪ <i>template-files-list</i> ▪ <i>security ids policy</i> ▪ <i>security ids rule</i> ▪ <i>security ids match</i>

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1 Introduction

This document provides a reference for the device's System and VoIP Command Line Interface (CLI) commands. It describes the syntax and use of all the CLI commands.



Note: Some products mentioned in this document may not have been released in Version 7.0 and thus, commands that are applicable only to these products should be ignored. To check the products that have been released in Version 7.0, please refer to the *Release Notes Ver. 7.0*.

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1.1 Document Conventions

Throughout this document, section headings are created for main commands. These commands appear in the CLI as prompts once you type the command and then press Enter. For example, the below shows such a command (**cli-terminal**) and its prompt:

```
(config-system)# cli-terminal
(cli-terminal)#
```

Therefore, for the command in the above example, the document includes the section heading "cli-terminal".

Section headings are also created for commands that are entered at the CLI root prompt "#". For example:

```
# reload
```

Sub-commands do not appear as CLI prompts. They are entered at the prompt of their related (main) command. Therefore, throughout the document, sub-commands are described under the section headings of their related commands. For example, the below shows a sub-command (**ssh**) entered at the prompt of its related command (**cli-terminal**):

```
(config-system)# cli-terminal
(cli-terminal)# ssh on
```

This document also uses the following typographical conventions:

Table 1-1: Typographical Conventions

Convention	Description
Bold font	Indicates commands and subcommands. # ping 10.4.0.1 timeout 10
< >	Indicates a value (digits or characters) that you need to enter, for example: # ping <ip address> timeout <duration>
	Indicates a choice between commands or sub-commands. For example: # reload { if-needed now without-saving }
[]	Indicates commands that are optional (not mandatory). The following example shows two optional commands, size and repeat : # ping <ip address> timeout <duration> [size <max packet size>] [repeat <1-300>]
{ }	Indicates a choice between commands where it is mandatory to select one of them, for example: # reload { if-needed now without-saving }

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Part I

Getting Started

2 Connecting to the CLI

The CLI can be accessed via RS-232 interface, Telnet or SSH protocols via the Ethernet interface.

2.1 RS-232

The device can be accessed via RS-232 by connecting a VT100 terminal to the device or using a terminal emulation program with a PC. Most Windows® computers come with a program called HyperTerminal®, which is located under **Programs > Accessories > Communications**.

Once you have connected via a VT100 terminal and started the HyperTerminal program, set the program settings as follows:

- 115200 baud rate
- 8 data bits
- No parity
- 1 stop bit
- No flow control

If you are using HyperTerminal, name your new connection and then set up the new connection via the resulting dialog box. The box allows you to determine the type of connection you are using. Verify COM1 and select **OK**.

Another dialogue box appears for entering the COM1 properties. Enter the program settings in this box; select **APPLY** and then **OK**. You should then be presented with a terminal window in which you can interface with your device.

2.2 SSH

The device can be accessed by SSH protocol using SSH client software.

One of the most popular freeware SSH client software is Putty, which can be downloaded from the following URL:

<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

By default the SSH access is disabled. Enable SSH access via CLI (**configure system > cli-terminal > ssh on > activate**), or set the '*SSHServerEnable*' ini parameter to '1'.

2.3 Telnet

The device can be accessed by Telnet protocol using Telnet client software. Most Windows® computers come with a program called 'Telnet', which can be activated via the Windows command-line.

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3 CLI Structure

The following describes the CLI structure.

3.1 Authentication

When the device is accessed, the user is prompted to enter the device administrator's Username and Password.

The device administrator's credentials are common to all the device's management interfaces (e.g. Web).

The default username and password are 'Admin', 'Admin' respectively.

3.2 Understanding CLI Modes

As you begin communication, you should understand the command modes. Each command mode enables the user to access more commands and to make more changes in the device's configuration.

The CLI has two command modes:

- Basic
- Enable

The two command modes are organized in a two-tiered hierarchy with Basic at the bottom and Enable at the top.

3.2.1 Basic Command Mode

Interaction with your device begins at the Basic Command Mode. The commands supported by this command tier are limited, as is interaction with the device itself. The Basic Mode is for users without access to the higher-tiered commands, to keep them from changing the preferred configurations of the device.

The Basic Mode is accessed by beginning a CLI session (after successful authentication) and it enables the user to display system information and activate several debugging facilities.

The Basic Mode prompt is '>'.

3.2.2 Enable Command Mode

Enable Command Mode is the high-level tier in the command hierarchy, basically one step up from the Basic Mode. A password ('Admin' by default) is required to access the Enable Mode.

The Enable command is required only for users with Administrator or Monitor access levels; Security Administrator and Master access levels automatically enter Enable mode upon initial login.

From the Enable Mode, you can access the configurations of your product as well as handle how your device boots and runs, among other things.

The Enable Mode is accessed by entering 'enable' while in the Basic Command Mode.

The Enable Mode prompt is '#'.

3.2.2.1 enable

This command switches the device to Enable Mode from Basic mode.

Syntax:

The syntax of this command includes the following:

```
enable
```

Defaults:

The default password for switching to Enable Mode is 'Admin'.

Notes:

- When switching to Enable Mode, the user will be prompted to enter the Enable Mode password.
- This password can be changed via the *enable password* command.

Command Modes:

Enable

Related Commands:

enable, enable password

Examples:

The following example command switches the device to Enable Mode.

```
# enable
```


3.2.2.2 **disable**

This command switches the device back to Basic mode from Enable mode.

Syntax:

The syntax of this command includes the following:

```
disable
```

Defaults:

NA

Notes:

NA

Command Modes:

Enable

Related Commands:

enable, enable password

Examples:

The following example command switches the device back to Basic mode.

```
# disable
```

3.2.2.3 enable password

This command sets the Enable Mode password for switching to Enable Mode from Basic mode.

Syntax:

```
enable password <password>
```

The command's syntax format is described below:

Arguments	Description
password	Enter the new password.

Defaults:

NA

Notes:

NA

Command Modes:

Enable

Related Commands:

disable, enable

Examples:

The following example command sets the Enable Mode password. To 'Admin'

```
# enable password Admin
```

3.2.3 Configuration Modes

Configurations are the means by which you set up your device and system according to your personal requirements and preferences.

All configurations are accessed through the Enable Command Mode. The configuration is divided into the following main configuration-sets:

- **configure system:** Contains the general and system oriented configuration command of the device - for example, Syslog configuration. To access this mode, type the following command:

```
# configure system
```

- **configure voip:** Contains VoIP-oriented configuration commands - for example SIP, VoIP network interfaces and VoIP Media configurations. To access this mode, type the following command:

```
# configure voip
```

- **configure data:** Contains the data-router oriented configuration command of the device. To access this mode, type the following command:

```
# configure data
```

- **configure wizard:** Accesses the CLI Wizard utility for initial configuration providing connectivity to the device's OAMP network interface. For more information on how to use this utility, refer to the *CLI Wizard User's Guide*. To access this mode, type the following command:

```
# configure-wizard
```

3.2.4 CLI Mode Commands

The following commands describe to enable and disable modes within CLI.

3.2.4.1 username administrator

This command configures the device's administrator credentials.

Syntax:

```
username administrator name <name>
username administrator password <password>
```

The command's syntax format is described below:

Arguments	Description
name	Sets the new value for the administrator's name.
password	Sets the new value for the administrator's password.

Defaults:

NA

Notes:

The administrator's credentials are device wide. i.e., setting the administrator's credentials will take effect in the Web as well as the CLI authentication and vice-versa.

Command Modes:

Enable

Related Commands:

NA

Examples:

The following example sets the administrator's name to 'James'.

```
# username administrator name James
```

3.2.5 telnet

This command invokes a Telnet session towards a remote host.

Syntax:

```
telnet <remote-host> <remote-port> interface vlan <vlan-ID>
telnet <remote-host> <remote-port> source vlan <vlan-ID>
```

Interface Type		Interface ID
gigabitethernet	GigabitEthernet interface slot and port (VLAN ID is optional)	[SLOT/PORT.VLANID]
cellular	Cellular interface ID	0/0
gre	Tunnel GRE ID	[1-255]
ipip	Tunnel IPIP ID	[1-255]
pppoe	PPPoE interface ID	[1-3]
pptp	PPTP ID	[0-99]
vlan	Vlan ID	[1-3999]
loopback	Loopback ID	[1-5]
bvi	Bridge interface	[1-255]

The command's syntax format is described below:

Arguments	Description
remote-host	Defines the remote host IP address.
remote-port	Defines the remote host port number. This argument is not mandatory.

Defaults:

Default remote port is 23 (if not entered otherwise by the user).

Notes:

- The **telnet** command is used mainly for remote management purposes.
- The user can then invoke Telnet sessions towards other devices in the LAN in order to manage them. That way, no special pin-holes or forwarding rules should be declared in order to manage the LAN devices.

Command Modes:

Enable

Related Commands:

NA

Examples:

The following example invokes a Telnet session.

```
# telnet 10.4.4.25
```

3.3 CLI Shortcuts

The CLI provides several shortcuts to help you configure your device more easily. See the following table for descriptions.

Table 3-1: CLI Shortcuts

Shortcut	Description
Up arrow key	To re-display a previously entered command, use the Up arrow key. Continuing to press the Up arrow key cycles through all commands entered, starting with the most recent command.
<Tab> key	Pressing the <Tab> key after entering a partial (but unique) command completes the command, displays it on the command prompt line, and waits for further input. Pressing the <Tab> key after entering a partial and not unique command displays all completing options.
?	<p>The CLI contains help to guide you through the configuration process. Using the question mark, do one of the following:</p> <p>Displays a list of all subcommands in the current mode. For example:</p> <pre>(config data)# interface ? BVI bridge interface GigabitEthernet GigabitEthernet vlan Vlan interface</pre> <p>Displays a list of available commands beginning with certain letter(s). For example:</p> <pre>(config data)# interface G? GigabitEthernet GigabitEthernet</pre> <p>Obtains syntax help for a specific command by entering the command, a space, and then a question mark (?). The device's CLI displays the range of values and a brief description of the next parameter expected for that particular command. For example:</p> <pre>(config data)# interface vlan ? [1-3999] Vlan ID</pre> <p>In case there is a command that can be invoked (all its arguments are inserted), using the question mark at its end displays <cr>. For example:</p> <pre>(config data)# logging host 10.1.1.1 ? <cr></pre>
CTRL + A	Jump to the beginning of the displayed command line. This shortcut is helpful when using the no form of commands (when available).
CTRL + E	Jump to the end of the displayed command line.
CTRL + U	Clears the current displayed command line.
CTRL + Z	Returns to the Enabled mode prompt "#".

Shortcut	Description
auto finish	You need only enter enough letters to identify a command as unique. For example, entering "int G 0/0" at the configuration prompt provides you access to the configuration parameters for the specified Gigabit-Ethernet interface. Entering "interface GigabitEthernet 0/0" would work as well, but is not necessary.

3.4 Common CLI Commands

The following table contains descriptions of common CLI commands.

Table 3-2: Common CLI Commands

Command	Description
do	Provides a way to execute commands in other command sets without taking the time to exit the current command set. The following example shows the do command, used to view the GigabitEthernet interface configuration while in the virtual-LAN interface command set: <pre>(config data)# interface vlan 1 (conf-if-VLAN 1)# do show interfaces GigabitEthernet 0/0</pre>
no	Undoes an issued command or disables a feature. Enter no before the command: <pre>no debug log</pre>
activate	Activates a command. When you enter a configuration command in the CLI, the command is not applied until you enter the activate and exit commands. Note: Offline configuration changes require a reset of the device. A reset can be performed at the end of the configuration changes. A required reset is indicated by an asterisk (*) before the command prompt.
exit	Leaves the current command-set and returns one level up. If issued on the top level, the session ends. For online parameters, if the configuration was changed and no activate command was entered, the exit command applies the activate command automatically. If issued on the top level, the session will end: <pre>(config data)# exit # exit (session closed)</pre>
display	Shows the configuration of current configuration set.
help	Shows a short help how-to string.
history	Shows a list of previously run commands.
list	Shows the available command list of the current command-set.

Command	Description
<filter>	<p>Applied to a command output. The filter should be typed after the command with a pipe mark ()</p> <p>Supported filters:</p> <p>include <word> – filter (print) lines which contain <word></p> <p>exclude <word> – filter lines which does not contain <word></p> <p>grep <options> - filter lines according to <i>grep</i> common Unix utility options</p> <p>egrep <options> - filter lines according to <i>egrep</i> common Unix utility options</p> <p>begin <word> – filter (print) lines which begins with <word></p> <p>between <word1> <word2> – filter (print) lines which are placed between <word1> and <word2></p> <p>count – show the output's line count</p> <p>Example:</p> <pre># show version grep Number ;Serial Number: 2239835;Slot Number: 1</pre>

3.5 Working with Tables

The following commands describe how to work with tables in CLI.

3.5.1 <table name> new

This command provides support for automatically assigning the next consecutive, available index number to a newly added table row.

Syntax:

```
# <table name> new
```

Notes:

This command is supported on Mediant 500; Mediant 8xx; Mediant 1000B; Mediant 2600; Mediant 4000; Mediant SW.

Command Modes:

Enable

Examples:

The following is an example of how this command is used. For instance, if three rows are currently defined in the Account table (account-0, account-1, and account-2) and a new entry is subsequently defined, account-3 is automatically created and its configuration mode is accessed:

```
(config-voip)# sip-definition account new
(account-3)#
```

3.5.2 <table name> <index> insert

This feature provides support for changing the row position of existing table indices. The row entry can be moved one index position up or one index position down. For example, Index 4 can be moved one row up to Index 3. In such a scenario, the previous row located at Index 3 is moved down to Index 4.

Syntax:

```
# <table name> <index> insert up | down
```

Notes:

This feature applies to the following tables:

- **SBC:**

- IP-to-IP Routing
- Classification
- Message Condition
- IP-to-IP Inbound Manipulation
- IP-to-IP Outbound Manipulation

- **SBC and Gateway:**

- Message Manipulations

- **Gateway:**

- Destination Phone Number Manipulation Tables for IP-to-Tel / Tel-to-IP Calls
- Calling Name Manipulation Tables for IP-to-Tel / Tel-to-IP Calls
- Source Phone Number Manipulation Tables IP-to-Tel / Tel-to-IP Calls
- Redirect Number Tel-to-IP

Command Modes:

Enable

Examples:

The following is an example of how this command is used

```
(config-voip)# sip-definition account 1 insert up
```

3.5.3 <table name> <index to move> move-up|move-down

This command provides support for changing the row position of existing table indices. The row entry can be moved one index position up or one index position down. .

Syntax:

```
# <table name> <index to move> move-up|move-down
```

Notes:

This feature is applicable only to specific tables.

Command Modes:

Enable

Examples:

The following example moves the row at Index 1 down to Index 2 in the IP-to-IP Routing table:

```
<config-voip># sbc routing ip2ip-routing 1 move-down
```

3.6 CLI Error Messages

The following table lists and defines some of the more common error messages given in the CLI.

Table 3-3: CLI Error Messages

Message	Helpful Hints
Invalid command	The command may not be valid in the current command mode, or you may not have entered enough correct characters for the command to be recognized. Try using '?' to determine your error.
Incomplete command	You may not have entered all of the pertinent information required to make the command valid. Try using '?' to determine your error.



Notes:

- Optional arguments in commands are marked in square brackets [].
- To ensure that all failed CLI commands' error/information messages are displayed in the CLI console, you can redirect these messages, received from the Syslog console, to the CLI console by running the **debug log** command. This command can be disabled by running the **no debug log** command.



Part II

Root-Level Commands

4 Introduction

This part describes the commands located at the root level.

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5 Debug Commands

The following describes the Debug command options.

5.1 debug auxiliary-files dial-plan info

This command displays information about the file name and the names of the Dial Plans contained in the Dial Plan file.

Syntax:

```
debug auxiliary-files dial-plan info
```

Defaults:

NA

Notes:

The index number of the first Dial Plan is 0. This command is applicable to all products.

Command Modes:

Enable

Examples:

The following example shows the loaded Dial Plan file and lists its defined Dial Plans:

```
# debug auxiliary-files dial-plan info
  File Name: dialPlan.txt
  Plans:
  Plan #0 = PLAN1
  Plan #1 = PLAN2
```

5.2 debug auxiliary-files dial-plan match-number

This command checks whether a specific prefix number is defined in a specific Dial Plan number. If the Dial Plan is used for tags, the command also shows the tag.

Syntax:

```
debug auxiliary-files dial-plan match-number <Dial Plan number>
<prefix number>
```

Defaults:

NA

Notes:

This command is applicable to all products.

Command Modes:

Enable

Examples:

The following example checks whether the called prefix number 2000 is defined in Dial Plan 1, which is used for obtaining the destination IP address (tag):

```
# debug auxiliary-files dial-plan match-number PLAN1 2000
Match found for 4 digits
Matched prefix: 2000
Tag: 10.33.45.92
```

5.3 debug auxiliary-files user-info info

This command displays the file name of the User-Info file installed on the device.

Syntax:

```
debug auxiliary-files dial-plan user-info info
```

Defaults:

NA

Notes:

This command is applicable to all products.

Command Modes:

Enable

Examples:

The following example displays the file name of the User-Info file installed on the device:

```
# debug auxiliary-files user-info info
User Info File Name users.txt
```

5.4 debug debug-recording

This command enables debug-recording features. The **no debug syslog-server** command disables the Syslog server.

Syntax:

```

debug debug-recording status
debug debug-recording [dest ip]ip-trace
debug debug-recording [dest ip]port [port number]
debug debug-recording pstn-trace
debug debug-recording signaling
debug debug-recording signaling-media
debug debug-recording signaling-media-pcm
no debug syslog-server
  
```

The command's syntax format is described below:

Arguments	Description
status	Displays debug-recording status.
[dest ip]	Defines debug-recording destination IP address – IPv4.
ip-trace	Debug-recording Filter Type IP Trace.
port	Debug-recording Destination Port.
pstn-trace	Debug-recording Capture Type PSTN Trace.
signaling	Debug-recording Capture Type Signaling.
signaling-media	Debug-recording Capture Type Signaling-Media.
signaling-media-pcm	Debug-recording Debug-recording Capture Type Signaling-Media-PCM.

Defaults:

NA

Notes:

- This command is applicable to Mediant 500, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant SW.

Command Modes:

Enable

Related Commands:

NA

Example:

The following example enables the Syslog to a specific IP address and Port.

```
# debug syslog-server 10.15.1.0
```

```
Syslog enabled to dest IP Address: 10.15.1.0 Port 514
```

5.5 debug fax

This command enables Fax Modem debugging with a debug level. Use `no debug fax` to turn off debug fax.

Syntax:

```
debug fax {basic | detail} [num of next sessions for debug]
no debug fax
```

The command syntax format is described below:

Arguments	Description
basic	Sets debug fax level to Basic.
detail	Sets debug fax level to Detail.
num of next sessions for debug	Defines the number of next sessions for debug.

Defaults:

NA

Note:

This command is only applicable to **Gen 5** devices.

Command Modes:

Enable

Related Commands:

NA

Examples:

The following example enables the next 10 sessions to be traced.

```
# debug fax basic 10
```


5.6 debug log

This command displays debugging messages to the CLI session.

Syntax:

```
debug log [full]
no debug log
```

The command syntax format is described below:

Arguments	Description
full	Activates logging to CLI session (full format)

Defaults:

NA

Notes:

- Activating the debug log facility will redirect the device error messages (e.g., Syslog messages) to the CLI console as well as their original destination.
- A 'no' command is supported for this command (*no debug log*), which disables the logging facility.
- When working via telnet/SSH, "debug log" affects only the current CLI session.
- To cancel log display to **all** CLI sessions, use "*no debug log all*".

Command Modes:

Enable

Related Commands:

NA

Examples:

The following example upgrades and activates the logging facility redirection.

```
# debug log
```

5.7 debug ha

This command displays debugging HA information.

Syntax:

```
debug ha <clear-counters>
```

The command's syntax format is described below:

Arguments	Description
clear-counters	Clears HA debug counters (keep-alive packets sent between active and redundant devices).

Note:

- This command is supported on Mediant 800 E-SBC; Mediant 2600; Mediant 4000; Mediant SW.

Command Modes:

Enable

Related Commands:

NA

Examples:

The following example clears HA debug counters.

```
# debug ha clear-counters
```

5.8 debug pstn

This command activates PSTN debug.

Syntax:

```
debug pstn
no debug pstn
```

Defaults:

NA

Notes:

- Using `no debug pstn` turns off debug pstn.

Command Modes:

Enable

Related Commands:

To configure the type of PSTN trace, see the `debug voip interface` command.

Examples:

The following example turns on debug PSTN. .

```
# debug pstn
```

5.9 debug sip

This command enables SIP debugging with default debug levels.

Syntax:

```
debug sip <level> | status
no debug sip
```

Defaults:

NA

Notes:

- If no level is specified, level 5 is used.
- Using `no debug sip` sets the level to '0'.

Command Modes:

Enable

Related Commands:

NA

Examples:

The following example sets the debug level to 5. .

```
# debug sip 5
```

5.10 debug syslog-server

This command enables Syslog and sets the ip address and port.

Syntax:

```
debug syslog-server <dest-ip> <port [port]>  
no debug syslog-server
```

The command syntax format is described below:

Arguments	Description
dest-ip	Sets the syslog-server destination IP.
port	Sets the Syslog-server destination port.

Notes:

- The **no debug syslog-server** command disables the Syslog server.
- The destination IP address can be IPv4.

Command Modes:

Enable

Related Commands:

NA

Examples:

The following example enables the Syslog to a specific IP address and Port.

```
# debug syslog-server 10.15.1.0  
Syslog enabled to dest IP Address: 10.15.1.0 Port 514
```

5.11 debug capture voip interface

This command captures network traffic on one of the voip sub-system network interfaces

Syntax:

```

debug capture voip interface vlan <vlanID> proto <protocol filter>
host <host filter>
debug capture voip interface vlan <vlanID> proto <protocol> host
<host filter> port <port filter>
debug capture voip interface vlan <vlanID> proto <protocol> host
<host filter> port <port filter> tftp-server <tftp server ip
address>
debug capture voip interface vlan <vlanID> proto <protocol> host
<host filter> port <port filter> ftp-server <ftp server ip
address>
debug capture voip physical eth-lan
debug capture voip physical start
    
```

The command syntax format is described below:

Arguments	Description
vlanID	Defines the VLAN ID of the network interface on which to start the debug capture process.
protocol filter	Captures a specific protocol, or all protocols. Available options are: <i>all</i> , <i>ip</i> , <i>tcp</i> , <i>udp</i> , <i>icmp</i> .
host filter	Captures traffic from/to a specific host (IP address), or <i>any</i> .
port filter	Captures traffic from/to a specific port. Valid ports are 1-65535, or the keyword <i>any</i> . When using <i>icmp</i> as the protocol filter, port filter cannot be used, and the only valid value is <i>any</i> . This argument is optional.
tftp server ip address	When this argument is omitted, captured traffic is printed to the CLI console. When using this argument, the captured traffic is saved to a file in <i>pcap</i> format. When the capture is stopped (using ctrl-c), the capture file is uploaded, via TFTP, to the TFTP server specified in this argument. Note: The TFTP server IP address specified in this argument must be accessible from one of the voip sub-system network interfaces, so that the capture file will be uploaded to the server successfully. Use <i>ping</i> test to make sure this TFTP server is accessible. This argument is optional.
ftp server ip address	Sends debug captures to an FTP server.

Command Modes:

Enable

Related Commands:

debug capture data

Examples:

The following example starts a debug capture on the network interface vlan 12, with a protocol filter (ip), no host filter, and no port filter. The captured traffic will be printed to the CLI session:

```
# debug capture voip interface vlan 12 proto all host any
```

The following example starts a debug capture on the network interface vlan 1, with a protocol filter (ip), no host filter, and a port filter (514). The captured traffic will be saved to a temporary file, and will be sent, when *ctrl-c* is used, to the TFTP server at address 171.18.1.21. This server is accessible via network interface vlan 2014:

```
# debug capture voip interface vlan 1 proto ip host any port 514  
tftp-server 171.18.1.21
```

5.12 debug capture voip physical

This command captures network traffic on one of the voip sub-system network interfaces

Syntax:

```
debug capture voip physical <eth-lan | start | cyclic-buffer |
get_last_capture | insert-pad | show | stop | target>
[< ftp | tftp | usb >]
```

The command syntax format is described below:

Arguments	Description
eth-lan	Defines the LAN frames capture.
start	Starts the capture.
cyclic-buffer	Use cyclic-buffering mode.
get_last_capture	Get the last capture file.
insert-pad	Inserts the PAD packet now.
show	Displays debug status and rules.
stop	Stop the capture and sends to USB.
target	Sets the capture storage target < ftp tftp usb >

Command Modes:

Enable

Notes:

- The **usb** option is only applicable when a USB stick is connected to the device. This applies only to Mediant 5xx and Mediant 8xx devices.

Related Commands:

debug capture data

Examples:

The following are examples of how this command is used:

- Starts physical VoIP debug capture:


```
# debug capture voip physical eth-lan
# debug capture voip physical start
```
- Captures packets continuously in a cyclical buffer (packets always captured until stop command):


```
# debug capture voip physical cyclic buffer
```


- Retrieves latest capture (PCAP file) saved on a specified server:

```
# debug capture VoIP physical get_last_capture <TFTP/FTP  
server IP address>
```

The file is saved to the device's memory (not flash) and is erased after a device reset.
- Marks the captured file (useful for troubleshooting process):

```
# debug capture VoIP physical insert-pad
```

Before running this command, the debug capture must be started.
- Displays debug status and configured rules:

```
# debug capture VoIP physical show
```
- Specifies the destination (FTP, TFTP, or USB) to send the PCAP file:

```
# debug capture VoIP physical target <ftp|tftp|usb>
```
- Stops the debug capture, creates a file named debug-capture-voip-<timestamp>.pcap, and sends it to the TFTP or FTP server:

```
# debug capture voip physical stop <TFTP/FTP server IP  
address>
```

5.13 debug voip interface

This command displays the current PSTN trace level of a trunk.

Syntax:

```
# debug voip interface e1-t1 | bri < module slot/port > trace-
level {full-isdn | full-isdn-with-duplications | layer3 | layer3-
no-duplications | no-trace | q921-raw-data | q931 | q931-q921-raw-
data | q931-raw-data}
```

Defaults:

NA

Note:

- This command is applicable to products supporting digital PSTN.

Command Modes:

Enable

Related Commands:

To start and stop PSTN traces, see the `debug pstn` command.

Examples:

The following is an example of how this command can be used.

```
# debug voip interface bri 2/4
```

5.14 debug speedtest

This command performs a network speed test against a provisioned file server.

Syntax:

```
debug speedtest set download <down-url>
debug speedtest set upload <up-url>
debug speedtest set upsize <up-filesize>
debug speedtest run
debug speedtest show
```

The command's syntax format is described below:

Arguments	Description
down-url	Defines the URL of the test file on remote server. Supported protocols are HTTP and FTP.
up-url	Defines the URL of the test location on the remote server where data can be uploaded. Supported protocols are HTTP and FTP.
up-filesize	Defines the length of upload test file, in bytes.

Defaults:

By default, testing URLs are not defined and the upload test size is set to 500000 bytes.

Notes:

- Set the download URL to point to a large file (e.g. more than 2MB) on a testing server.
- To perform just the download speed test, do not configure an upload URL.
- Once the download and/or upload URLs are configured, run the test using the "*debug speedtest run*" command.
- The test runs in the background, its status may be checked using the "*debug speedtest show*" command. Enter the *show* command repeatedly until the test is complete.
- DNS must be configured correctly for speed test URLs.

Command Modes:

Enable

Related Commands:

NA

Examples:

The following example performs a network speed test.

```
# debug speedtest set download
http://speedtest.bezeq.co.il/speedtest/random1000x1000.jpg
# debug speedtest set upload
http://speedtest.bezeq.co.il/speedtest/speedtest/upload.aspx
# debug speedtest run
# debug speedtest show
Speed test results:

Download: Idle
URL:
                                     Bytes transferred: 0
                                     Speed: 0 bits/sec

Upload  : Idle
URL:
                                     Bytes transferred: 0
                                     Speed: 0 bits/sec
```

5.15 debug voip open-and-activate

This command opens and activates a channel.

Syntax:

```
# debug voip open-and-activate {analog | digital | virtual}
<start-channel> <num of channels> <dest ip> <dest port>
```

The command syntax format is described below:

Arguments	Description
analog	Debugs FXS/FXO channel.
digital	Debugs BRI/PRI channel.
virtual	Debugs the virtual channel.
start-channel	Defines the Start channel (0 – 255).
num of channels	Defines the number of channel (1 – 256).
dest ip	Defines the destination IP (in the format a.b.c.d).
dest port	Defines the Destination Port (0 – 65335).

Defaults:

NA

Command Modes:

Enable

Note:

- Use the `show system assembly` for orientation on the current hardware.

Examples:

The following is an example of how this command can be used.

```
# debug voip open-and-activate digital 1 20 1.2.3.4 2
```

5.16 debug voip dial-string

This command sends a string of DTMF tones.

Syntax:

```
# debug voip dial-string {analog | digital | virtual} <channel
number> <generation direction> <string> <duration>
```

The command syntax format is described below:

Arguments	Description
analog	Debugs FXS/FXO channel.
digital	Debugs BRI/PRI channel.
virtual	Debugs the virtual channel.
analog channel number	Defines the analog channel number (0 – 29).
digital channel number	Defines the digital channel number (0 – 2016).
virtual channel number	Defines the virtual channel number (0 – 64000).
generation direction	Defines the generation direction: <ul style="list-style-type: none"> • 0 - TDM • 1 - Network
string	Defines the string to dial (Valid digits: 0 - 9, A – F).
duration	Defines the duration of digits (0-100000).

Defaults:

NA

Command Modes:

Enable

Examples:

The following is an example of how this command can be used.

```
# debug voip dial-string analog 15 1 ABCDEF123 10
```

5.17 debug voip close-channels

This command debugs voip close-channels.

Syntax:

```
# debug voip close-channels {analog | digital | virtual} <start-channel> <num of channels>
```

The command syntax format is described below:

Arguments	Description
analog	Debugs FXS/FXO channel.
digital	Debugs BRI/PRI channel.
virtual	Debugs the virtual channel.
analog start channel	Defines the analog start channel (0 – 7).
digital start channel	Defines the digital start channel (0 – 59).
virtual start channel	Defines the virtual start channel (0 – 255).
analog num of channels	Defines the analog number of channels (1 – 8).
digital num of channels	Defines the digital number of channels (1 – 60).
virtual num of channels	Defines the virtual number of channels (1 – 256).

Note:

- Use the `show system assembly` for orientation on the current hardware.

Command Modes:

Enable

Examples:

The following is an example of how this command can be used.

```
# debug voip close-channels analog 7 1
```

5.18 debug usb devices

This command displays connected USB devices.

Syntax:

```
# debug usb devices
```

Command Modes:

Enable

Examples:

The following example displays connected USB devices..

```
# debug usb devices
```


5.19 debug usb serial-trace

This command traces the raw interface to a CLI session or Syslog.

Syntax:

```
# debug usb serial-trace <cli | syslog>
```

Command Modes:

Enable

Examples:

The following example traces the raw interface to a Syslog.

```
# debug usb serial-trace syslog
```

5.20 debug test-call ip dial

This command configures and initiates a test call to IP by dialing using specified parameters.

Syntax:

```
# debug test-call ip dial from <calling number> to <called number>
dest-addrss <target host> sip interface <sip_interface>
# debug test-call ip dial from id to <table-index>
```

The command syntax format is described below:

Arguments	Description
calling number	Defines the calling number.
called number	Defines the called number.
target host	Defines the target host.
sip_interface	Defines the SIP interface.
table-index	Defines the table-index.

Command Modes:

Enable

Examples:

The following example configures and initiates a test call to IP.

```
# debug test-call ip dial from id to 2
```

5.21 debug test-call ip drop

This command drops the latest outgoing test call.

Syntax:

```
# debug test-call ip drop <calling number>  
# debug test-call ip drop id <table-index>
```

The command syntax format is described below:

Arguments	Description
calling number	Drops outgoing test call by number.
table-index	Drops outgoing test calls by table index

Command Modes:

Enable

Examples:

The following example drops the latest outgoing test call.

```
# debug test-call ip drop id 3
```

5.22 debug test-call ip set

This command sets test-call options.

Syntax:

```
# debug test-call ip set called number <called number>
# debug test-call ip set caller-id <caller-id>
# debug test-call ip set calling number <calling number>
# debug test-call ip set dest-address <target host> sip-interface
<sip-interface>
# debug test-call ip set play dtmfs <dtmf string>
# debug test-call ip set sip-interfaces <sip_interfaces>
# debug test-call ip set timeout <seconds>
# debug test-call ip set transport-type <transport type>
```

The command syntax format is described below:

Arguments	Description
called number	Sets the called number.
caller-id	Sets the caller-id.
calling number	Sets the calling number.
target host	Sets the target host.
sip-interface	Sets the sip interface.
dtmf string	Sets the DTMFs to be played.
sip-interfaces	Sets SIP interfaces to listen on.
seconds	Sets the disconnection timeout in seconds.
transport type	Sets the transport type: <ul style="list-style-type: none"> • UDP • TCP • TLS

Command Modes:

Enable

Examples:

The following example sets the test-call option transport type to UDP.

```
# debug test-call ip set transport-type UDP
```

6 Show Commands

The following describes the Show command options.

6.1 show users

This command provides support for displaying and terminating users that are currently logged into the device's CLI. This applies to users logged into the CLI through RS-232 (console), Telnet, or SSH.

For each logged-in user, this feature displays the type of interface (console, Telnet, or SSH), user's username, remote IP address from where the user logged in, and the duration (days and time) of the session. Each user is displayed with a unique index (session ID).

Syntax:

```
show users
```

Notes:

- The device can display management sessions of up to 24 hours. After this time, the duration counter is reset.
- This command is applicable to Mediant 500, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant SW.

Command Modes:

Basic

Related Commands:

Examples:

The following example displays all active calls.

```
# show users
[0] console      Admin      local      0d00h03m15s
[1] telnet       John       10.4.2.1   0d01h03m47s
[2]* ssh        Alex       192.168.121.234 12d00h02m34s
```

The current session from which the show command was run is displayed with an asterisk (*).

6.2 show running-config

This command outputs the current system configuration in the form of a CLI command script. This script can be cut and pasted to the console for execution (limited by the client's capability of saving data to the clipboard).

The command 'show running-configuration > [URL]' will output the script to a file on a remote location. HTTP and HTTPS are supported.

Syntax:

```
show running-config <full|no-switchports>
```

```
show running-configuration > [URL]
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ > (Sends output to a URL) ▪ full (Displays the parameters that are equal to the default value. In regular mode, only configuration that is not equal to the default is displayed.) ▪ no-switchports (The output does not contain the switchport information.) For a description of these parameters, refer to the User's Manual.

Command Modes:

Basic

Related Commands:

NA

Example:

The following example defines Track ID 5 for destination 10.30.4.5 from interface GigabitEthernet 0/0.

```
# show running-config

# Running Configuration Mediant 2600
## VoIP Configuration

configure voip
  appli-enabling
    enable-sbc on
    activate
  exit
coders-and-profiles coders-group-0 0
  name "g711Alaw64k"
  p-time 20
  activate
  exit
gw routing tel2ip-routing 1
  dst-phone-prefix "exit"
  activate
  exit
gw digitalgw rp-network-domains 1
  name "dsn"
  ip-to-tel-interworking disable
  activate
  exit
gw digitalgw rp-network-domains 2
  name "dod"
  ip-to-tel-interworking disable
  activate
  exit
gw digitalgw rp-network-domains 3
  name "drsn"
  ip-to-tel-interworking disable
  activate
  exit
gw digitalgw rp-network-domains 5
  name "uc"
  activate
  exit
gw digitalgw rp-network-domains 7
  name "cuc"
  ip-to-tel-interworking disable
  activate
  exit
```

6.3 Show System Commands

The following commands define the **show system** commands.

6.3.1 show system assembly

This command displays system information.

Syntax:

```
show system assembly
```

Command Modes:

Enable

Examples:

```
# show system assembly
```

```
Board Assembly Info:
```

Slot No.	Module Type	Num of Ports
0	CPU	0
1	FXS	4
2	FXO	4
3	Empty	0
4	GB-ETH	4
5	FAST-ETH	8

6.3.2 show system active-alarms

This command displays the system active alarms.

Syntax:

```
show system active-alarms
```

Command Modes:

Enable

Examples:

```
# show system active-alarms
1. Board#1      14 major      Network element operational state
change alarm. Operational state is disabled.
 2. Board#1/WanLink#1 78 major      WAN link alarm. FE interface
1 is down.
 3. Board#1/EthernetLink#2 9 minor      Ethernet link alarm.
LAN port number 2 is down.
 4. Board#1/EthernetLink#3 9 minor      Ethernet link alarm.
LAN port number 3 is down.
 5. Board#1/EthernetLink#4 9 minor      Ethernet link alarm.
LAN port number 4 is down.
 6. Board#1/EthernetLink#5 9 minor      Ethernet link alarm.
LAN port number 5 is down.
 7. Board#1/EthernetLink#6 9 minor      Ethernet link alarm.
LAN port number 6 is down.
 8. Board#1/EthernetLink#7 9 minor      Ethernet link alarm.
LAN port number 7 is down.
 9. Board#1/EthernetLink#8 9 minor      Ethernet link alarm.
LAN port number 8 is down.
10. Board#1/EthernetLink#9 9 minor      Ethernet link alarm.
LAN port number 9 is down.
11. Board#1/EthernetLink#10 9 minor      Ethernet link alarm.
LAN port number 10 is down.
12. Board#1/EthernetLink#11 9 minor      Ethernet link alarm.
LAN port number 11 is down.
13. Board#1/EthernetLink#12 9 minor      Ethernet link alarm.
LAN port number 12 is down.
```

6.3.3 show system alarms-history

This command displays the system alarms history.

Syntax:

```
show system alarms-history
```

Command Modes:

Enable

Examples:

```
# show system alarms-history
 1. Board#1      14 major      Network element operational state
change alarm. Operational state is disabled.
 2. Board#1/WanLink#1  78 major      WAN link alarm. FE interface
1 is down.
 3. Board#1/EthernetLink#2  9 minor      Ethernet link alarm.
LAN port number 2 is down.
 4. Board#1/EthernetLink#3  9 minor      Ethernet link alarm.
LAN port number 3 is down.
 5. Board#1/EthernetLink#4  9 minor      Ethernet link alarm.
LAN port number 4 is down.
 6. Board#1/EthernetLink#5  9 minor      Ethernet link alarm.
LAN port number 5 is down.
 7. Board#1/EthernetLink#6  9 minor      Ethernet link alarm.
LAN port number 6 is down.
 8. Board#1/EthernetLink#7  9 minor      Ethernet link alarm.
LAN port number 7 is down.
 9. Board#1/EthernetLink#8  9 minor      Ethernet link alarm.
LAN port number 8 is down.
10. Board#1/EthernetLink#9  9 minor      Ethernet link alarm.
LAN port number 9 is down.
11. Board#1/EthernetLink#10 9 minor      Ethernet link alarm.
LAN port number 10 is down.
12. Board#1/EthernetLink#11 9 minor      Ethernet link alarm.
LAN port number 11 is down.
13. Board#1/EthernetLink#12 9 minor      Ethernet link alarm.
LAN port number 12 is down. 2. Board#1/WanLink#1 78 major
WAN link alarm. FE interface 1 is down.
 3. Board#1/EthernetLink#2  9 minor      Ethernet link alarm.
LAN port number 2 is down.
 4. Board#1/EthernetLink#3  9 minor      Ethernet link alarm.
LAN port number 3 is down.
 5. Board#1/EthernetLink#4  9 minor      Ethernet link alarm.
LAN port number 4 is down.
 6. Board#1/EthernetLink#5  9 minor      Ethernet link alarm.
LAN port number 5 is down.
 7. Board#1/EthernetLink#6  9 minor      Ethernet link alarm.
LAN port number 6 is down.
 8. Board#1/EthernetLink#7  9 minor      Ethernet link alarm.
LAN port number 7 is down.
```

```
9. Board#1/EthernetLink#8      9 minor      Ethernet link alarm.  
LAN port number 8 is down.  
10. Board#1/EthernetLink#9     9 minor      Ethernet link alarm.  
LAN port number 9 is down.  
11. Board#1/EthernetLink#10    9 minor      Ethernet link alarm.  
LAN port number 10 is down.  
12. Board#1/EthernetLink#11    9 minor      Ethernet link alarm.  
LAN port number 11 is down.  
13. Board#1/EthernetLink#12    9 minor      Ethernet link alarm.  
LAN port number 12 is down.
```

6.3.4 show system feature-key

This command displays system feature-key information.

Syntax:

```
show system feature-key
```

Command Modes:

Enable

Examples:

```
# show system feature-key
Key features:
Board Type: Mediant 800 - MSBG
Security: IPSEC MediaEncryption StrongEncryption
EncryptControlProtocol
Coders: G723 G729 G728 NETCODER GSM-FR GSM-EFR AMR EVRC-QCELP G727
ILBC EVRC-B AMR-WB G722 EG711 MS_RTA_NB MS_RTA_WB SPEEX_WB
PSTN FALLBACK Supported
E1Trunks=1
T1Trunks=1
FXSPorts=4
FXOPorts=4
DSP Voice features: RTCP-XR AMRPolicyManagement
Channel Type: RTP DspCh=32
PSTN Protocols: IUA=1
IP Media: Conf VXML VoicePromptAnnounc(H248.9) CALEA TrunkTesting
POC
SS7 Links: MTP2=1 MTP3=1 M2UA=1 M3UA=1
Default features:
Coders: G711 G726
```

6.3.5 show system high-availability

This command displays HA status and network monitor status.

Syntax:

```
show system high-availability < status | network-monitor-status >
```

The command's syntax format is described below:

Arguments	Description
status	Displays HA status.
network-monitor-status	Displays network monitor status.

Command Modes:

Enable

Examples:

```
# show system high-availability status
```

6.3.6 show system ntp-status

This command displays NTP information.

Syntax

```
show system ntp-status
```

Defaults:

NA

Command Modes:

Enable

Example

This example displays NTP information.

```
# show system ntp-status
Configured NTP server #1 is 192.168.0.199
Configured NTP server #2 is 192.168.0.3
NTP is synchronized, stratum 0, reference is INIT
** Precision 0.00000 seconds
** Root delay 0.00000 seconds
** Root dispersion 0.01824 seconds
** Reference time 00000000.00000000 (2036-02-07 06:28:16 UTC)
** UTC offset 0 seconds
Current local time: 2014-03-16 10:49:03
The output contains synchronization status, synchronization
```

6.3.7 show system hardware

This command provides support for indicating incompatible hardware components (e.g., NIC, RAM, and core) of the hardware platform on which the Mediant SE or Mediant VE is being installed. During installation (from a CD), if an incompatible hardware component is detected, a warning message box is displayed, listing the incompatible components. The user can abort installation or continue the installation process, as desired. Incompatible components are indicated with an asterisk (*).

Syntax:

```
show system hardware
```

Defaults:

NA

Note:

- This command is applicable to Mediant SW E-SBC.

Command Modes:

Enable

Example

This example displays incompatible NICs:

```
# show system hardware
  cpu: Intel<R> Xeon<R> CPU E31220 @ 3.10GHz, total 4 cores
  memory: 4096 MB
  chassis: ProLiant DL120 G7
  network:
    Intel Corporation 82574L Gigabit Network Connection
    Intel Corporation 82574L Gigabit Network Connection
    * Realtek Semiconductor Co., Ltd. RTL-8169 Gigabit
Ethernet (rev 10)
    * Realtek Semiconductor Co., Ltd. RTL-8169 Gigabit
Ethernet (rev 10)
```

6.3.8 show system power

This command displays the system PoE information.

Syntax:

```
show system power
```

Defaults:

NA

Command Modes:

Enable

Example

This example displays the system PoE information,

```
show system power
```


6.3.9 show system tls

This command displays TLS security information.

Syntax:

```
show system tls <certificate | contexts | trusted-root>
```

The command's syntax format is described below:

Arguments	Description
certificate	Displays certificate information.
contexts	Displays TLS security context information.
trusted-root	Displays trusted certificates.

Defaults:

NA

Command Modes:

Enable

Example:

The following example displays the active contexts.

```
# show system tls contexts
Context #   Name
-----
0           default
2           oioioi

Total 2 active contexts.
Total certificate file size: 4208 bytes.
```

6.3.10 show system radius

This command displays the status of the RADIUS servers.

Syntax:

```
show system radius servers status
```

Defaults:

NA

Command Modes:

Enable

Example:

The example below shows the following fields per server:

- Server IP address.
- Server authentication port. If zero, the server is not part of the redundancy server selection for authentication.
- Server authentication redundancy (HA) status. "ACTIVE" means that the server was used for the last sent authentication request.
- Server accounting port. If zero, the server is not part of the redundancy server selection for accounting.
- Server accounting redundancy (HA) status. "ACTIVE" means that the server was used for the last sent accounting request..

```
# show system radius servers status
servers 0
ip-address 10.4.4.203
auth-port 1812
auth-ha-state "ACTIVE"
acc-port 1813
acc-ha-state "ACTIVE"
servers 1
ip-address 10.4.4.202
auth-port 1812
auth-ha-state "STANDBY"
acc-port 1813
acc-ha-state "STANDBY"
```

6.4 Show VoIP Commands

The following describes the Show VoIP commands.

6.4.1 show voip interface network

This command displays VoIP interface table details.

Syntax:

```
show voip interface network <vlan id>
show voip interface network description
```

The command syntax format is described below:

Arguments	Description
vlan id	Defines a valid VLAN interface ID in the range of 1 and 255.

Command Modes:

Enable

Examples:

The following example displays interface VLAN 2 details:

```
# show voip interface network 2
Name: M_12
Application Type: CONTROL
IP address: 10.12.60.66
PrefixLength: 16
Gateway: 0.0.0.0
Vlan ID: 3
Primary DNS: 0.0.0.0
Secondary DNS: 0.0.0.0
Uptime: 69:54:48
rx_packets 0      tx_packets 6
rx_bytes 0       tx_bytes 462
```

The following example displays brief descriptions for all interfaces.

```
# show voip interface network description
```

Index	Application Type	IP Address	Prefix	Gateway
VlanID	Interface Name			
0	O+M+C 10.4.60.62	16	10.4.0.1	1 O+M+C
2	CONTROL 10.12.60.66	16	0.0.0.0	3 M_12
3	MEDIA 10.13.60.66	16	10.13.0.1	2 M_13

6.4.2 show voip ports

This command displays the VoIP ports. The information displayed includes the port number, port name, port MAC address, speed, duplex mode, native VLAN ID, and status of the Ethernet link ("UP" or "DOWN").

Syntax:

```
show voip ports
```

Command Modes:

Enable

Notes:

- Applicable to the following: Mediant 500 E-SBC; Mediant 800 E-SBC; Mediant 1000B E-SBC; Mediant 2600; Mediant 4000; Mediant SW

Examples:

The following example displays the VoIP ports:

Port Num	Port Name	MAC Address	Speed	Duplexity	Link Status	Native VLAN
-----	-----	-----	-----	-----	-----	-----
1	GE_1	00:90:8f:3b:46:29	100Mbps	Full	UP	1
2	GE_2	00:90:8f:3b:46:29	1Gbps	Full	DOWN	0

6.4.3 show voip calls active

This command displays all active calls.

Syntax:

```
show voip calls active
```

Examples:

The following example displays all active calls.

```
# show voip calls active
```

```
Total Active Calls: 1
```

Session ID	Caller	Callee	Origin
Remote IP	End Point Type	Duration	Call State
326433737	3005	2000	Outgoing
10.8.6.36	FXS-3/3	00:00:06	Connected

6.4.4 show voip calls active descending

This command displays currently active calls in descending order by call duration.

Syntax:

```
show voip calls active descending
```

Examples:

The following example displays currently active calls in descending order by call duration.

```
# descending
Total Active Calls: 1000
| Session ID      | Caller          | Callee          | Origin
| Remote IP      | End Point Type | Duration|Call State
=====
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:47|Connected
| 314380187      | 1571@10.3.3.194 | 100@10.3.91.2   |
| Outgoing|10.3.3.194(IPG-2) | SBC              | 00:04:47|Connected
| 314380188      | 1572@10.3.3.194 | 100@10.3.91.2   |
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:46|Connected
| 314380188      | 1572@10.3.3.194 | 100@10.3.91.2   |
| Outgoing|10.3.3.194(IPG-2) | SBC              | 00:04:46|Connected
| 314380189      | 1573@10.3.3.194 | 100@10.3.91.2   |
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:46|Connected
| 314380189      | 1573@10.3.3.194 | 100@10.3.91.2   |
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:45|Connected
| 314380208      | 1592@10.3.3.194 | 100@10.3.91.2   |
| Outgoing|10.3.3.194(IPG-2) | SBC              | 00:04:45|Connected
| 314380226      | 1610@10.3.3.194 | 100@10.3.91.2   |
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:44|Connected
| 314380226      | 1610@10.3.3.194 | 100@10.3.91.2   |
| Outgoing|10.3.3.194(IPG-2) | SBC              | 00:04:44|Connected
| 314380246      | 1630@10.3.3.194 | 100@10.3.91.2   |
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:43|Connected
| 314380246      | 1630@10.3.3.194 | 100@10.3.91.2   |
| Outgoing|10.3.3.194(IPG-2) | SBC              | 00:04:43|Connected
| 314380265      | 1649@10.3.3.194 | 100@10.3.91.2   |
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:43|Connected
| 314380265      | 1649@10.3.3.194 | 100@10.3.91.2   |
| Outgoing|10.3.3.194(IPG-2) | SBC              | 00:04:43|Connected
| 314380266      | 1650@10.3.3.194 | 100@10.3.91.2   |
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:42|Connected
| 314380266      | 1650@10.3.3.194 | 100@10.3.91.2   |
| Outgoing|10.3.3.194(IPG-2) | SBC              | 00:04:42|Connected
| 314380279      | 1663@10.3.3.194 | 100@10.3.91.2   |
| Incoming|10.3.3.194(IPG-1) | SBC              | 00:04:42|Connected
| 314380279      | 1663@10.3.3.194 | 100@10.3.91.2   |
| Outgoing|10.3.3.194(IPG-2) | SBC              | 00:04:42|Connected
| 314380280      | 1664@10.3.3.194 | 100@10.3.91.2   |
```

6.4.5 show voip calls statistics

This command displays all call statistics (Gateway and SBC).

Syntax:

```
show voip calls statistics <gw | sbc> [<ip2tel | tel2ip>]
```

The command's syntax format is described below:

Arguments	Description
ip2tel	Displays VoIP SIP Gateway IP-to-Tel Calls Statistics
tel2ip	Displays VoIP SIP Gateway Tel-to-IP Calls Statistics

Examples:

The following example displays Gateway call statistics.

```
# show voip calls stat gw
Gateway Basic Statistics:
Active TDM channels: 0
Active DSP resources: 0
Active analog channels: 0
Active G.711 channels: 0
Average voice delay (ms): 0
Average voice jitter (ms): 0
Total Tx RTP packets: 770
Total Rx RTP packets: 771
Total call attempts: 3
```

6.4.6 show voip calls active summary

This command displays a summary of currently active calls.

Syntax:

```
show voip calls active summary
```

Examples:

The following example displays a summary of currently active calls.

```
# show voip calls active summary
Total Active Calls: 1000
Total Active GW Calls: 0
Total Active IP2IP Calls: 0
Total Active SBC Calls: 1000
```


6.4.7 show voip calls active ip2ip

This command displays call information of currently active IP-to-IP calls in ascending order by call duration.

Syntax:

```
show voip calls active ip2ip
```

Examples:

The following example displays call information of currently active IP-to-IP calls in ascending order by call duration.

```
# show voip calls active ip2ip  
Total Active Calls: 13
```

6.4.8 show voip calls active gw

This command displays call information of currently active gateway calls in ascending order by call duration.

Syntax:

```
show voip calls active gw
```

Examples:

The following example displays call information of currently active IP-to-IP calls in ascending order by call duration.

```
# show voip calls active ip2ip
```

```
Total Active Calls: 5
```

6.4.9 show voip calls active sbc

This command displays call information of currently active SBC calls in ascending order by call duration.

Syntax:

```
show voip calls active sbc
```

Examples:

The following example displays call information of currently active SBC calls in ascending order by call duration.

```
# show voip calls active sbc
Total Active Calls: 1000
| Session ID      | Caller              | Callee              | Origin
| Remote IP      | End Point Type     | Duration|Call State
=====
| 314380675      | 1129@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1) | SBC                | 00:05:12|Connected
| 314380675      | 1129@10.3.3.194   | 100@10.3.91.2      |
| Outgoing|10.3.3.194(IPG-2)   | SBC                | 00:05:12|Connected
| 314380674      | 1128@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1)   | SBC                | 00:05:12|Connected
| 314380668      | 1122@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1)   | SBC                | 00:05:13|Connected
| 314380668      | 1122@10.3.3.194   | 100@10.3.91.2      |
| Outgoing|10.3.3.194(IPG-2)   | SBC                | 00:05:13|Connected
| 314380667      | 1121@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1)   | SBC                | 00:05:13|Connected
| 314380649      | 1103@10.3.3.194   | 100@10.3.91.2      |
| Outgoing|10.3.3.194(IPG-2)   | SBC                | 00:05:13|Connected
| 314380648      | 1102@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1)   | SBC                | 00:05:14|Connected
| 314380648      | 1102@10.3.3.194   | 100@10.3.91.2      |
| Outgoing|10.3.3.194(IPG-2)   | SBC                | 00:05:14|Connected
| 314380630      | 1084@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1)   | SBC                | 00:05:14|Connected
| 314380630      | 1084@10.3.3.194   | 100@10.3.91.2      |
| Outgoing|10.3.3.194(IPG-2)   | SBC                | 00:05:14|Connected
| 314380628      | 1082@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1)   | SBC                | 00:05:15|Connected
| 314380625      | 1079@10.3.3.194   | 100@10.3.91.2      |
| Outgoing|10.3.3.194(IPG-2)   | SBC                | 00:05:15|Connected
| 314380609      | 1063@10.3.3.194   | 100@10.3.91.2      |
| Outgoing|10.3.3.194(IPG-2)   | SBC                | 00:05:15|Connected
| 314380608      | 1062@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1)   | SBC                | 00:05:16|Connected
| 314380607      | 1061@10.3.3.194   | 100@10.3.91.2      |
| Incoming|10.3.3.194(IPG-1)   | SBC                | 00:05:16|Connected
```

6.4.10 show voip calls active <session ID>

This command displays detailed call information for a specific session ID.

Syntax:

```
show voip calls active <session id>
```

Examples:

The following example displays call information for Session ID order by call duration.

```
# show voip calls active 314380187
Total 2 Active Calls fits Session-ID = 314380187

=====
End Point Type: SBC
SIP Method: INVITE
SIP Call ID: 213455445116201310458@10.3.91.2
SessionId: 314380187
Call Direction: Outgoing
Source IP: 10.3.91.2
SourcePort: 5060
Dest IP: 10.3.3.194
DestPort: 5060
Transport Type: UDP
Call Duration: 00:05:56
Setup Time: 10:45:08.700 UTC Tue Jun 11 2013
Connect Time: 10:45:08.825 UTC Tue Jun 11 2013
Source URI: 1571@10.3.3.194
Source URI Before Map: 1571@10.3.3.194
Destination URI: 100@10.3.91.2
Destination URI Before Map: 100@10.3.91.2
RedirectReason: -1
Redirect URI:
Redirect URI Before Map:
SigIPDiffServ: 40
IP Group: 2          (TP6310_194)
SRD: 0          (srd0)
SIPInterfaceID: 0
ProxySetId: 2
IP-Profile: 0          ( )
Media Releam: 0          (mr0)
Direct Media: no

-----
Media Type: AUDIO
Cid: 1715
Coder: g711Alaw64k
Packets Interval: 20
Local RTP IP: 10.3.91.2
LocalRtpPort: 9060
Remote RTP IP: 10.3.3.194
```

```
RemoteRtpPort: 28520
Input Packets: 17757
Output Packets: 17756
Packets Loss: 0
Remote Packets Loss: 0
RTP Delay: 4294967295
RTP Jitter: 3
RTP SSRC: 2324039615
Remote RTP SSRC: 313809060
LocalRFactor: 127
RemoterFactor: 127
LocalMosCQ: 127
RemoteMosCQ: 127
RTPIPDiffServ: 46
Latched RTP IP:
LatchedRtpPort: 0
Latched T.38 IP:
LatchedT38Port: 0

=====
End Point Type: SBC
SIP Method: INVITE
SIP Call ID: 201348361116201310459@10.3.3.194
SessionId: 314380187
Call Direction: Incoming
Source IP: 10.3.3.194
SourcePort: 5060
Dest IP: 10.3.91.2
DestPort: 5060
Transport Type: UDP
Call Duration: 00:05:56
Setup Time: 10:45:08.700 UTC Tue Jun 11 2013
Connect Time: 10:45:08.825 UTC Tue Jun 11 2013
Source URI: 1571@10.3.3.194
Source URI Before Map: 1571@10.3.3.194
Destination URI: 100@10.3.91.2
Destination URI Before Map: 100@10.3.91.2
RedirectReason: -1
Redirect URI:
Redirect URI Before Map:
SigIPDiffServ: 40
IP Group: 1 (TP6310_194)
SRD: 0 (srd0)
SIPInterfaceID: 0
ProxySetId: 1
IP-Profile: 0 ()
Media Releam: 0 (mr0)
Direct Media: no

-----
Media Type: AUDIO
```

```
Cid: 1714
Coder: g711Alaw64k
Packets Interval: 20
Local RTP IP: 10.3.91.2
LocalRtpPort: 9070
Remote RTP IP: 10.3.3.194
RemoteRtpPort: 28500
Input Packets: 17669
Output Packets: 17671
Packets Loss: 0
Remote Packets Loss: 0
RTP Delay: 4294967295
RTP Jitter: 0
RTP SSRC: 173285770
Remote RTP SSRC: 1016034000
LocalRFactor: 127
RemoteRFactor: 127
LocalMosCQ: 127
RemoteMosCQ: 127
RTPIPDiffServ: 46
Latched RTP IP:
LatchedRtpPort: 0
Latched T.38 IP:
LatchedT38Port: 0
```

6.4.11 show voip calls history

This command displays CDR history information .

Syntax:

```
show voip calls history
```

Note:

- This command is only applicable to Mediant 5xx, Mediant 8xx, and Mediant 1000B (running Linux), and only for Gateway calls (not SBC).

Examples:

The following example displays CDR history information .

```
# show voip calls history
| Call End Time           | End Point           | Caller           | Callee
| Direction| Remote IP      | Duration| Termination Reason | Session ID
=====
|15:06:36.000 UTC Tue Aug 12 2014|ISDN-1/1/2      |100
|Incoming |10.33.8.51      |          |NO_ANSWER           |1596538769
|15:05:56.000 UTC Tue Aug 12 2014|FXS-3/1         |200
|Outgoing |10.33.8.51      |00:00:14|NORMAL_CALL_CLEAR  |1596538762
|15:05:54.000 UTC Tue Aug 12 2014|ISDN-1/1/1     |400
|Outgoing |10.33.8.52      |00:01:20|NORMAL_CALL_CLEAR  |1596538765
|15:04:27.000 UTC Tue Aug 12 2014|                |100
|Incoming |10.33.8.51      |          |GENERAL_FAILED     |1596538766
|15:04:25.000 UTC Tue Aug 12 2014|ISDN-1/1/1     |100
|Incoming |10.33.8.51      |00:00:02|NORMAL_CALL_CLEAR  |1596538764
|15:04:14.000 UTC Tue Aug 12 2014|ISDN-1/1/1     |400
|Outgoing |10.33.8.52      |00:00:03|NORMAL_CALL_CLEAR  |1596538754
|15:04:06.000 UTC Tue Aug 12 2014|FXS-3/1         |200
|Outgoing |10.33.8.52      |00:00:04|NORMAL_CALL_CLEAR  |1596538750
```

6.4.12 show voip coders-stats

This command displays the number and percentage of active channels using each audio coder.

Syntax:

```
show voip coders-stats
```

Note:

- The command is applicable to Mediant 5xx, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant SW.

Examples:

The following example shows 67 channels (25.18%) of the 266 active channels are using the G.729e coder, 76 (28.57%) are using the G.726 coder, and 123 (46.24%) are using the G.722 coder.

```
# show voip coders-stats
```

```
There are 266 active channels.
```

Coder	Number of Channels	Percentage
G729e	67	25.18
G726	76	28.57
G722	123	46.24

6.4.13 show voip interface

The following commands define the **show voip** commands.

6.4.13.1 show voip interface e1-t1 | bri

This command displays trunk information including the PSTN trace level.

Syntax:

```
show voip interface <e1-t1 | bri> <module(slot)/trunk>
```

The command syntax format is described below:

Arguments	Description
slot	Defines the module slot index as shown on the front panel.
trunk	Defines the trunk within the selected module.

Related Commands:

```
interface e1-t1 <slot/port>
```

```
interface bri <slot/port>
```

The above commands enter a specific PSTN interface (E1/T1 or BRI) configuration.

Note:

- The displayed parameters depend on the protocol type.

Examples:

The following example displays the current status, main Performance Monitoring (PM) parameters and main configuration parameters.

```
# show voip interface e1-t1 1/1
# show voip interface bri 1/2
   Mediant 800 - MSBG# show voip interface bri 1/2

show voip interface bri 1\2
-----
module/port: 1\2
trunk number:      1
protocol:   bri_euro_isdn
state:      active
alarm status:    LOS 0,  LOF 0
d-channel status: not established
loopback status: no loop

main performance monitoring counters collected in the last 330
seconds:
Slips:      25  Slip seconds:      1
```

```
Code violations: 0   Code violation seconds: 0
HDLC CRC errors: 2   LOF seconds: 1
```

```
basic configuration:
isdn-layer2-mode: BRI_L2_MODE_P2MP
isdn configuration:
isdn-termination-side: USER_TERMINATION_SIDE
isdn-bits-cc-behavior: 0
isdn-bits-incoming-calls-behavior: 0
isdn-bits-outgoing-calls-behavior: 0
isdn-bits-ns-behavior: 0
isdn-bits-ns-extension-behavior: 0
```

6.4.13.2 show voip interface fxs-fxo

This command displays the current status, main PM parameters and main configuration parameters to a specific analog interface (FXS or FXO).

Syntax:

```
show voip interface fxs-fxo <slot/port>
```

The command syntax format is described below:

Arguments	Description
slot	Defines the module slot index as shown on the front panel.
port	Defines the port index within the selected module.

Related Commands:

```
interface fxs-fxo <slot/port>
```

Examples:

The following example displays the current status, main PM parameters and main configuration parameters.

```
# show voip interface fxs-fxo
```

6.4.14 show voip cpu-stats

This command displays CPU percentage use.

Syntax:

```
show voip cpu-stats
```

Examples:

The following example displays CPU percentage use.

```
# show voip cpu-stats  
CPU percentage: 47%
```

6.4.15 show voip dsp

The following commands define the **show voip dsp** commands.

6.4.15.1 show voip dsp perf

This command displays performance monitoring of DSP data.

Syntax:

```
show voip dsp perf
```

Examples:

The following example displays performance monitoring of DSP data.

```
# show voip dsp perf
DSP Statistics (statistics for 144 seconds):
Active DSP resources: 0
Total DSP resources: 76
DSP usage : 0
```

6.4.15.2 show voip dsp status

This command displays the current DSP status.

Syntax:

```
show voip dsp status
```

Examples:

The following example displays the current DSP status.

```
# show voip dsp status

Group:0 DSP firmware:624AE3 Version:0660.07 - Used=0 Free=72
Total=72
  DSP device  0:  Active    Used= 0   Free= 6   Total= 6
  DSP device  1:  Active    Used= 0   Free= 6   Total= 6
  DSP device  2:  Active    Used= 0   Free= 6   Total= 6
  DSP device  3:  Active    Used= 0   Free= 6   Total= 6
  DSP device  4:  Active    Used= 0   Free= 6   Total= 6
  DSP device  5:  Active    Used= 0   Free= 6   Total= 6
  DSP device  6:  Active    Used= 0   Free= 6   Total= 6
  DSP device  7:  Active    Used= 0   Free= 6   Total= 6
  DSP device  8:  Active    Used= 0   Free= 6   Total= 6
  DSP device  9:  Active    Used= 0   Free= 6   Total= 6
  DSP device 10:  Active    Used= 0   Free= 6   Total= 6
  DSP device 11:  Active    Used= 0   Free= 6   Total= 6
Group:1 DSP firmware:204IM Version:0660.07 - Used=0 Free=8 Total=8
  DSP device 12:  Active    Used= 0   Free= 4   Total= 4
  DSP device 13:  Active    Used= 0   Free= 4   Total= 4
Group:2 DSP firmware:204IM Version:0660.07 - Used=0 Free=4 Total=4
  DSP device 14:  Active    Used= 0   Free= 4   Total= 4
Group:4 DSP firmware:204IM Version:0660.07 - Used=4 Free=0 Total=4
  DSP device 15:  Active    Used= 4   Free= 0   Total= 4
```

6.4.16 show voip groups

This command displays the configuration and status of the Ethernet port Group Members. For each Group Member, the name, mode of operation, status, number of ports whose link is up, and ports comprising the group are displayed.

Syntax:

```
show voip groups
```

Note:

- This command is applicable to Mediant 800 E-SBC, Mediant 1000 E-SBC, Mediant 2600, Mediant 4000, and Mediant SW.

Example:

The following example displays the configuration and status of the Ethernet port Group Members.

```
# show voip groups
```

G. Num	Group Name	Mode	State	Uplinks	Group Members
0	GROUP_1	REDUN_1RX_1TX/2	Up	1	GE_4_1 ,GE_4_2
1	GROUP_2	REDUN_1RX_1TX/2	Down	0	GE_4_3 ,GE_4_4

6.4.17 show voip e911

This command displays e911 (ELIN) information.

Syntax:

```
show voip e911
```

Note:

- This command is applicable to Mediant 500, Mediant 8xx, Mediant 1000B, Mediant 2600, and Mediant 4000.

Example:

The following example displays the configuration and status of the Ethernet port Group Members.

```
# show voip e911
```


6.4.18 show voip gw

These commands display various statistics and call counters relating to the Gateway (analog and digital PSTN) application.

6.4.18.1 show voip gw statistics basic-statistics

This command displays performance monitoring.

Syntax:

```
show voip gw statistics basic-statistics
```

Examples:

The following example displays performance monitoring.

```
# show voip gw statistics basic-statistics
Active TDM channels           2
Active DSP resources          2
Active analog channels        0
Active G.711 channels         1
Average voice delay (ms)     0
Average voice jitter (ms)    0
Total RTP packets TX         125
Total RTP packets RX         140
Total call attempts          2
```

6.4.19 show voip devices

This command displays the configured VoIP Ethernet Devices in the Ethernet Device table. For each Ethernet Device, the device name, VLAN ID, and associated Ethernet port Group is displayed.

Syntax:

```
show voip devices
```

Note:

- This command is applicable to Mediant 5xx, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant 9000, Mediant SW devices.

Command Modes:

Basic

Examples:

The following example displays configured VoIP Ethernet Devices in the Ethernet Device table.

```
# show voip devices
D.Num   Device Name      VlanID   GroupName
-----
0       vlan 1           1        GROUP_1
1       vlan 20          20       GROUP_2
```

6.4.20 show voip other-dialog statistics

This command displays other dialog statistics.

Syntax:

```
# show voip other-dialog statistics
```

Examples:

The following example displays other dialog statistics.

```
# show voip other-dialog statistics
SBC SUBSCRIBE Dialog Statistics:
Active SUBSCRIBE dialogs: 4
Active incoming SUBSCRIBE dialogs: 6
Active outgoing SUBSCRIBE dialogs: 8
```

6.4.21 show voip proxy

This command displays the status of the Proxy Sets. The status ("OK" or "FAIL") indicates IP connectivity with the proxy server.

Syntax:

```
show voip proxy sets status
```

Examples:

The following example displays performance monitoring.

```
# show voip proxy sets status
```

```

Active Proxy Sets Status
ID      IP ADDRESS          STATUS
0       Not Used(--)        --
1       10.8.6.31(10.8.6.31) OK
2       10.8.2.19(10.8.2.19) OK
3       Not Used(--)        --
4       Not Used(--)        --
5       Not Used(--)        --
6       Not Used(--)        --
7       Not Used(--)        --
8       Not Used(--)        --
9       Not Used(--)        --
10      Not Used(--)        --
    
```

6.4.22 show voip register

This command displays VoIP registration status of users.

Syntax:

```
show voip register < argument >
```

The command's syntax format is described below:

Argument	Description
account	Displays gateway and SBC accounts registration status. show voip register account <gw sbc>
board	Displays registration status for the entire gateway. show voip register board
db sbc	<ul style="list-style-type: none"> Displays the total number of SBC contacts and Address of Records (AOR). show voip register db sbc Displays a specific SBC user's registration detailed information. show voip register db sbc user <AOR> <p>The following example displays the registration status of SBC user 2017's AOR.</p> <pre>show voip register db sbc user 2017 *** SBC Registered Contacts for AOR '2017' *** sip:2017@10.8.2.225:5080;expire=90; Active: YES; IPG#4; ResourceID#(#983)</pre> <p>Active:YES indicates that the user has been successfully registered. Active:NO indicates that the user has been registered and is waiting for approval.</p> <ul style="list-style-type: none"> Displays the registration status of all the SBC contacts of all SBC user's AORs listed in the device's Users Registration database (SBC User Information table). This also includes showing the IP Group to which the contact belongs. show voip register db sbc list <p>Note: This is only applicable to SBC applications.</p>
ports	Displays registration status for ports. show voip register ports

Examples:

The following example displays Ports Registration Status.

```
# show voip register ports
```

```
*** Ports Registration Status ***
```

Gateway	Port		Status
Module 3	Port 1	FXO	REGISTERED
Module 3	Port 2	FXO	REGISTERED
Module 3	Port 3	FXO	REGISTERED
Module 3	Port 4	FXO	NOT REGISTERED
Module 5	Port 1	FXS	NOT REGISTERED
Module 5	Port 2	FXS	NOT REGISTERED
Module 5	Port 3	FXS	NOT REGISTERED
Module 5	Port 4	FXS	REGISTERED

6.4.23 show voip security ids

This command provides an enhancement to the Intrusion Detection System (IDS) feature, by supporting dynamic blacklisting of remote hosts (IP addresses / ports) considered by the device as malicious.

Syntax:

```
# show voip security ids blacklist active
# show voip security ids active-alarm all
# show voip security ids active-alarm match <IDS Match Policy ID>
rule <IDS Rule ID>
```

Related Commands:

- security ids policy
- security ids rule
- security ids match

Examples:

- The following example displays the blacklist.

```
# show voip security ids blacklist active
Active blacklist entries:
10.33.5.110(NI:0) remaining 00h:00m:10s in blacklist
Where SI is the SIP Interface, and NI is the Network interface.
```

- The following example displays the blacklist all active IDS alarms:

```
# show voip security ids active-alarm all
IDSMatch#0/IDSRule#1: minor alarm active.
```

- The following example displays details regarding an active IDS alarm of the specified match and rule IDs:

```
# show voip security ids active-alarm match 0 rule 1
IDSMatch#0/IDSRule#1: minor alarm active.
- Scope values crossed while this alarm is active:
  10.33.5.110(SI0)
```

6.4.24 show voip subscribe list

This command displays SUBSCRIBE dialog sessions.

Syntax:

```
# show voip subscribe list [<session-id>|descending|summary]
```

The command's syntax format is described below:

Option	Description
session-id	Displays detailed Sessions information for the specified Session ID.
descending	Displays currently active VoIP SIP SUBSCRIBE Dialogs sorted in descending order by call duration.
summary	Displays summary of currently active SUBSCRIBE Dialogs.

Examples:

The following example displays a summary of currently active SUBSCRIBE Dialogs.

```
# show voip subscribe list summary
```


6.4.25 show voip subscribe statistics

This command displays SUBSCRIBE dialog statistics.

Syntax:

```
# show voip subscribe statistics
```

Examples:

The following example displays a summary of currently active SUBSCRIBE Dialogs.

```
# show voip subscribe statistics
SBC SUBSCRIBE Dialog Statistics:
Active SUBSCRIBE dialogs: 4
Active incoming SUBSCRIBE dialogs: 6
Active outgoing SUBSCRIBE dialogs: 8
```

6.4.26 show voip voip-network

This command provides support for displaying the following QoS metrics per IP Group in the CLI:

- QoE profile metrics per IP Group and its associated Media Realm on currently established calls such as MOS, jitter, packet loss, and delay. Metrics are displayed as average amounts.
- Bandwidth Profile (BW) metrics for Tx and Rx traffic per IP Group and/or Media Realm. Metrics are displayed with a status color for each specific port.
- QoE profile metrics for the remote (far-end) such as MOS, jitter, packet loss, and delay. Each metric is displayed with a specific color.
- Group MSA metrics for the IP Group and the Media Realm. Metrics are displayed as an aggregated value.

Syntax:

```
# show voip voip-network <ipgroup | media realm> ip-group id
media-statistics
```

The command's syntax format is described below:

Option	Description
ipgroup	Displays IP Group information.
media realm	Displays media realm information.

Notes:

- This command is applicable to Mediant 500, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant SW.

Examples:

The following example displays QoS metrics.

```
IPGroup 1. BWProfile: -1, QoEProfile: -1
-----
MSA: 0
Averages: MOS 0 Remote MOS 0 Delay 0 Remote Delay 0 Jitter 0
Remote Jitter 0
Fraction loss tx 0 Fraction loss rx 0
Packet sent 0 Packet received 0
Audio Tx BW 0, Audio Tx Status Green
Audio Rx BW 0, Audio Rx Status Green
Total Tx BW 0, Total Tx Status Green
Total Rx BW 0, Total Rx Status Green
Video Tx BW 0, Video Tx Status Green
Video Rx BW 0, Video Rx Status Green
MSA color Gray MSA remote color Gray
MOS color Gray remote MOS color Gray
Delay color Gray remote Delay color Gray
PL color Gray remote PL color Gray
```

```
Jitter color Gray remote Jitter color Gray  
color is not relevant
```

```
Media Realm 255. BWProfile -1, QoEProfile: -1
```

6.4.27 show voip firewall

This command displays active VoIP firewall rules.

Syntax:

```
# show voip firewall
```

Defaults:

NA

Command Modes:

Basic

Examples:

The following example displays active VoIP firewall rules.

```
# show voip firewall
```

6.4.28 show voip groups

This command displays VoIP groups information.

Syntax:

```
# show voip groups
```

Defaults:

NA

Command Modes:

Basic

Examples:

The following example displays VoIP groups information.

```
# show voip groups
```

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7 Clear Commands

The following describes the clear command options.

7.1 clear voip gw

This command clears VoIP.

Syntax:

```
clear voip gw calls-count
clear voip gw statistics
```

The command's syntax format is described below:

Arguments	Description
calls-count	Clears the calls count.
statistics	Clears the call statistics.

Defaults:

NA

Command Modes:

Enable

Example:

The following clears VoIP calls count.

```
# clear voip gw calls-count
```

7.2 clear voip calls

This command disconnects active calls.

Syntax:

```
clear voip calls <Session ID>
```

The command's syntax format is described below:

Arguments	Description
Session ID	Clears VoIP Active calls of a specified Session ID

Defaults:

NA

Command Modes:

Enable

Example:

The following displays and then clears VoIP calls.

```
# show voip calls
Total Active Calls: 1
| Session ID      | Caller      | Callee      | Origin
| Remote IP      | End Point  | Duration    | Call State
|====|====|====|====|
| 326433737      | 3005       | 2000       | Outgoin
g|10.8.6.36      | FXS-3/3   | 00:00:06   | Connected

# clear voip calls 326433737
1 Active Calls were Manually disconnected
```


7.3 clear voip statistics

This command clears SIP VoIP Calls or GW Statistics.

Syntax:

```
clear voip statistics
```

Defaults:

NA

Command Modes:

Enable

Example:

The following example clears SIP VoIP Calls.

```
# clear voip statistics
```

7.4 clear voip register

This command deletes SBC users that are registered with the device. In other words, users can be removed from the device's users' registration database.

Syntax:

```
clear voip register db sbc user <AOR>
clear voip register db sbc ip-group <ID or name>
```

The command's syntax format is described below:

Arguments	Description
AOR	Deletes the Address of Record of the user – user part or user@host.
ID or name	Deletes registered users belonging to a specific IP Group:

Defaults:

NA

Command Modes:

Enable

Example:

The following example clears John@10.33.2.22 from the registration database.

```
# clear voip register db sbc user John@10.33.2.22
```

7.5 clear alarms-history

This command clears the alarms history table

Syntax:

```
clear alarms-history
```

Defaults:

NA

Command Modes:

Enable

Example:

The following clears the alarms history table.

```
# clear alarms-history
```

7.6 clear user

This command ends the CLI session of a specific CLI user. When this command is run, it drops the Telnet/SSH session or logs out the RS-232 session and displays the login prompt.

Syntax:

```
clear user <session id>
```

Defaults:

NA

Note:

- The session from which the command is run cannot be terminated.
- This command is applicable to Mediant 500, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant SW.

Command Modes:

Enable

Example:

The following ends the CLI session of a specific user.

```
# clear user 1
```

7.7 clear ip access-list counters

This command clears IP access list counters.

Syntax:

```
clear ip access-list counters
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following example clears IP access list counters:

```
# clear ip access-list counters
```

7.8 clear counters

This command has two options:

- to clear a specific interface counters
- to clear all the interfaces counters

Syntax:

```
clear counters
clear counters [interface type <interface ID>]
```

The command syntax format is described below:

Arguments	Description
interface type	Defines the Type of the network interface. Interface Types: <ul style="list-style-type: none"> • BVI Bridge interface • GigabitEthernet Gigabit Ethernet interface • cellular Cellular 3G interface • gre Tunnel GRE interface • ipip Tunnel IPIP interface • loopback PPPoE interface • pppoe PPPoE interface • ptp PPTP Tunnel interface • vlan Vlan interface • loopback Loopback interface
interface ID	Defines the ID of the network interface

Defaults:

NA

Command Modes:

Enable

Related Commands:

Examples:

The following example clears the network interface vlan 5 counters.

```
# clear counters vlan 5
```

7.9 clear qos counters

This command clears QoS counters.

Syntax:

```
clear qos counters [interface type <interface ID>]
```

The command syntax format is described below:

Arguments	Description
interface type	Defines the Type of the network interface. Interface Types: <ul style="list-style-type: none"> • BVI Bridge interface • GigabitEthernet Gigabit Ethernet interface • cellular Cellular 3G interface • gre Tunnel GRE interface • ipip Tunnel IPIP interface • loopback PPPoE interface • pppoe PPPoE interface • pptp PPTP Tunnel interface • vlan Vlan interface • loopback Loopback interface
interface ID	Defines the ID of the network interface

Defaults:

NA

Command Modes:

Enable

Related Commands:

Examples:

The following example clears the QoS counters.

```
# clear qos counters vlan 5
```

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8 Maintenance and File Commands

The following describes the Maintenance and File commands.

8.1 copy Commands

The following describes the Copy commands.

8.1.1 copy <file>

This command copies a file from or to the device.

Syntax:

```
copy <file> to | from <URL>
copy <file> to | from console
copy voice-configuration to usb:///<ini configuration file name>
```

The command's syntax format is described below:

Arguments	Description
file	The file type can be one of the following: <ul style="list-style-type: none"> ▪ adsl-firmware: ADSL firmware file ▪ call_progress_tones: Call progress call file ▪ cas-table: CAS configuration table ▪ coder-table: Coder table ▪ dial_plan: Dial plan file ▪ debug-file: Debug file ▪ firmware: Firmware, burn and reload ▪ prerecorded_tones: Pre-recorded tones file ▪ tls_cert: TLS certificate file ▪ tls_private_key: TLS private key file ▪ tls_root_cert: TLS trusted root certificate file ▪ voice-configuration: Voice configuration file (ini file) ▪ voice_prompts: Voice prompt file ▪ user_info: User info file ▪ web_logo: Web logo file
from	Copies (download) the file or auxiliary file package from a specified URL.
to	Copies the file to a destination.
url	Defines the URL. Can be one of the following: <ul style="list-style-type: none"> ▪ HTTP ▪ HTTPS ▪ TFTP
console	Copies the configuration file to the CLI console.
usb	Copies the configuration file from the USB stick connected to the device. Note: Applicable only to Mediant 5xx and Mediant 8xx.

Command Modes:

Enable

Related Commands:

erase, dir, write

Notes:

- A copied file must be burned (via the 'write' command) in order to stay persistent.
- Please refer to the *User Manual* for more information on Auxiliary Files format and roles and voice configuration file formats and roles.
- When copying the configuration file to a URL destination, the device uses the PUT HTTP command to transfer the file. The 'apply-after-reset' option of this command is intended for sending a future-version *ini* file, as part of a firmware upgrade process. This file will be applied only when the device is loaded with the new firmware, preventing unnecessary errors regarding the new *ini* file. After using this option, a new firmware **MUST** be loaded, resulting in a system reset. Once this option is used, no other configuration can be applied.

Examples:

In this example, the device copies the firmware file from the TFTP server, burns it to memory, and then reboots.

```
# copy firmware from
http://192.169.11.11:80/SIP_F7.00A.260.002.cmp
Copying file...
done.
Restarting...
```

8.1.2 **copy** <packaged Auxiliary .tar file name>

This command provides support for downloading/uploading a batch of auxiliary files from/to a specific URL address, using a TAR (Tape ARchive) file (.tar). The TAR file can contain any number and type of Auxiliary files (for example, Dial Plan file and CPT file).

Syntax:

```
copy <packaged Auxiliary .tar file name> from | to <URL>
```

Defaults:

NA

Notes:

- This command is applicable to Mediant 5xx, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, Mediant 9000 and Mediant SW.

Command Modes:

Enable

Examples:

The following is an example of how this command can be used.

```
# copy myauxfiles.tar from http://www.exmaple.com/auxiliary
```

8.1.3 Progress Indication for File Transfer

File transfer progress information is displayed when a file is transferred from/to the device, using the `copy from/to` CLI command. This is applicable to the TFTP, HTTP/S, FTP/S, and USB protocols. **(The USB option is applicable only to the `copy to` command for Mediant 5xx and Mediant 8xx.)**

Below is an example of a file download progress display:

%	Total	%	Received	%	Xferd	Average	Speed	Time	Time	Time	Current
						Dload	Upload	Total	Spent	Left	Speed
100	29.2M	100	29.2M	0	0	939k	0	0:00:31	0:00:31	--:--:--	945k

Where:

- **%:** Percentage of total bytes transmitted (downloaded and uploaded) - downloaded is displayed only when downloading a file (i.e., `copy from` command)
- **Total:** Total bytes transmitted - downloaded and uploaded
- **%:** Percentage of downloaded bytes (for `copy from` command)
- **Received:** Currently downloaded bytes (for `copy from` command)
- **%:** Percentage of uploaded bytes (for `copy to` command)
- **Xferd:** Currently uploaded bytes (for `copy to` command)
- **Average Dload:** Average download speed in bytes/sec (for `copy from` command)
- **Speed Upload:** Average upload speed in bytes/sec (for `copy to` command)
- **Time Spent:** Elapsed time
- **Time Left:** Duration remaining to complete file transfer
- **Current Speed:** Current transmission speed in bytes/sec

Note:

- This is applicable to Mediant 5xx, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant SW.

8.1.4 usb list

This command displays the files on a USB. This behaves similar to the "dir" command in Windows or Linux.

Syntax:

```
usb list
```

Defaults:

NA

Notes:

NA

Command Modes:

Enable

Examples:

The following is an example of using this command:

```
# usb list
-rwxrwxrwx  1 root    0          1038359 Feb 17  2015
ACBootP_1_0_0_6.rar
-rwxrwxrwx  1 root    0          220122 May  8  2011 LTRT 30700
MSBG Recovering from Rescue Mode.pdf
drwxrwxrwx  2 root    0          32768 Dec 24  2015 Secure CRT
```

8.1.5 usb remove

This command allows you to safely remove an attached USB device.

Syntax:

```
usb remove
```

Defaults:

NA

Notes:

NA

Command Modes:

Enable

Examples:

The following example removes the USB drive:

```
# usb remove
```

```
You may now remove the USB drive safely.
```

8.2 cmdshell

This command displays the classic cmdshell interface.

Syntax:

```
cmdshell
```

Defaults:

NA

Notes:

NA

Command Modes:

Enable

Examples:

The following example displays the classic cmdshell interface.

```
# cmdshell
```

8.3 dir

This command displays the device's current auxiliary files directory information.

Syntax:

```
dir
```

Defaults:

NA

Notes:

NA

Command Modes:

Enable

Related Commands:

erase, copy (auxiliary file), write

Examples:

The following example displays the device's current auxiliary files directory information.

```
# dir
```


8.4 reload

This command reloads the device, with or without data configuration burn.

Syntax:

```
reload if-needed
reload now
reload without-saving
reload without-saving in <minutes>
no reload without-saving in <minutes>
```

The command's syntax format is described below:

Arguments	Description
now	Saves configuration and restarts.
if-needed	Reloads the system only if an offline configuration has been changed.
without-saving	Performs a restart without writing the configuration.
minutes	Specifies a number of minutes after which the device will restart. Use this command before making changes to sensitive settings; if your changes cause the device to lose connectivity, just wait for the device to restart with the previous working configuration. To cancel the timed restart, use the "no" form of this command.

Defaults:

Burns the configuration upon reload.

Notes:

- By default, when the device is reloaded, the configuration and the auxiliary files are burned to NV memory.
- Activating the 'reload' command is equivalent to activating the 'write' command followed by the 'reload without-saving' command.

Command Modes:

Enable

Related Commands:

Write

Examples:

The following example performs a restart without writing the configuration.

```
# reload without-saving
```

8.5 write

This command writes the current configuration set and auxiliary files to the NV memory.

Syntax:

```
write
```

Defaults:

NA

Notes:

- This command should be invoked in the following scenarios in order to save the configuration set and auxiliary files to the NV memory:
 - After completing a configuration set (i.e. after invoking one or more of the commands in the 'config' mode command-set)
 - After copying a new auxiliary file ('copy' command)
 - After copying a new configuration file ('copy' command)
 - After erasing an auxiliary file ('erase' command)

Command Modes:

Enable

Related Commands:

reload, copy, erase, write factory

Examples:

The following example writes configuration and auxiliary files to NV memory.

```
# write
```

8.6 write factory

This command restores the factory settings of the device.

Syntax:

```
write factory
```

Defaults:

NA

Notes:

- When this command is invoked, current configuration will be lost. Auxiliary files will also be erased. The device will then reload with its factory setting configuration.
- Please refer to the *User Manual* for more information on factory settings.

Command Modes:

Enable

Related Commands:

write

Examples:

The following example restores the factory settings of the device.

```
# write factory
```

8.7 write-and-backup

This command provides the capability of saving the configuration to flash and uploading it to an external server using TFTP/HTTP/HTTPS protocols, as well as saving the configuration to USB storage. The archived files are saved to a user-defined URL path of a remote server (TFTP or HTTP/S), or to a USB storage stick attached to the device (applicable only to **Mediant 5xx and Mediant 8xx**).

The device first saves the configuration to its flash memory and then sends the file to the defined URL. The configuration in the archived file is based only on CLI commands. This feature is useful, for example, for reverting the device's configuration to a previously backed-up configuration (for whatever reason).

Syntax:

```
write-and-backup to <URL path with file name>  
write-and-backup to usb:///<file name>
```

Notes:

This command is applicable to all products.

Command Modes:

Enable

Related Commands:

write

Examples:

The following example automatically archives device configuration.

```
# write-and-backup to http://www.exmaple.com/configuration.txt
```

8.8 erase

This command erases a device's auxiliary file.

Syntax:

```
erase <file>
```

The command's syntax format is described below:

Arguments	Description
file	Defines the file name to be erased.

Defaults:

NA

Notes:

- The file name should be copied from the 'dir' command output.
- The file is being erased from RAM (and from the current device's run usage). In order to erase the file completely from the NV memory, a 'write' command should also be issued.

Command Modes:

Enable

Related Commands:

dir, copy (auxiliary file), write

Examples:

The following example prints the directory listing of the device and then erases one of the files.

```
# erase voice_prompts
```

8.9 nslookup

This command (name server lookup) can translate a domain name to an IP address (or vice versa). It queries the Domain Name System (DNS) to obtain domain name or IP address mapping.

Syntax:

```
nslookup <hostname> source voip interface vlan <vlan id> type  
<query type>
```

The command's syntax format is described below:

Argument	Description
vlan id	Uses vlan ID (Range 1 -3999).

Query Type	Description
a	Uses a Host address.
aaaa	Uses an Ip6 Address.
naptr	Uses naptr (Naming Authority PoinTeR).
srv	Uses a Server selection.

Defaults:

NA

Command Modes:

Enable

Examples:

The following is an example of how this command can be used.

```
# nslookup abc123 source voip type srv
```

8.10 ping

This command sends ping packets with an optional interface name, number of echo requests and payload size. You can ping from a VoIP interface to a destination address.

Syntax:

```
ping <IPv4 address>|ethernet|atm
```

■ IPv4 address

```
ping <IPv4 address> source voip [size <0-max IP packet size>]
[repeat <1-300>]
```

```
ping <IPv4 address> source voip interface vlan <1-3999> [size
<0-max IP packet size>] [repeat <1-300>]
```

```
ping <IPv4 address> source voip interface name <string> [size
<0-max IP packet size>] [repeat <1-300>]
```

```
ping <IPv4 address> [size <0-max IP packet size>] [repeat <1-
300>]
```

■ Ethernet:

```
ping ethernet mpid <MPID> domain <domain>
```

■ ATM:

```
ping atm [GROUP ID] [VPI]
```

```
ping atm [GROUP ID] [VPI] [VCI]
```

The command syntax format is described below:

Arguments	Description
ipv4 address	Defines the IPv4 IP address as a.b.c.d or hostname.
layer3Interfaces	(Optional) Defines the Layer-3 interfaces: <ul style="list-style-type: none"> • gigabitethernet • cellular • gre • ipip • pppoe • pptp • vlan • loopback • bvi • vti
repeat	(Optional) Defines the number of echo requests.
size	(Optional) Defines the payload size.
source	Defines the source CPU to ping from (default is data).

Command Modes:

Enable

Examples:

The following example sends 3 ICMP packets with 555 bytes payload size to 10.4.0.1 via interface vlan 1:

```
# ping 10.4.0.1 source voip interface vlan 1 repeat 3 size 555
PING 10.4.0.1 (10.4.0.1): 555 data bytes
563 bytes from 10.4.0.1: icmp_seq=0 ttl=255 time=1.3 ms
563 bytes from 10.4.0.1: icmp_seq=1 ttl=255 time=1.1 ms
563 bytes from 10.4.0.1: icmp_seq=2 ttl=255 time=1.2 ms
--- 10.4.0.1 ping statistics ---
3 packets transmitted, 3 packets received, 0 packet loss
round-trip min/avg/max = 1.1/1.2/1.3 ms
```

8.11 pstn nfas-group-switch-activity

This command provides support for initiating a manual switchover between D-channels (primary and backup) pertaining to the same NFAS group.

Syntax:

```
pstn nfas-group-switch-activity [nfas group number]
```

The command syntax format is described below:

Arguments	Description
nfas group number	Defines the NFAS Group number. The range is 1-12.

Note:

- This is applicable to Mediant 500, Mediant 8xx, and Mediant 1000B.

Command Modes:

Enable

Examples:

The following example describes how this command can be used.

```
# pstn nfas-group-switch-activity 2
```

8.12 admin register

This command triggers user registration with a proxy server, through the CLI. These commands can also be used to unregister users.

Syntax:

```
admin register <option>
admin unregister <option>
```

The command syntax format is described below:

Options	Description
accounts	Registers Accounts.
gw	Registers Gateway.
ports	Registers Ports (Module and Port).
suppserv	Registers Supp Serv Gateway Users.
userinfo	Registers User-Info User. Note: This option requires additional parameters – <i>gw</i> or <i>sbc</i> .

Defaults:

NA

Command Modes:

Enable

Example:

The following example registers Module 3 and Port 1.

```
# admin register ports 3 1
Registering module 3 port 1 (200)
```

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Part III

System CLI Commands

9 Introduction

This part describes the commands located under the **configure system** mode.

9.1 configure system

To access these commands, enter "configure system" at the Enabled mode prompt.

Syntax:

```
configure system
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following switches to the system configuration command-set.

```
# configure system
```


10 Banner Message

The banner message appears when the administrator connects to the device. To configure the banner message, use the following commands:.

10.1 welcome-msg

This command allows you to configure banner messages.

Syntax:

```
welcome-msg {<index> | display | new}
```

Arguments	Description
index	Defines the index counting from 0 to 19. You can configure 20 banner messages.
display	Displays the banner configuration.
new	Configures the first banner message with an empty configuration.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example configures the first banner message with an empty configuration.

```
# configure system
(config-system)# welcome-msg new
(welcome-msg-1)#
```

10.2 text

This command configures the actual banner message.

Syntax:

```
text <message>
```

Arguments	Description
message	Defines the text for the Welcome message for the Web interface and CLI. Enter the message and enclose it in double apostrophes.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example configures the first banner message with an empty configuration.

```
# configure system
(config-system)# welcome-msg 0
(welcome-msg-0)# text "This is the banner text"
```

11 Application Commands

The following describes application commands.

11.1 NTP Commands

The following commands configure the Network Time Protocol (NTP) application.

11.1.1 ntp

This command accesses the NTP configuration level.

Syntax:

```
ntp
```

Defaults:

NA

Command Modes:

Enable

Example:

The following example accesses the NTP configuration level.

```
(config-system)# ntp  
(ntp)#
```

11.1.2 auth-key-md5

This command defines the Authentication key string.

Syntax:

```
auth-key-md5 <key> [obscured]
```

The command syntax format is described below:

Arguments	Description
obscured	Copies the key from the existing configuration.

Defaults:

NA

Command Modes:

Enable

Example:

The following example defines the Authentication key string.

```
(config-system)# ntp
(ntp)# auth-key-md5 F5
```

11.1.3 primary-server

This command configures the Network Time Protocol (NTP) Server FQDN or IP Address.

Syntax:

```
primary-server <IP address>
```

Defaults:

NA

Command Modes:

Enable

Example:

The following example sets the NTP Server FQDN or IP Address.

```
(config-system)# ntp  
(ntp)# primary-server 10.4.4.2
```

11.1.4 secondary-server

This command defines the NTP Secondary FQDN or Server IP address.

Syntax:

```
secondary-server <IP address>
```

Defaults:

NA

Command Modes:

Enable

Example:

The following example defines the NTP Secondary FQDN or Server IP address.

```
(config-system)# ntp  
(ntp)# secondary-server 10.4.4.2
```

11.1.5 update-interval

This command defines the NTP update time interval in seconds.

Syntax:

```
update-interval <seconds>
```

Defaults:

NA

Command Modes:

Enable

Example:

The following example defines the NTP update time interval.

```
(config-system)# ntp  
(ntp)# update-interval 100
```

11.1.6 utc-offset

This command defines the NTP time to offset in seconds.

Syntax:

```
utc-offset <seconds>
```

Defaults:

NA

Command Modes:

Enable

Example:

The following example defines the NTP time to offset.

```
(config-system)# ntp  
(ntp)# utc-offset 100
```


11.1.7 auth-key-id

This command sets the authentication key ID.

Syntax:

```
auth-key-id <number>
```

The command's syntax format is described below:

Arguments	Description
number	Defines the NTP authentication key identifier. If 0, the authentication is off.

Defaults:

NA

Command Modes:

Enable

Example:

The following example sets the authentication key ID to "1".

```
(config-system)# ntp  
(ntp)# auth-key-id 1
```

11.1.8 ntp-server

This command defines a NTP server assigned to the DHCP pool on the specified interface.

Syntax:

```
ntp-server <ntp ip address>
```

The command's syntax format is described below:

Arguments	Description
ntp ip address	Specifies a valid IPv4 address for NTP server. IP addresses should be expressed in dotted decimal notation (for example, 10.1.2.3). This parameter is optional. (BOOTP / DHCP Option 42).

Defaults:

NA

Functional notes

NA

Command Modes:

Enable

Related Commands:

This command is also available from the interface configuration sub-directory.

Example:

The following example sets the NTP server IP address.

```
(config-system)# ntp  
(dhcp-conf-VLAN 5)# ntp-server 10.4.4.2
```

12 Syslog Commands

The following commands configure the Syslog settings.

12.1 logging

This command filters definitions for debug recording and syslog.

Syntax:

```
# logging
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ dbg-rec-dest-ip▪ dbg-rec-dest-port▪ dbg-rec-status▪ debug-level▪ defaults▪ syslog▪ syslog-ip▪ syslog-port▪ system-log-size For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example starts Debug Recording.

```
(config-system)# logging
(logging)# dbg-rec-status start
```

12.2 syslog

This command configures logging settings.

Syntax:

```

syslog <on/off>
syslog-ip <IP address>
syslog-port <port>
  
```

The command syntax format is described below:

Arguments	Description
IP address	Defines the IP address of the Syslog server. The IP address can be IPv4. Note: Changes to this parameter will take effect when applying the <code>activate</code> or <code>exit</code> command.
port	Defines the port (0 – 65535).

Example:

The following configures logging settings.

```

(config-system)# logging
(logging)# syslog
      syslog (on)
  
```

12.3 activity-log

This command logs entered CLI commands performed by the user.

Syntax:

```
activity-log
```

Defaults:

NA

Command Modes:

Enable

Example:

The following example logs entered CLI commands performed by the user.

```
# configure system
(config-system)# logging
(logging)# activity-log
```

12.4 activity-trap

This command enables the device to send an SNMP trap (acActivityLog) to notify of management user activities.

Syntax:

```
activity-trap on | off
```

Defaults:

NA

Command Modes:

Enable

Example:

The following example enables the device to send an SNMP trap.

```
# configure system
(config-system)# logging
(logging)# activity-log
(activity-log)# activity-trap on
```

12.5 debug-level

This command sets the debug level.

Syntax:

```
debug-level <level number>
```

The command syntax format is described below:

Arguments	Description
level number	Defines the debug level, where 0 is the lowest debug level and 7 is the highest debug level.

Example:

The following sets the debug level to the highest level.

```
(config-system)# logging  
(logging)# debug-level 7
```

12.6 clear system-log

This command clears the system logs.

Syntax:

```
clear system-log
```

Defaults:

NA

Command Modes:

Enable

Example:

The following clears the alarms history table.

```
# clear system-log
```


13 Regional Setting Commands

The following describes regional setting commands.

13.1 clock

This command configures the date and time of the system.

Syntax:

```
date <date>  
time <time>
```

The command syntax format is described below:

Arguments	Description
date	Displays or sets the current date in date format: d/m/yyyy.
time	Displays or sets the current time in time format : h:m:s.

Defaults:

NA

Command Modes:

Enable

Examples:

This example sets the date of the system.

```
(config-system)# clock  
(clock)# date 23/11/2014
```

13.2 summer-time

This command configures the daylight saving time (summer time) settings.

Syntax:

```

start <start date and time>
end <end date and time>
offset <offset time>
summer-time <on/off>
  
```

The command syntax format is described below:

Arguments	Description
start date and time	Defines the start date and time in <i>mo:dd:hh:mm</i> format.
end date and time	Defines the end date and time in <i>mo:dd:hh:mm</i> format.
offset time	Defines the offset time (0 – 120 minutes).

Defaults:

NA

Command Modes:

Enable

Examples:

This example configures daylight saving time.

```

(config-system)# clock
(clock)# summer time on
  
```

14 Certificate Commands

The following commands configure Certificates.

14.1 `copy <cert file>`

This command copies the certificate file from the server.

Syntax:

```
# copy <cert file> from <server>
# copy <cert file> from <server> source voip context <TLS context number>
# copy <cert file> from <server> source voip context <TLS context number>
```

The certificate file can be one of the following:

Cert File	Description
tls-cert	Defines the TLS Certificate file.
tls-private-key	Defines the TLS Private Key file.
tls-root-cert	Defines the TLS Trusted-Root Certificate file.

The command syntax format is described below:

Arguments	Description
server	Defines the File source URL. Can be one of the following: <ul style="list-style-type: none"> HTTP HTTPS TFTP

Command Modes:

Enable

Examples:

This example downloads the certificate from the TFTP server.

```
# copy tls-cert from tftp://192.168.0.3/cert.pem
Copying file... 0 bytes
done.
use 'write' command in order to burn to NV memory.
```

14.2 tls

This command configures Transport Layer Security (TLS).

Syntax:

```
# tls <index>
# no tls <index>
```

The command's syntax format is described below:

Command	Description
index	Allows you to define the index or contact number. Range is 0 – 999.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example removes index 2.

```
(config-system)# no tls 2
TLS context #2 removed.
```

The following example defines a TLS context.

```
(config-system)# tls 2
(tls-2)# name user2
(tls-2)# no tls-v1-limit
(tls-2)# ciphers server ALL
(tls-2)# ciphers client RC4:!ADH
(tls-2)# ocsp server-primary 10.31.4.21
(tls-2)# no ocsp server-secondary
(tls-2)# ocsp port 2560
(tls-2)# ocsp enable
(tls-2)# ocsp default-response reject
```

14.2.1 **certificate create-self-signed**

This command creates a Certificate Signing Request (CSR).

Syntax:

```
# certificate create-self-signed
```

Command Modes:

Enable

Examples:

The following example creates a Certificate Signing Request (CSR).

```
(config-system)# tls 3  
(tls-3)# certificate create-self-signed  
New certificate generated.
```

14.2.2 certificate subject clear

This command clears subject name of the certificate.

Syntax:

```
# certificate subject clear
```

Command Modes:

Enable

Examples:

The following example clears subject name of the certificate.

```
(config-system)# tls 3  
(tls-3)# # certificate subject clear
```

14.2.3 certificate subject field-set

This command defines the certificate subject name fields.

Syntax:

```
# certificate subject field-set < common-name | country |  
locality | org-unit | organization | state>
```

The command's syntax format is described below:

Arguments	Description
common-name	Defines the common name (Subject Name).
country	Defines the Country Code (Range is XX).
locality	Defines the Locality or city.
org-unit	Defines the Organizational unit.
organization	Defines the Organization name.
state	Defines the State.

Command Modes:

Enable

Examples:

The following example defines the certificate subject name fields.

```
(config-system)# tls 3  
(tls-3)# certificate subject field-set common-name Device 1  
(tls-3)# certificate subject field-set country US  
(tls-3)# certificate subject field-set locality Chicago  
(tls-3)# certificate subject field-set org-unit Marketing  
(tls-3)# certificate subject field-set organization MyCompany  
(tls-3)# certificate subject field-set state Illinois
```

14.2.4 certificate status

This command displays the current certificate status.

Syntax:

```
# certificate status
```

Command Modes:

Enable

Examples:

The following example defines the certificate subject name fields.

```
(config-system)# tls 2
(tls-2)# certificate status
Security context #2 - user2
Certificate subject: /CN=yarM/O=ABC/L=Lod/C=UK
Certificate issuer : /CN=yarM/O=ABC/L=Lod/C=UK
Time to expiration : 7299 days

Key size: 512 bits
Active sockets: 0
The currently-loaded private key matches this
certificatecertificate subject field-set country
```


14.2.5 certificate export

This command displays the current certificate status.

Syntax:

```
# certificate export
```

Command Modes:

Enable

Examples:

The following example displays the current certificate status.

```
(config-system)# tls 2
(tls-2)# certificate export
Local certificate:
-----BEGIN CERTIFICATE-----
MIIBcDCCARoCAQAwDQYJKoZIhvcNAQEFBQAwQzERMA8GA1UEAxMIeWFpck1zYnIx
EzARBgNVBAoTCkF1ZGlvQ29kZXNkZDAKBgNVBACjTA0xvZDELMAkGA1UEBhMC
SUwwHhcNMjMwODI2MDkwMTM2WhcNMzMwODIxMTIwMTM2WjBDMREwDwYDVQ
QDEwh5YWlyTXNlcjEjETMBEGA1UEChMKQXVkaW9Db2R1czEMMAoGA1UEBxM
DTG9kMQswCQYDVQQLGwEwJTTDBcMA0GCSqGSIb3DQEBAQUAA0sAMEgCQQD
dsjBgqaRx+KCGQ8rx/i5+UO/Tl8EHvpudREGtcowRRw/t5LnIfIq9bjkzH
9x5O15qYO38K+7pNn3dc6WAOA8BAgMBAAEwDQYJKoZIhvcNAQEFBQADQ
QDGP4REchoO6vEVLCFmzC3hvymPQLDmhDKeS0raMv1qO7l+bGePhUnIcp
v1KEiZN70nvLd/Lx/pgf35MGPf/906
-----END CERTIFICATE-----
```

14.2.6 certificate import

This command imports a certificate, in textual PEM format.

Syntax:

```
# certificate export
```

Command Modes:

Enable

Examples:

The following example displays the current certificate status.

```
(config-system)# tls 2
(tls-2)# certificate import
This action will erase the existing certificate.
Are you sure? (Y/N) y
Enter data below. Type a period (.) on an empty line to finish.
-----BEGIN CERTIFICATE-----
MIIDxzCCAzCgAwIBAgICAKAwDQYJKoZIhvcNAQEEBQAwwgasxCzAJBgNVBAYTAKlM
ZGRlZCBQcm9kdWN0cyBDQTEjMCEGCSqGSIb3DQEJARYUWWFpckVAYXVkaW9jb2Rl
...
Xubs00BQuW9AK+M=
-----END CERTIFICATE-----
.
File replaced.
```

14.2.7 certificate details

This command displays detailed certificate information.

Syntax:

```
# certificate details
```

Command Modes:

Enable

Examples:

The following example displays detailed certificate information.

```
(config-system)# tls 2
(tls-2)# certificate details
Certificate:
Data:
Version: 1 (0x0)
Serial Number: 0 (0x0)
Signature Algorithm: sha1WithRSAEncryption
Issuer: CN=GW, O=MyCompany, L=Chicago, C=US
Validity
Not Before: Aug 26 09:01:36 2013 GMT
Not After : Aug 21 12:01:36 2033 GMT
Subject: CN=GW, O=MyCompany, L=Chicago, C=US
```

14.2.8 private-key import

This command imports a private key, in textual PEM format.

Syntax:

```
# private-key import
```

Command Modes:

Enable

Examples:

The following example imports a private key.

```
(config-system)# tls 3  
(tls-3)# private-key import
```

14.2.9 private-key generate

This command controls the size (in bits) of the RSA key created by the "generate" subcommand.

Syntax:

```
# private-key generate <512 | 1024 | 2048>
```

The command's syntax format is described below:

Arguments	Description
512	Generates a 512-bit RSA key.
1024	Generates a 1024-bit RSA key.
2048	Generates a 2048-bit RSA key.

Command Modes:

Enable

Examples:

The following example generates a 512-bit RSA key.

```
(config-system)# tls 3
(tls-3)# private-key generate 512
Generating new key, size 512 bits (this might take a while)...
New private key generated.
```

14.2.10 trusted-root detail

This command displays a summary of trusted root certificates.

Syntax:

```
# trusted-root detail [number]
```

The command syntax format is described below:

Arguments	Description
number	Displays the details of particular root certificate number.

Command Modes:

Enable

Examples:

The following example displays a summary of trusted root certificates.

```
(config-system)# tls 2
(tls-2)# trusted-root detail 1
Certificate:
Data:
Version: 3 (0x2)
Serial Number:
d0:1e:40:90:00:00:27:4b:00:00:00:01:00:00:00:04
Signature Algorithm: sha1WithRSAEncryption
Issuer: C=US, ST=Utah, L=Salt Lake City, O=Xcert EZ by DST,
CN=Xcert EZ
by DST/emailAddress=ca@digsigtrust.com
Validity
Not Before: Jul 14 16:14:18 1999 GMT
Not After : Jul 11 16:14:18 2009 GMT
Subject: C=US, ST=Utah, L=Salt Lake City, O=Xcert EZ by DST,
CN=Xcert EZ
by DST/emailAddress=ca@digsigtrust.com
Subject Public Key Info:
...
```

14.2.11 trusted-root export

This command exports an individual trusted root certificate.

Syntax:

```
# trusted-root export [number]
```

The command syntax format is described below:

Arguments	Description
number	Exports a particular root certificate number.

Command Modes:

Enable

Examples:

The following example displays a summary of trusted root certificates.

```
(config-system)# tls 2
(tls-2)# trusted-root export 1
-----BEGIN CERTIFICATE-----
MIID+DCCAuCgAwIBAgIRANAeQJAAACdLAAAAAQAAAAQwDQYJKoZIhvcNAQEFBQAw
gYwx CzAJBgNVBAYTAlVTMQ0wCwYDVQQIEwRVdGFoMRcwFQYDVQQHEw5TYWx0IEExh
Wa9gvR8N26E0HzDEPYutsB0Ek+1f1eS/IDAE9E jpmWHRlpAnUrOb3jocq6mXf5vr
...
```

14.2.12 trusted-root import

This command imports a trusted root certificate, in textual PEM format.

Syntax:

```
# trusted-root import
```

Command Modes:

Enable

Examples:

The following example imports a trusted root certificate.

```
(config-system)# tls 2
(tls-2)# trusted-root import

Enter data below. Type a period (.) on an empty line to finish.
-----BEGIN CERTIFICATE-----
MIID+DCCAuCgAwIBAgIRANAeQJAAACdLAAAAAQAAAAQwDQYJKoZIhvcNAQEFBQAw
gYwx CzAJBgNVBAYTALVTMQ0wCwYDVQQIEwRVdGFoMRcwFQYDVQQHEw5TYWx0IEExh
...
wo3Cbezce9NGxXl8
-----END CERTIFICATE-----
.

File added.
```


14.2.13 trusted-root delete

This command deletes an individual trusted root certificate.

Syntax:

```
# trusted-root delete [number]
```

Command Modes:

Enable

Examples:

The following example deletes an individual trusted root certificate.

```
(config-system)# tls 2  
(tls-2)# trusted-root delete 3  
Certificate removed.
```

14.2.14 trusted-root summary

This command displays a summary of trusted root certificates.

Syntax:

```
# trusted-root summary
```

Command Modes:

Enable

Examples:

The following example displays a summary of trusted root certificates.

```
(config-system)# tls 2
(tls-2)# trusted-root summary
63 trusted certificates.
```

Num	Subject	Issuer	Expires
1	Xcert EZ by DST	Xcert EZ by DST	7/11/2009
2	wireless	wireless	6/06/2010
3	wireless	wireless	3/10/2015
4	VeriSign, Inc.	VeriSign, Inc.	5/18/2018
5	VeriSign, Inc.	VeriSign, Inc.	8/01/2028
6	VeriSign, Inc.	VeriSign, Inc.	8/01/2028
7	VeriSign, Inc.	VeriSign, Inc.	5/18/2018
8	VeriSign, Inc.	VeriSign, Inc.	8/01/2028

15 High Availability (HA) Commands

The following commands configure High Availability.

15.1 high-availability

This command sets the high availability protocol parameters.

Syntax:

```
# high-availability  
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	<p>Sets the following table parameters:</p> <ul style="list-style-type: none">▪ manual-switch-over▪ net-mon-destination▪ net-mon-enable▪ net-mon-ping-retries▪ net-mon-ping-timeout▪ net-mon-source-interface▪ priority▪ redundant-priority▪ redundant-unit-id-name▪ remote-address▪ reset-redundant-unit▪ revertive-mode▪ unit-id-name <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Notes:

This command is supported on Mediant 800 E-SBC; Mediant 2600; Mediant 4000; Mediant SW.

Command Modes:

Enable

Examples:

The following example sets the unit-id-name to 'uid_1'.

```
(config-system)# high-availability  
(ha)# unit-id-name uid_1
```

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16 Management Commands

The commands below describe the various Management commands.

16.1 oamp-default-network-src

This command selects the default network of OAMP services.

Syntax:

```
oamp-default-network-src voip
```

Arguments	Description
voip	Defines the Syslog messages are sent from the VoIP LAN interface for OAMP.

Defaults:

Data

Command Modes:

Enable

Examples:

This example selects the default Network of OAMP services.

```
(config-system)# oamp-default-network-src voip
```

16.2 Telnet/SSH Commands

The following commands configure Telnet/SSH.

16.2.1 cli-terminal

This command configures the CLI management interface.

Syntax:

This configuration set includes the following sub-commands:

```

idle-timeout <timeout-minutes>
password-obscurity {on|off}
rs232-console {on|off}
ssh {on|off}
ssh-acl <acl-name>
ssh-admin-key <rsa-key>
ssh-port <port-num>
telnet {enable|disable|ssl}
telnet-acl <acl-name>
telnet-port <port-num>
    
```

Arguments	Description
idle-timeout	Configures how long a CLI session may remain idle, before being disconnected by the device.
password-obscurity	Hides PPP passwords in the output of "show running-config".
rs232-console	Enables or disables the RS-232 port.
ssh	Enables or disables SSH access.
ssh-acl	Selects an access-list permitting clients to connect to the SSH interface. The access-list is defined under "configure data".
ssh-admin-key	Sets the RSA key (entered as hexadecimal digits) of the SSH client. See the User's Manual for further information on SSH access using an RSA key.
ssh-port	Selects the TCP port number on which SSH is active.
telnet	Enables or disables Telnet access.
telnet-acl	Selects an access-list permitting clients to connect to the Telnet interface. The access-list is defined under "configure data".
telnet-port	Selects the TCP port number on which Telnet is active.

Command Modes:

Enable

Examples:

This example configures SSH.

```
(config-system)# cli-terminal  
(cli-terminal)# ssh on
```

16.2.2 telnet-max-sessions

This command defines the maximum permitted number of concurrent Telnet/SSH sessions.

Syntax:

```
# telnet-max-sessions <number>
```

The command's syntax format is described below:

Arguments	Description
number	Defines the maximum allowed number of SSH sessions. Note: For MP-1xx, the range is 1-2. For all other products, the range is 1-5.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the maximum permitted number of concurrent Telnet/SSH sessions.

```
(config-system)# cli-terminal
(cli-terminal)# telnet-max-sessions 5
```


16.2.3 window height

The **window-height** command enables the user to manually or automatically configure the height of the CLI terminal window.

Syntax:

This configuration set includes the following sub-commands:

```
window-height [0-65535]
window-height automatic
```

Command	Description
[0-65535]	Defines the number of lines in the terminal.
automatic	When the automatic mode is configured, whenever you manually change the height of the cli terminal i.e. by dragging with the mouse, the change is automatically saved.

Command Modes:

Enable

Examples:

This example sets the window height to 5.

```
(config-system)# cli-terminal
(cli-terminal)# window-height 5
```

16.3 Web and Telnet Access List Commands

The following commands configure the Web and Telnet Access List.

16.3.1 web

This command enables and defines the Web server.

Syntax:

```
web
<parameter> <value>
```

Arguments	Description
<parameter> <value>	Sets the following parameters: <ul style="list-style-type: none"> ▪ control-pass-via-snmp ▪ http-auth-mode ▪ http-port ▪ https-cipher-string ▪ https-port ▪ req-client-cert ▪ secured-connection ▪ web-acl For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

This example enables the use of client certificates for HTTPS connection.

```
(config-system)# web
(web)# req-client-cert on
```

16.3.2 mgmt-access-list

This command enables an IP address to connect to the management interface.

Syntax:

```
# mgmt-access-list <index>
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> defaults ip-address For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables '10.11.12.120' to connect to the management interface.

```
(config-system)# mgmt-access-list 9
(mgmt-access-list 9)# ip-address 10.11.12.120
```

This example displays all mgmt-access-list configurations.

```
(config-system)# mgmt-access-list display

---- mgmt-access-list-0 ----
  ip-address (10.4.2.2)

---- mgmt-access-list-1 ----
  ip-address (10.4.2.3)

---- mgmt-access-list-2 ----
  ip-address (0.0.0.0)

---- mgmt-access-list-3 ----
  ip-address (0.0.0.0)

---- mgmt-access-list-4 ----
  ip-address (0.0.0.0)

---- mgmt-access-list-5 ----
```

```
ip-address (0.0.0.0)

---- mgmt-access-list-6 ----
ip-address (0.0.0.0)

---- mgmt-access-list-7 ----
ip-address (0.0.0.0)

---- mgmt-access-list-8 ----
ip-address (0.0.0.0)

---- mgmt-access-list-9 ----
ip-address (0.0.0.0)
```

16.4 TR-069 (CWMP) Commands

The following commands configure TR-069.

16.4.1 cwmp

This command sets the TR-069 protocol parameters.

Syntax:

```
# cwmp
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	<p>Sets the following table parameters:</p> <ul style="list-style-type: none"> ▪ acl-url ▪ acs-password ▪ acs-url-provisioning-mode ▪ acs-user-name ▪ activate ▪ connection-request-password ▪ connection-request-url ▪ connection-request-user-name ▪ debug-mode ▪ defaults ▪ defaults-inform-interval ▪ interface-name ▪ port ▪ protocol ▪ send-connection-request ▪ service <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the TR069 application's interface name.

```
(config-system)# cwmp
(cwmp-tr069)# interface-name int_name
```

16.5 SNMP Commands

The following commands configure SNMP.

16.5.1 snmp

This command enables configuring SNMP support.

Syntax:

```
# snmp
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ disable ▪ engine-id ▪ port ▪ ro-community-string ▪ rw-community-string ▪ delete-ro-community-string ▪ delete read-only community string ▪ snmp-acl ▪ sys-contact ▪ sys-location ▪ sys-name ▪ sys-oid ▪ trusted-managers For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the contact person for this managed node.

```
(config-system)# snmp
(snmp)# sys-contact JJOnes
```

16.5.2 snmp trap

This command configures SNMP trap managers.

Syntax:

```
snmp trap  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following parameters: <ul style="list-style-type: none">▪ auto-send-keep-alive▪ community-string▪ defaults▪ manager-host-name For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

This example defines the community string used in traps.

```
(config-system)# snmp trap  
(snmp-trap)# community-string comm_string_A
```

16.5.3 ro-community-string

This command defines a read-only community string.

Syntax:

```
ro-community-string <string>
```

The command's syntax format is described below:

Arguments	Description
string	Defines the read-only community string to be deleted.

Defaults:

NA

Command Modes:

Enable

Examples:

This example defines a community string - string_A.

```
# configure system
(config-system)# snmp
(snmp)# ro-community-string string_A
```


16.5.4 rw-community-string

This command defines a read-write community string.

Syntax:

```
rw-community-string <string>
```

The command's syntax format is described below:

Arguments	Description
string	Defines the read-write community string to be deleted.

Defaults:

NA

Command Modes:

Enable

Examples:

This example defines a community string - string_B.

```
# configure system
(config-system)# snmp
(snmp)# rw-community-string string_B
```

16.5.5 delete-ro-community-string

This command deletes read-only community strings.

Syntax:

```
delete-ro-community-string <string>
```

The command's syntax format is described below:

Arguments	Description
string	Defines the read-only community string to be deleted.

Defaults:

NA

Command Modes:

Enable

Examples:

This example deletes community string string_A.

```
# configure system
(config-system)# snmp
(snmp)# delete-ro-community-string string_A
```

16.5.6 delete-rw-community-string

This command deletes read-write community strings.

Syntax:

```
delete-rw-community-string <string>
```

The command's syntax format is described below:

Arguments	Description
string	Defines the read-only community string to be deleted.

Defaults:

NA

Command Modes:

Enable

Examples:

This example deletes community string string_B.

```
# configure system
(config-system)# snmp
(snmp)# delete-rw-community-string string_B
```

16.5.7 engine-id

This command defines the SNMP Engine ID in 12 HEX Octets in the following format `xx:xx:....:xx`.

Syntax:

```
engine-id <string>
```

The command's syntax format is described below:

Arguments	Description
string	Defines the SNMP Engine ID in 12 HEX Octets in xx:xx:....:xx format.

Defaults:

NA

Command Modes:

Enable

Examples:

This example defines the SNMP Engine ID.

```
# configure system
(config-system)# snmp
(snmp)# engine-id 11:22:....:66
```

16.5.8 port

This command defines the port number for SNMP requests and responses.

Syntax:

```
port <port number>
```

The command's syntax format is described below:

Arguments	Description
port number	Defines the port number for SNMP requests and responses in the range of 100-65534.

Defaults:

NA

Command Modes:

Enable

Examples:

This example defines #1102 as the port number for SNMP requests and responses.

```
# configure system
(config-system)# snmp
(snmp)# port 1102
```

16.5.9 snmp trap destination

This command enables SNMPv3 USM user or SNMPv2 user to associate with this trap destination. By default it is associated with the SNMPv2 user.

Syntax:

```
# snmp trap destination <index>
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ ip-address ▪ port ▪ send-trap ▪ trap-user For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the trap ports to be used by the different managers.

```
(config-system)# snmp trap destination 4
(trap-destination 4)# port 18
```

16.5.10 snmp v3-users

This command configures SNMP v3 users.

Syntax:

```
snmp v3-users <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ auth-key▪ auth-protocol▪ defaults▪ group▪ priv-key▪ priv-protocol▪ username For a description of these parameters, refer to the <i>User's Manual</i> .

Command Modes:

Enable

Examples:

This example configures read only snmp v3 user with no authentication or privacy.

```
(config-system)# snmp v3-users 1
(v3-users-1)# username j_brown
(v3-users-1)# group read-only
(v3-users-1)# auth-protocol none
(v3-users-1)# auth-protocol none
```

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16.6 Multi-tenancy Command

Multi-tenancy refers to an architecture where an application running on a server or designated hardware, serves multiple clients (tenants). In other words, a single system – the SBC device - serves a large number of enterprises. In a multi-tenancy environment, a user from one tenant can't infringe on another tenant's space served by the same application.

The following describes the Multi-tenancy commands.

16.6.1 `srd-view`

To facilitate configuration of multi-tenancy through the CLI, the administrator can access a specific tenant "view". Once in a specific tenant view, all configuration commands apply only to the currently viewed tenant. Only table rows (indexes) belonging to the viewed tenant can be modified. New table rows are automatically associated with the viewed tenant (i.e., SRD name).

This command accesses a specific tenant view. The 'no `srd-view`' command exits the tenant view.

Syntax:

```
srd-view <SRD name>  
no srd-view
```

The command syntax format is described below:

Option	Description
SRD name	Defines the name of the specific tenant view.

Defaults:

NA

Command Modes:

Enable

Related Commands:

Refer to the `voip-network srd` command on page [291](#).

Example:

The following example accesses the 'itsp' tenant view. Once accessed, the tenant's name (SRD name) forms part of the CLI prompt:

```
# srd-view itsp  
(srd-itsp)#
```

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17 Test Call Commands

The following commands configure Test call.

17.1 test-call

This command defines Test Call settings.

Syntax:

```
# test-call
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	<p>Sets the following table parameters:</p> <ul style="list-style-type: none"> ▪ activate ▪ defaults ▪ sbc-test-id ▪ sbc-test-id [STRING] ▪ test-call-table [0-4] ▪ test-call-table [0-4] insert ▪ test-call-table display ▪ test-call-table find-by application-type gw-ip-to-ip ▪ test-call-table find-by application-type sbc ▪ test-call-table find-by auto-register disable ▪ test-call-table find-by auto-register enable ▪ test-call-table find-by bandwidth-profile [STRING] ▪ test-call-table find-by call-duration [-1-100000] ▪ test-call-table find-by call-party called ▪ test-call-table find-by call-party caller ▪ test-call-table find-by called-uri [STRING] ▪ test-call-table find-by calls-per-second [1-10] ▪ test-call-table find-by dst-address [STRING] ▪ test-call-table find-by dst-transport not-configured ▪ test-call-table find-by dst-transport tcp ▪ test-call-table find-by dst-transport tls ▪ test-call-table find-by dst-transport udp ▪ test-call-table find-by endpoint-uri [STRING] ▪ test-call-table find-by ip-group-id [-2-100] ▪ test-call-table find-by max-channels [1-400] ▪ test-call-table find-by password [STRING] ▪ test-call-table find-by play disable ▪ test-call-table find-by play dtmf ▪ test-call-table find-by play prt ▪ test-call-table find-by qoe-profile [STRING] ▪ test-call-table find-by route-by dst-address ▪ test-call-table find-by route-by ip-group ▪ test-call-table find-by route-by tel-to-ip

Arguments	Description
	<ul style="list-style-type: none"> ▪ test-call-table find-by schedule-interval [0-100000] ▪ test-call-table find-by srd [0-32] ▪ test-call-table find-by test-duration [0-100000] ▪ test-call-table find-by test-mode continuous ▪ test-call-table find-by test-mode once ▪ test-call-table find-by user-name [STRING] ▪ test-call-table new ▪ testcall-dtmf-string ▪ testcall-dtmf-string [STRING] ▪ testcall-id ▪ testcall-id [STRING] ▪ exit ▪ help ▪ history ▪ list ▪ pwd ▪ quit <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the incoming Test Call prefix to '180'.

```
(config-system)# test-call
(test-call)# testcall-id 180
```

18 Feature and Product Keys Update Commands

The commands below describe the Feature and Product Keys Update commands.

18.1 feature-key

This command updates the feature-key.

Syntax:

```
feature-key <"string">
```

The command's syntax format is described below:

Command	Description
"string"	Sets the feature key string. Note that the feature key string must be within quotes.

Command Modes:

Enable

Examples:

This example sets a feature-key.

```
(config-system)# feature-key  
"r6wmr5to25smaB12d21aiS194yMcf31sfjBjagcch1kq9AZ9MJqqCOW44yWfCm1Ib  
iBaeNcsjh878ld1f2wKbY3IXJj1S0lcbiBfc6FBj1fROlJ9XvAw8k1IXdoFcOpeQJp  
2e0stils0blNecypomhgU5yTlPREPQt12elwpiNgx7lRfeyXV?2s9@coFcOhdayWjW  
hQuJeIgb5VbfyENC2w4606OG3lf7NJnbkF5mxkka5xccyoVedYq1gMc"
```

18.2 product-key

This command provides support for a Product Key for the Mediant SE SBC and Mediant VE SBC product lines.

Syntax:

```
# product-key [product key string]
```

Defaults:

NA

Command Modes:

Enable

Notes:

The command is applicable only to Mediant VE/SE SBC devices.

Examples:

The following is an example of using this command.

```
(config-system)# product-key  
Product Key: 123
```

19 Automatic Update Commands

The commands below describe the Automatic Update command.

The Automatic Update feature allows you to download a configuration file or an image file from a server. If the file is different from the file currently on the device, it will be applied using the same rules as the **copy** command. To configure Automatic Update, use the following commands:

19.1 automatic-update

This command enables Automatic Update configuration.

Syntax:

```
# automatic-update <file command> <URL>
```

The <file> for the Automatic Update can be one of the following:

<file>	Description	Values
call-progress-tones	Defines a URL of a Call Progress Tone file.	[URL]
cas-table	Defines a URL of a Channel Associated Signaling (CAS) file.	[URL]
coder-table	Defines a URL to Coder table file.	[URL]
dial-plan	Defines a URL of Dial Plan file.	[URL]
firmware	Defines URL of CMP file.	[URL]
license	Defines URL of License Feature gile	[URL]
prerecorded-tones	Defines URL of Prerecorded Tone file.	[URL]
tls-cert	Defines URL of TLS certificate file.	[URL]
tls-private-key	Defies URL of TLS private key file.	[URL]
tls-root-cert	Defines URL of TLS root CA file.	[URL]
user-info	Defines the user information file.	
voice-configuration	Defines the URL of the Voice configuration file.	[URL]
voice-prompts	Defines the URL of the Voice Prompts file.	[URL]
voice-xml	Defines the URL of the Voice XML file.	[URL]
web-logo	Defines the URL for downloading a logo file for the web interface.	[URL]

Defaults:

NA

Command Modes:

Enable

Note:

Examples:

The following is an example of how this command can be used:

```
# configure system
(config-system)# automatic-update
(automatic-update)# activate
```


19.2 auto-firmware

This command provides a link to a software image (cmp file) to be downloaded from a remote server, based on a time stamp.

Syntax:

```
# auto-firmware <URL>
```

Command	Description
URL	Defines a link to a software image (cmp file) to be downloaded from a remote server, based on a timestamp.

Defaults:

NA

Command Modes:

Enable

Examples:

The following is an example of using this command.

```
# configure system
(config-system)# automatic-update
(automatic-update)# auto-firmware "http://195.16.0.190/cliconf.
txt"
```

Note: Changes to this parameter will take effect when applying the 'activate' or 'exit' command

```
(automatic-update)# activate
```

19.3 crc-check

This command enables a Cyclic Redundancy Check (CRC) for Configuration files.

Syntax:

```
# crc-check {off | regular | voice-conf-ordered}
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following is an example of using this command.

```
# configure system  
(config-system)# automatic-update  
(automatic-update)# crc-check regular
```

19.4 http-user-agent

This command defines the User-Agent HTTP header in the Auto-Update HTTP Get requests.

Syntax:

```
# http-user-agent <string>
```

The command's syntax format is described below:

Command	Description
string	Defines the User-Agent HTTP header in the Auto-Update HTTP requests.

Defaults:

NA

Command Modes:

Enable

Examples:

The following is an example of using this command.

```
# configure system
(config-system)# automatic-update
(automatic-update)# http-user-agent UM_header.ABCD
```

19.5 predefined-time

This command schedules the automatic update time.

Syntax:

```
# predefined-time <HH:MM>
```

The command's syntax format is described below:

Command	Description
HH:MM	Schedules an automatic update to a predefined time of the day

Defaults:

NA

Command Modes:

Enable

Examples:

This example schedules an automatic update at 12:00 pm.

```
# configure system
(config-system)# automatic-update
(automatic-update)# predefined-time 12:00
```

19.6 pwd

This command displays the current configuration mode path.

Syntax:

```
# pwd
```

Defaults:

NA

Command Modes:

Enable

Examples:

This example displays the current configuration mode path.

```
# configure system
(config-system)# automatic-update
(automatic-update)# pwd
/config-system/automatic-update
```

19.7 run

This command explicitly triggers the automatic update. This does not replace the activate command.

Syntax:

```
# run
```

Defaults:

NA

Command Modes:

Enable

Examples:

This example explicitly triggers the automatic update. .

```
# configure system
(config-system)# automatic-update
(automatic-update)# run
```

19.8 run-on-reboot

This command determines whether the Automatic Update runs as part of the system initialization process.

Syntax:

```
# run-on-reboot [on | off]
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following example disables the Automatic Update feature from being activated upon a device reset.

```
# configure system  
#(config-system)# automatic-update  
#(automatic-update) run-on-reboot off
```

19.9 source

This command specifies the source interface to receive files from.

Syntax:

```
# source voip
```

Command Modes:

Enable

Examples:

The following example specifies "voip" as the source interface to receive files from.

```
# configure system
#(config-system)# automatic-update
#(automatic-update) source voip
```


19.10 template-files-list

Defines the type of files in the file template to download from a provisioning server for the Automatic Update process. For More information on file templates, refer to the *User's Manual*.

Syntax:

```
(automatic-update)# template-files-list <file types>
```

The file types must be separated by commas and without spaces.

Arguments	Description
<file types>	Specifies the file types: <ul style="list-style-type: none"> ▪ ini: ini file ▪ acmp: CMP file based on timestamp ▪ vp: Voice Prompts (VP) file (applicable only to Mediant 1000B) ▪ usrinf: User Info file ▪ cmp: CMP file ▪ fk: Feature Key file ▪ cpt: Call Progress Tone (CPT) file ▪ prt: Prerecorded Tones (PRT) file ▪ cas: CAS file (applicable only to Digital PSTN supporting devices) ▪ ctbl: Coder table ▪ dpln: Dial Plan file ▪ amd: Answering Machine Detection (AMD) file ▪ sslp: SSL/TLS Private Key file ▪ sslr: SSL/TLS Root Certificate file ▪ sslc: SSL/TLS Certificate file

Defaults:

N/A

Command Modes:

Enable

Related Commands

```
template-url
```

Example:

The following example specifies the ini, Feature Key, and CPT file types to download:

```
# configure system
#(config-system)# automatic-update
#(automatic-update) template-files-list ini, fk, cpt
```

19.11 template-url

Defines the URL address of the provisioning server on which the file types, specified in the file template using the `template-files-list` command, are located for download during the Automatic Update process. For More information on file templates, refer to the *User's Manual*.

Syntax:

```
(automatic-update)# template-url <URL>/<file name with <FILE>
placeholder>
```

The device replaces the <FILE> placeholder with a hard-coded file name and extension specific to each file type.

Arguments	Description
<URL>	Define sthe URL address of the provisioning server (HTTP/S, FTP, or TFTP).
File name with <FILE>	Defines the file name using the <FILE> placeholder. The placeholder is replaced by the following strings depending on file type: <ul style="list-style-type: none"> ▪ ini: device.ini ▪ acmp: autoFirmware.cmp ▪ vp: vp.dat (applicable only to Mediant 1000B) ▪ usrinf: userInfo.txt ▪ cmp: firmware.cmp ▪ fk: fk.ini ▪ cpt: cpt.dat ▪ prt: prt.dat ▪ cas: cas.dat (applicable only to Digital PSTN supporting devices) ▪ ctbl: coderTable.dat ▪ dpln: dialPlan.dat ▪ amd: amd.dat ▪ sslp: pkey.pem ▪ sslr: root.pem ▪ sslc: cert.pem

Defaults:

N/A

Command Modes:

Enable

Related Commands

`template-files-list`

Example:

The following example specifies the URL of an HTTP server at 10.8.8.20 from which the files specified in the file template can be downloaded:

```
# configure system
#(config-system)# automatic-update
#(automatic-update) template-url http://10.8.8.20/Site1_<FILE>
```

19.12 tftp-block-size

This command defines the TFTP block size via voip source, according to RFC 2348.

Syntax:

```
# tftp-block-size <block size>
```

The command's syntax format is described below:

Arguments	Description
block size	Sets the TFTP block size (512-8192).

Defaults:

Command Modes:

Enable

Examples:

The following example sets the TFTP block size to 512.

```
# configure system
#(config-system)# automatic-update
#(automatic-update) tftp-block-size 512
```

19.13 update-firmware

This command enables auto-update for firmware.

Syntax:

```
# update-firmware {on | off}
```

The command's syntax format is described below:

Arguments	Description
on	Enables auto-update for firmware.
off	Disables auto-update for firmware.

Defaults:

Command Modes:

Enable

Examples:

The following example enables auto-update for firmware.

```
# configure system  
#(config-system)# automatic-update  
#(automatic-update) update-firmware on
```

19.14 update-frequency

This command sets the automatic update interval in minutes.

Syntax:

```
# update-frequency <minutes>
```

The command's syntax format is described below:

Arguments	Description
minutes	Sets the number of minutes the gateway waits between automatic updates (0-65535).

Defaults:

Command Modes:

Enable

Examples:

The following example sets the automatic update interval to 100 minutes.

```
# configure system
(config-system)# automatic-update
(automatic-update)# update-frequency 100
```

19.15 verify-certificate

This command verifies the server certificate via HTTPS.

Syntax:

```
# verify-certificate {on | off}
```

The command's syntax format is described below:

Arguments	Description
on	Enables verification of the server certificate via HTTPS.
off	Disables verification of the server certificate via HTTPS.

Defaults:

Command Modes:

Enable

Examples:

The following example enables verification of the server certificate via HTTPS.

```
# configure system  
#(config-system)# automatic-update  
#(automatic-update) verify-certificate on
```

19.16 verify-ssl-subject-name

This command configures the AutoUpdate facility to verify the SSL Subject Name in the server's certificate when using HTTPS.

Syntax:

```
# verify-ssl-subject-name {on | off}
```

The command's syntax format is described below:

Arguments	Description
on	Enables the AutoUpdate facility to verify the SSL Subject Name in the server's certificate when using HTTPS.
off	Disables the AutoUpdate facility to verify the SSL Subject Name in the server's certificate when using HTTPS.

Defaults:

Command Modes:

Enable

Examples:

The following example enables the AutoUpdate facility to verify the SSL Subject Name in the server's certificate when using HTTPS.

```
# configure system
(config-system)# automatic-update
(automatic-update)# verify-ssl-subject-name on
```




Part IV

VoIP CLI Commands

20 Introduction

This part describes the commands located under the **configure voip** mode. To access these commands, enter "**configure voip**" at the Enabled mode prompt.



Note: For a detailed description of the parameters described in this part, refer to the device's User's Manual.

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21 Network Commands

The following describes Network commands.

21.1 Ethernet Group Table Commands

The commands below describe the Ethernet Group Table.

21.1.1 ether-group

This command creates an Ethernet Group table.

Syntax:

```
ether-group <index>
ether-group display
ether-group find-by <member1> <member2> mode
ether-group new
```

The command syntax format is described below:

Arguments	Description
<index>	Defines the Interface index between 0 and 5.
find-by	Finds row by column name and value.
display	Displays all network interfaces configuration.
new	Adds a new line in first available index.

Command Modes:

Enable

Examples:

The following example creates a new line in the Ethernet Group table.

```
(config-voip)# ether-group new
(ether-group-0)#
```

21.1.2 mode

This command defines the group mode of operation.

Syntax:

```
mode <1rx-1tx | 2rx-1tx | 2rx-2rx>
```

Command Modes:

Enable

Examples:

The following example creates a group mode.

```
(config-voip)# ether-group new  
(ether-group-0)# mode 1rx-1tx
```

21.2 IP Interface Table Commands

The following describes the IP Interface Table commands.

21.2.1 interface network-if

This command displays and configures the network interface table settings.

Syntax:

```
interface network-if display
interface network-if <index>
```

The command syntax format is described below:

Arguments	Description
display	Displays all network interfaces configuration.
<index>	Defines the interface index between 0 and 15.

Configuration Parameters

Parameter Name	Configuration Parameter Name	Options
application-type	InterfaceTable_ApplicationTypes	control maintenance media media-control oamp oamp-control oamp-media oamp-media-control
gateway	InterfaceTable_Gateway	
ip-address	InterfaceTable_IPAddress	
mode	InterfaceTable_InterfaceMode	ipv4-manual
name	InterfaceTable_InterfaceName	
prefix-length	InterfaceTable_PrefixLength	
primary-dns	InterfaceTable_PrimaryDNSServerIPAdress	
secondary-dns	InterfaceTable_SecondaryDNSServerIPAdress	
underlying-dev	InterfaceTable_UnderlyingDevice	0 - disable 1 - enable
vlan-id	InterfaceTable_VlanID	

Command Modes:

Enable

Examples:

The following example displays all interfaces configuration

```
(config-voip)# interface network-if display
---- network-if-0 ----
  application-type (oamp-media-control)
  mode (ipv4-manual)
  ip-address (10.4.60.62)
  prefix-length (16)
  gateway (10.4.0.1)
  vlan-id (1)
  name (O+M+C)
  primary-dns (0.0.0.0)
  secondary-dns (0.0.0.0)
  underlying-if ()
```

The following example configures interface 3 with an IP address 10.5.0.1

```
(config-voip)# interface network-if 3
(network-if-3)# ip-address 10.5.0.3
```


21.2.2 interface vlan

This command selects a configuration syntax for VoIP interface configuration.

Syntax:

```
interface vlan <vlan id>
```

The command syntax format is described below:

Arguments	Description
vlan id	Defines a valid VLAN interface ID in the range of 1 and 255.

Command Modes:

Enable

Examples:

The following example selects VLAN 1 as the interface to configure.

```
(config-voip)# interface vlan 1
```

21.2.3 application-type

This command defines the application type on the specified Layer 3 interface.

Syntax:

```
application-type <type>
```

The command's syntax format is described below:

Arguments	Description
type	Defines the application type - Control, Media or OAMP

Defaults:

NA

Command Modes:

Enable

Examples:

The following example configures the control application type for interface VLAN 3.

```
(config-voip)# interface vlan 3
(conf-if-vlan 3)# application-type control
```

21.2.4 ip-address

This command defines the primary IP address on the specified Layer 3 interface.

Syntax:

```
ip-address <ip address> <subnet mask>
```

The command's syntax format is described below:

Arguments	Description
ip address	Defines a valid IPv4 address. IP addresses should be expressed in dotted decimal notation (for example, 10.1.2.3).
subnet mask	Defines the subnet mask that corresponds to a range of IP addresses. Subnet masks should be expressed in dotted decimal notation (e.g., 255.255.255.0).

Defaults:

NA

Command Modes:

Enable

Examples:

The following example configures the IP address of 10.4.2.3 255.255.0.0 for interface VLAN 3.

```
(config-voip)# interface vlan 3  
(conf-if-vlan 3)# ip-address 10.5.0.1 255.255.0.0
```

21.2.5 ip gateway

This command defines the gateway IP address on the specified Layer 3 interface.

Syntax:

```
ip gateway <ip address>
```

The command's syntax format is described below:

Arguments	Description
ip address	Defines a valid IPv4 address. IP addresses should be expressed in dotted decimal notation (for example, 10.1.2.3).

Defaults:

NA

Command Modes:

Enable

Examples:

The following example configures the gateway IP address 10.4.0.1 for interface VLAN 3.

```
(config-voip)# interface vlan 3
(conf-if-vlan 3)# ip gateway 10.4.0.1
```

21.2.6 ip name-server

This command defines the DNS relay (remote) server's address on the interface.

Syntax:

```
ip name-server <first ip address> [second ip address]
```

The command's syntax format is described below:

Arguments	Description
first ip address	Defines the primary DNS server address. Specifies a valid IPv4 address. IP addresses should be expressed in dotted decimal notation (e.g., 10.1.2.3).
second ip address	Defines the secondary DNS server address. This field is not required when specifying a single IP address. Defines a valid IPv4 address. IP addresses should be expressed in dotted decimal notation (e.g., 10.1.2.3).

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines DNS relay servers 10.4.1.1 and 10.4.1.2 on interface VLAN 1.

```
(config-voip)# interface vlan 3  
(conf-if-vlan 3)# ip name-server 10.4.1.1 10.4.1.2
```

21.2.7 desc

This command sets the description on the specified interface.

Syntax:

```
desc <string>
```

The command's syntax format is described below:

Arguments	Description
string	Defines the interface description\name using an alphanumerical string (up to 16 characters).

Defaults:

NA

Functional Notes:

Use inverted commas when using the space character as part of the description.
The string is limited to 16 characters.

Command Modes:

Enable

Examples:

The following example sets the description on VLAN 3.

```
(config-voip)# interface vlan 3
(conf-if-vlan 3)# desc Media3
```

21.3 Ethernet Device Table Commands

The following describes the Ethernet Device Table commands.

21.3.1 interface network-dev

This command displays and configures the network device table settings.

Syntax:

```
interface network-dev display
interface network-dev <index>
```

The command syntax format is described below:

Arguments	Description
display	Displays all network interfaces configuration.
index	Defines the interface index between 0 and 15.

Configuration Parameters

Parameter Name	Configuration Parameter Name	Options
name		
vlan-id		

Command Modes:

Enable

Example:

The following example displays network device table settings.

```
(config-voip)# interface network-dev display
  vlan-id (1)
  name (vlan 1)
```

21.4 Static Routing Commands

The following describes the Static Routing commands.

21.4.1 routing static

This command displays and configures the static routing table.

Syntax:

```

routing static display
routing static <index>
description
destination
gateway
interface-name
prefix-length
    
```

The command syntax format is described below:

Arguments	Description
display	Displays all static routes configuration.
<index>	Defines the Static index between 1 and 15.

Parameter Name	Configuration Parameter Name
description	StaticRouteTable_Description
Gateway	StaticRouteTable_Gateway
Destination	StaticRouteTable_Destination
interface-name	StaticRouteTable_InterfaceName
prefix-length	StaticRouteTable_PrefixLength

Command Modes:

Enable

Examples:

The following example displays all static routes configuration.

```

(config-voip)# routing static display
---- static-0 ----
  interface-name (O+M+C)
  destination (10.21.0.0)
  prefix-length (16)
  gateway (10.4.0.1)
  description (desc1)
    
```


The following example configures a static route for subnet 1.1.0.0/16 default gateway 10.4.0.1 for an interface named MEDIA

```
(config-voip)# routing static 3
(static-3)# interface-name MEDIA
(static-3)# destination 1.1.0.0
(static-3)# prefix-length 16
(static-3)# gateway 10.4.0.1
(static-3)# interface-name MEDIA
```

21.5 Quality of Service (QoS) Commands

The following describes the Quality of Service commands.

21.5.1 qos vlan-mapping

This command displays and configures QoS vlan mapping.

Syntax:

```

qos vlan-mapping display
qos vlan-mapping <index>
diff-serv
vlan-priority

qos application-mapping
bronze-qos
control-qos
gold-qos
media-qos
    
```

The command syntax format is described below:

Arguments	Description
display	Displays all static routes configuration.
<index>	Defines the Static index between 1 and 15.

Parameter Name	Configuration Parameter Name
diff-serv	DiffServToVlanPriority_DiffServ
vlan-priority	DiffServToVlanPriority_VlanPriority
bronze-qos	vlanBronzeServiceClassDiffServ
control-qos	vlanPremiumServiceClassControlDiffServ
gold-qos	vlanGoldServiceClassDiffServ
media-qos	vlanPremiumServiceClassMediaDiffServ

For a description of these parameters, refer to the *User's Manual*.

Examples:

The following example displays all qos vlan mapping configuration.

```
(config-voip)# qos vlan-mapping display
```

The following example sets the DiffServ value for the Bronze service class content (OAM&P).

```
(config-voip)# qos application-mapping  
(app-map)# bronze-qos 46
```

The following example maps DiffServ value of 46 to vlan priority 5

```
(config-voip)# qos vlan-mapping 3  
(vlan-mapping-3)# diff-serv 46  
(vlan-mapping-3)# vlan-priority 5
```

21.5.2 qos application mapping

This command sets the differentiated services application mapping.

Syntax:

```
qos application-mapping
<parameter> <value>
```

The command syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ bronze-qos ▪ control-qos ▪ defaults ▪ gold-qos ▪ media-qos For a description of these parameters, refer to the <i>User's Manual</i> .

Examples:

The following example sets the DiffServ value for the Bronze service class content (OAM&P).

```
(config-voip)# qos application-mapping
(app-map)# bronze-qos 46
```

21.6 Domain Name Server (DNS) Commands

The following describes the DNS commands.

21.6.1 voip-network dns-to-ip

This command defines the voip-network dns-to-ip table.

Syntax:

```
voip-network dns dns-to-ip <index>  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<index>	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ domain-name▪ first-ip-address▪ second-ip-address▪ third-ip-address▪ fourth-ip-address For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the first IP address.

```
(config-voip)# voip-network dns dns-to-ip 1  
(dns-to-ip-1)# first-ip-address 10.12.3.105
```

21.6.2 voip-network srv2ip

This command defines the voip-network srv2ip table.

Syntax:

```
voip-network dns srv2ip <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<index>	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dns-name-1 ▪ dns-name-2 ▪ dns-name-3 ▪ domain-name ▪ port-1 ▪ port-2 ▪ port-3 ▪ priority-1 ▪ priority-2 ▪ priority-3 ▪ transport-type ▪ weight-1 ▪ weight-2 ▪ weight-3 For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the First IP address.

```
(config-voip)# voip-network dns srv2ip 5
(srv2ip-5)# port-1 10
```

22 Time Division Multiplexing (TDM) Commands

The following describes the TDM commands

22.1 tdm

The following defines how to enter TDM commands.

Syntax:

```
tdm
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<index>	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ bus-type ▪ clock-source ▪ defaults ▪ idle-abcd-pattern. ▪ idle-pcm-pattern ▪ pcm-law-select ▪ pstn-bus-auto-clock ▪ pstn-bus-auto-clock-reverting ▪ tdm-bus-local-reference For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example selects the type of PCM companding law in the input/output TDM bus.

```
(config-voip)# tdm
(tdm)# set pcm-law-select alaw
```

22.2 configure voip tdm

This command enables the tdm set of commands

Syntax:

```
configure voip tdm
```

Command Modes:

Enable

Examples:

The following example enables the tdm set of commands.

```
# configure voip tdm
```


23 Security Commands

The following describes the Security commands

23.1 access-list

This command displays and configures the Network access list table - Internal Firewall.

Syntax:

```
access-list <index>  
<parameter> <value>
```

The command syntax format is described below:

Arguments	Description
<parameter> <value>	<p>Sets the following table parameters:</p> <ul style="list-style-type: none">▪ allow-type▪ byte-burst▪ byte-rate▪ defaults▪ end-port▪ network-interface-name▪ packet-size▪ prefixLen▪ protocol▪ source-ip▪ src-port▪ start-port▪ use-specific-interface <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Command Modes:

Enable

Examples:

The following example sets the byte rate to 10 bytes per second.

```
(config-voip)# access-list 1  
(access-list-1)# byte-rate 10
```

23.2 Intrusion Detection System Commands

23.2.1 security ids policy

This command configures an IDS Policy with a name and description.

Syntax:

```
(config-voip)# security ids policy <index>
(policy-<index>)# name <string> description <string>
```

The command syntax format is described below:

Arguments	Description
Name	Defines a name for the IDS policy.
Description	Defines a description for the IDS policy

Command Modes:

Enable

Related Commands:

- security ids rule
- security ids match
- show voip security ids

Examples:

The following example configures a policy for DoS attacks.

```
(config-voip)# security ids policy 0
(policy-0)# name DoS
(policy-0)# DoS-attacks
```

23.2.2 security ids rule

This command configures rules per IDS policy.

Syntax:

```
(config-voip)# security ids rule <index>/<IDS policy index>
(rule-<index>/<IDS policy index>)# reason threshold-scope
threshold-window minor-alm-thr major-alm-thr critical-alm-thr
deny-thr deny-period
```

The command syntax format is described below:

Arguments	Description
reason	Defines the type of intrusion attack.
threshold-scope	Defines the source of the attacker to consider in the <device>'s detection count.
threshold-window	Defines the threshold interval (in seconds) during which the <device> counts the attacks to check if a threshold is crossed.
minor-alm-thr	Defines the threshold that if crossed a minor severity alarm is sent.
major-alm-thr	Defines the threshold that if crossed a major severity alarm is sent.
critical-alm-thr	Defines the threshold that if crossed a critical severity alarm is sent.
deny-thr	Defines the threshold that if crossed, the <device> blocks (blacklists) the remote host (attacker).
deny-period	Defines the duration (in sec) to keep the attacker on the blacklist.

Command Modes:

Enable

Related Commands:

- security ids policy
- security ids match
- show voip security ids

Examples:

The following example configures an IDS rule where a Critical alarm is raised if at least four authentication failures occur within a window interval of 120 seconds.

```
(config-voip)# security ids rule 0/0
(rule-0/0)# reason auth-failure
(rule-0/0)# threshold-scope global
(rule-0/0)# threshold-window 120
(rule-0/0)# critical-alm-thr 4
```

23.2.3 security ids match

This command assigns IDS policies to entities.

Syntax:

```
(config-voip)# security ids match new
(match-0)# [proxy set|sip-interface|subnet] policy <name>
```

The command syntax format is described below:

Arguments	Description
proxy set	Assigns the IDS policy to a SIP Interface.
sip-interface	Assigns the IDS policy to a Proxy Set.
subnet	Assigns the IDS policy to a specified source subnet (fromw where being attacked).
policy	Assigns the IDS policy.

Command Modes:

Enable

Related Commands:

- security ids policy
- security ids rule
- show voip security ids

Examples:

The following example configures an IDS matching rule which assigns IDS policy "dos-attacks" to Proxy Set ID 2.

```
(config-voip)# security ids match new
(match-0)# proxy set 2
(match-0)# policy dos-attacks
```

24 PSTN Commands

The following describes the PSTN commands

24.1 interface

This command enters a specific PSTN interface (e1-t1 or bri) configuration.

Syntax:

```
interface e1-t1 <slot/port>
interface bri <slot/port>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
slot	Defines the module slot index as shown on the front panel.
port	Defines the port index within the selected module.

Parameter Name	Configuration Parameter Name	Enum Names in CLI
protocol	PSTNTrunkProtocolType	
framing	PSTNFramingMethod	EXTENDED_SUPER_FRAME/0 SUPER_FRAME/1 E1_FRAMING_DDF/a E1_FRAMING_MFF_CRC4/b E1_FRAMING_MFF_CRC4_EX T/c T1_FRAMING_F4/A T1_FRAMING_F12/B T1_FRAMING_ESF/C T1_FRAMING_ESF_CRC6/D T1_FRAMING_F72/E T1_FRAMING_ESF_CRC6_JT/F
line-code	PSTNLineCode	B8ZS/0 AMI/1 HDB3/2
clock-master	PSTNClockMaster	CLOCK_MASTER_OFF/0 CLOCK_MASTER_ON/1
clock-priority	AutoClockTrunkPriority	
cas-channel-index	CasChannelIndex	
cas-delimiters- types	CASDelimitersPaddingUsage	
cas-dial-plan-name	CasTrunkDialPlanName	

Parameter Name	Configuration Parameter Name	Enum Names in CLI
cas-table-index	PSTNCASTableIndex	
isdn-termination-side	ISDNTerminationSide	USER_TERMINATION_SIDE/0 NETWORK_TERMINATION_SIDE/1
isdn-bits-cc-behavior	PSTNISDNGeneralCCBehavior	
isdn-bits-incoming-calls-behavior	PSTNISDNInCallsBehaviour	
isdn-bits-outgoing-calls-behavior	PSTNISDNOutCallsBehaviour	
isdn-bits-ns-behavior	PSTNISDNI_behaviour	
isdn-bits-ns-extension-behavior	ISDNNSBehaviour2	
isdn-nfas-dchannel-type	PSTNDChConfig	DCH_CONFIG_PRIMARY/0 DCH_CONFIG_BACKUP/1 DCH_CONFIG_NFAS/2
isdn-nfas-group-number	PSTNTrunkConfigNfasGroupNumber	
isdn-nfas-interface-id	PSTNISDNNfasInterfaceId	
isdn-layer2-mode	BriLayer2Mode	BRI_L2_MODE_P2P/0 BRI_L2_MODE_P2MP/1
line-build-out-loss	PSTNLineBuildOutLOSS	0DB/0 -7.5DB/1 -15DB/2 -22.5DB/3
line-build-out-overwrite	PSTNLineBuildOutOVERWRITE	NO_OVER_WRITE/0 OVER_WRITE/1
line-build-out-xpm0	PSTNLineBuildOutXPM0	
line-build-out-xpm1	PSTNLineBuildOutXPM1	
line-build-out-xpm2	PSTNLineBuildOutXPM2	

Command Modes:

Enable

Notes:

In order to change a PSTN interface configuration, do the following:

- Enter the interface configuration (e.g. interface e1-t1 0/0)
- Set the configuration parameters (e.g. set protocol 1)
- Activate the configuration. This can be done in two ways:
 - Using the activate command
 - Exit the interface configuration

Examples:

The following example enters a specific PSTN interface e1-t1 and bri.

```
# configure voip
(config-voip)# interface e1-t1 0/0
(config-voip)# interface bri 1/2
```

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25 Media Commands

The following describes the Media commands.

25.1 Voice Commands

The following defines how to configure Voice settings.

25.1.1 media voice-processing

This command enables the media voice-processing parameters.

Syntax:

```
media voice-processing <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ AGC-disable-fast-adaptation ▪ AGC-enable ▪ AGC-gain-slope ▪ AGC-max-gain ▪ AGC-min-gain ▪ AGC-redirection ▪ AGC-target-energy ▪ defaults ▪ echo-canceller-NLP-mode ▪ echo-canceller-aggressive-NLP ▪ echo-canceller-enable ▪ echo-canceller-freeze ▪ echo-canceller-hybrid-loss ▪ high-pass-filter-enable ▪ idle-pcm-pattern ▪ input-gain ▪ jitter-buffer-minimum-delay ▪ jitter-buffer-optimization-factor ▪ max-echo-canceller-length ▪ silence-compression-mode ▪ voice-volume For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example activates the AGC (Automatic Gain Control).

```
(config-voip)# media voice-processing 1  
(media-voice-processing)# AGC-enable on
```

25.1.2 media voice-processing codecs

This command enables the media voice-processing codecs parameters.

Syntax:

```
media voice-processing codecs <index>  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameter: <ul style="list-style-type: none">▪ G726-voice-payload-format For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the G.726 voice payload format to "regular".

```
(config-voip)# media voice-processing codecs  
(media-voice-processing-codecs)# G726-voice-payload-format regular
```

25.2 Fax/Modem/CID Commands

The following defines how to configure Fax/Modem.

25.2.1 media fax-modem

This command configures media fax-modem parameters.

Syntax:

```
# media fax-modem
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ CNG-detector-mode ▪ TTY-transport-type ▪ V21-modem-transport-type ▪ V22-modem-transport-type ▪ V23-modem-transport-type ▪ V32-modem-transport-type ▪ V34-fax-transport-type ▪ V34-modem-transport-type ▪ bell-modem-transport-type ▪ defaults ▪ enable-fax-modem-inband-network-detection ▪ fax-cng-mode ▪ fax-modem-telephony-events-mode ▪ fax-transport-mode ▪ fax-vbd-behvr For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example determines the fax CNG tone detector mode.

```
(config-voip)# media fax-modem
(media-fax-modem-T38)# CNG-detector-mode T38-relay
```

25.2.2 media fax-modem t38

This command configures media fax-modem t38 parameters.

Syntax:

```
# media fax-modem t38
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ ECM-mode▪ defaults▪ enhanced-redundancy-depth▪ max-rate▪ redundancy-depth▪ version▪ volume For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables ECM (Error Correction Mode) during T.38 Fax Relay

```
(config-voip)# media fax-modem t38
(media-fax-modem)# ECM-mode on
```

25.2.3 media fax-modem V1501

This command configures the V1501 configuration.

Syntax:

```
# media fax-modem V1501
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ SPRT-transport-channel0-max-payload-size ▪ SPRT-transport-channel2-max-payload-size ▪ SPRT-transport-channel2-max-window-size ▪ SPRT-transport-channel3-max-payload-size ▪ SSE-redundancy-depth ▪ defaults For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the V.150.1 SPRT transport Channel 0 maximum payload size to 140.

```
(config-voip)# media fax-modem V1501
(media-fax-modem-V1501)# SPRT-transport-channel0-max-payload-size
140
```

25.2.4 media fax-modem bypass

This command configures the bypass configuration.

Syntax:

```
# media fax-modem bypass
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ NSE-mode▪ basic-packet-interval▪ coder▪ defaults▪ fax-bypass-output-gain▪ jitter-buffer-minimum-delay▪ modem-bypass-output-gain▪ packing-factor For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Fax/Modem bypass coder.

```
(config-voip)# media fax-modem bypass
(media-fax-modem-bypass)# coder G711-alaw
```

25.3 RTP/RTCP Commands

The following defines how to configure RTP/RTCP settings.

25.3.1 media RTP-RTCP

This command configures the RTP/RTCP configuration.

Syntax:

```
media RTP-RTCP
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ CAS-transport-type ▪ RTP-redundancy-depth ▪ broken-connection-event-activation-mode ▪ broken-connection-event-timeout ▪ connection-establishment-notification-mode ▪ defaults ▪ disable-NAT-traversal ▪ disable-RTCP-randomization ▪ no-operation-enable ▪ no-operation-interval ▪ number-of-SID-coefficients For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the ABCD signaling transport type over IP.

```
(config-voip)# media RTP-RTCP
(media-RTP-RTCP)# CAS-transport-type events-only
```


25.3.2 media RTP-payload-types

This command sets the RTP default payload types.

Syntax:

```
media RTP-payload-types  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ NSE-payload-type▪ RTP-redundancy-payload-type▪ defaults▪ fax-bypass-payload-type▪ modem-bypass-payload-type▪ no-operation-payload-type▪ telephony-events-payload-type-rx▪ telephony-events-payload-type-tx For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the transmitted No Operation packets RTP Payload type.

```
(config-voip)# media RTP-payload-types  
(media-RTP-payload-types)# no-operation-payload-type 96
```

25.4 IP Media Commands

The following describes the DNS commands

25.4.1 ip-media ip-media-settings

This command defines IP Media / IP-Media-Settings mode.

Syntax:

```
ip-media ip-media-settings <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ anncmnt-id ▪ beep-on-conf ▪ com-noise-gen-nego ▪ conf-dtmf-clamping ▪ conf-dtmf-reporting ▪ conf-id ▪ defaults ▪ enable-vxml ▪ monitor-id ▪ mscml-id ▪ netann-annc-id ▪ play-from-id ▪ record-to-id ▪ transcoding-id ▪ tone-id For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines IP Media / IP-Media-Settings mode.

```
(config-voip)# ip-media ip-media-settings
(sip-ip-media-setting)# beep-on-conf on
```

25.4.2 media IPM-detectors

This command configures the IP Media detectors configuration.

Syntax:

```
media IPM-detectors  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ IPM-detectors-enable▪ answer-detector-activity-delay▪ answer-detector-enable▪ answer-detector-redirection▪ answer-detector-sensitivity▪ answer-detector-silence-time▪ defaults▪ energy-detector-enable▪ energy-detector-redirection▪ energy-detector-sensitivity▪ energy-detector-threshold For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the DSP IP Media Detectors.

```
(config-voip)# media IPM-detectors  
(media-IPM-detectors)# IPM-detectors-enable enable
```

25.5 Media Realm Commands

The following defines how to configure Media Realm settings.

25.5.1 media realm

This command sets the Media Realm parameters.

Syntax:

```
media realm <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ ipv4if ▪ ipv6if ▪ is-default ▪ media-realm-transrate-ratio ▪ name ▪ port-range-end ▪ port-range-start ▪ session-leg For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the number of media sessions associated with the range of ports.

```
(config-voip)# media realm 1
(realms-1)# set session-leg 10
```

25.6 General Media Commands

The following describes the General Media commands.

25.6.1 media general

This command sets general media capabilities.

Syntax:

```
media general  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ DSP-version-template-number▪ defaults▪ media-channels For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the DSP IP Media Detectors.

```
(config-voip)# media general  
(media-IPM-detectors)# IPM-detectors-enable enable
```

25.7 Media Security Commands

The following describes the Media Security commands

25.7.1 media security

This command sets the Media Security parameters.

Syntax:

```
media security <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ aria-protocol-support ▪ rtcp-encryption-disable-tx ▪ rtp-authentication-disable-tx ▪ rtp-encryption-disable-tx ▪ srtp-tx-packet-mki-size ▪ defaults ▪ inbound-media-latch-mode ▪ media-sec-bhvor ▪ media-security-enable ▪ offer-srtp-cipher ▪ symmetric-mki For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the Media Security protocol (SRTP).

```
(config-voip)# media security
(media-security)# media-security-enable on
```

26 QoE Commands

The following defines how to configure Quality of Experience (QoE) settings.

26.1 media qoe

This command sets (QoE) media parameters.

Syntax:

```
media qoe  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ voice-quality-monitoring-enable For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the **voice-quality-monitoring-enable** parameter.

```
(config-voip)# media qoe  
(media-QoE)# voice-quality-monitoring-enable full
```

26.2 media bw-management

This command defines bandwidth utilization threshold profiles.

Syntax:

```
media bw-management <index | realm index | display>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
realm index	Defines the realm index.
display	Displays the configuration.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example displays bandwidth utilization threshold profiles.

```
(config-voip)# media bw-management display
```


26.3 media qoe-rules

This command defines the threshold of QoE parameters.

Syntax:

```
media qoe-rules <index | realm index | display>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
realm index	Defines the realm index.
display	Displays the configuration.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example displays the configuration.

```
(config-voip)# media qoe-rules display
```

26.4 qoe media-enhancement

This command defines a Media Enhancement profile, which assigns a specific action if a color-coded threshold is crossed (green to yellow, and yellow to red).

Syntax:

```
qoe media-enhancement <index | display | new>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the index. The range is 0-100.
display	Displays the configuration.
new	Adds a new line in the first available index.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines a Media Enhancement profile.

```
(config-voip)# qoe media-enhancement display
```

26.5 qoe media-enhancement-rules

This command defines action rules for the Media Enhancement profile.

Syntax:

```
qoe media-enhancement-rules <index | media-enhancement index |  
display>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the index. The range is [0-100] / [0-101]
media-enhancement index	Defines the media-enhancement configuration. The range is [0-100].
display	Displays the configuration.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines action rules for the Media Enhancement profile.

```
(config-voip)# qoe media-enhancement-rules 1/10
```

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27 Applications Enabling Commands

The commands below enable the following applications:

- Cloud Resilience Package (CRP)
- Session Border Control (SBC)

27.1 appli-enabling

The following command enables SBC.

Syntax:

```
appli-enabling
```

Command Modes:

Enable

Examples:

The following example enables SBC.

```
(config-voip)# appli-enabling
```

27.2 enable-crp

The following command enables the CRP application.

Syntax:

```
enable-crp on | off
```

The command's syntax format is described below:

Arguments	Description
on	Enables the CRP application.
off	Disables the CRP application.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the CRP application.

```
(config-voip)# appli-enabling
(sip-application-enabling)# enable-crp on
```

27.3 enable-sbc

The following command enables the SBC application.

Syntax:

```
enable-sbc on | off
```

The command's syntax format is described below:

Arguments	Description
on	Enables the SBC application.
off	Disables the SBC application.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the SBC application.

```
(config-voip)# appli-enabling  
(sip-application-enabling)# enable-sbc on
```

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28 VoIP Network Commands

These commands define the SIP VoIP network.

28.1 voip-network realm

This command sets the SIP VoIP network parameters.

Syntax:

```
voip-network realm <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ ipv4if ▪ ipv6if ▪ is-default ▪ media-realm-transrate-ratio ▪ name ▪ port-range-end ▪ port-range-start ▪ session-leg For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Note:

This command is applicable to Mediant 500, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant SW.

Command Modes:

Enable

Examples:

The following example sets the number of media sessions associated with the range of ports.

```
(config-voip)# voip-network realm 1
(realms-1)# session-leg 10
```

28.2 voip-network srd

This command defines the SRD table.

Syntax:

```
voip-network srd <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ block-un-reg-users ▪ defaults ▪ enable-un-auth-registrs ▪ intra-srd-media-anchoring ▪ max-reg-users ▪ media-realm-name ▪ name For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Maximum Registered Users number to 500.

```
(config-voip)# voip-network srd 1
(srd-1)# max-reg-users 500
```

28.3 voip-network srd clone

This command provides support for cloning (duplicating) an existing SRD. This is especially useful when operating in a multi-tenant environment and new tenants (SRDs) need to be added. The new tenants can quickly and easily be created by simply cloning one of the existing SRDs.

Syntax:

```
voip-network srd clone <SRD index>
```

The command's syntax format is described below:

Arguments	Description
SRD index	Defines the table row index in the SRD table.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example selects SRD 0 to clone.

```
(config-voip)# voip-network srd clone 0
Clone line 0 succeeded
Please update cloned SIPInterfaces and ProxySets
```

28.4 voip-network sip-interface

This command defines the SIP Interface table.

Syntax:

```
voip-network sip-interface <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ application-type ▪ defaults ▪ interface-name ▪ message-policy ▪ network-interface ▪ srd ▪ tcp-port ▪ tls-mutual-auth ▪ tls-port ▪ udp-port For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Note:

- The network interface should be taken from: *interface network-if (name)*
- This command is applicable to Mediant 500, Mediant 8xx, Mediant 1000B, Mediant 2600, Mediant 4000, and Mediant SW.

Command Modes:

Enable

Examples:

The following example sets the SRD to 1.

```
(config-voip)# voip-network sip-interface 1
(sip-interface-1)# srd 1
```

28.5 voip-network ip-group

This command defines the ip-group table.

Syntax:

```
voip-network ip-group <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ always-use-route-table ▪ always-use-source-addr ▪ authentication-method-list ▪ authentication-mode ▪ bandwidth-profile ▪ classify-by-proxy-set ▪ contact-user ▪ defaults ▪ description ▪ dst-uri-input ▪ enable-sbc-client-forking ▪ enable-survivability ▪ inbound-mesg-manipulation-set ▪ ip-profile-id ▪ local-host-name ▪ max-num-of-reg-users ▪ media-enhancement-profile ▪ media-realm-name ▪ outbound-mesg-manipulation-set ▪ password ▪ proxy-set-id ▪ qoe-profile ▪ re-routing-mode ▪ registration-mode ▪ routing-mode ▪ serving-ip-group-id ▪ sip-group-name ▪ src-uri-input ▪ srd ▪ type ▪ username ▪ uui-format For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the ip-group table.

```
(config-voip)# voip-network ip-group 1
(ip-group-1)# contact-user john_brown
```

28.6 voip-network proxy-ip

This command defines the proxy-ip table.

Syntax:

```
voip-network proxy-ip <index>  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ proxy-address▪ proxy-set-id▪ transport-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the IP address in the proxy-ip table.

```
(config-voip)# voip-network proxy-ip 5  
(proxy-ip-5)# proxy-address 1.5.20.103
```

28.7 voip-network proxy-set

This command defines the proxy-set table.

Syntax:

```
voip-network proxy-set <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ classification-input ▪ defaults ▪ dns-resolve-method ▪ is-proxy-hot-swap ▪ proxy-enable-keep-alive ▪ proxy-keep-alive-time ▪ proxy-load-balancing-method ▪ proxy-name ▪ proxy-redundancy-mode ▪ srd-id For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Classification Input to "ip-only".

```
(config-voip)# voip-network proxy-set 1
(proxy-set-1)# classification-input ip-only
```


28.8 voip-network NATTranslation

This command sets the NAT Translation table.

Syntax:

```
voip-network NATTranslation <index>  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ SourceInterfaceName▪ TargetIPAddress▪ SourceStartPort▪ SourceEndPort▪ TargetStartPort▪ TargetEndPort▪ TargetIPAddress For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

This example configures a NAT rule to translate IP address 10.13.4.70 to the public IP 100.222.4.5:

```
(config-voip)# voip-network NATTranslation 0  
(NATTranslation-0)# SourceInterfaceName VOIP  
(NATTranslation-0)# TargetIPAddress 10.13.4.70
```

28.9 always-use-source-address

This command enables the device to always send SIP requests and responses to the source IP address received in the previous SIP message.

Syntax:

```
always-use-source-address [yes | no]
```

Defaults:

NA

Command Modes:

Enable

Examples:

This example enables the device to always send SIP requests and responses to the source IP address.

```
(config-voip)# voip-network ip-group new  
(ip-group-0)# always-use-source-addr yes
```

28.9.1 account setting

This command defines the SIP Definitions account settings.

Syntax:

```
sip-definition account-setting  
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ set aaa-indications▪ accounting-port▪ accounting-server-ip▪ defaults▪ enable▪ radius-accounting For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the username in the Account table.

```
(config-voip)# sip-definition account-setting  
(sip-def-account-setting)# set enable on
```

28.9.2 advanced settings

This command defines advanced SIP settings.

Syntax:

```

sip-definition advanced-settings

```

```

set <parameter> <value>

```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ set 1st-call-rbt-id ▪ FarEndDisconnectSilenceMethod ▪ FarEndDisconnectSilencePeriod ▪ amd-beep-detection ▪ broken-connection-event-timeout ▪ busy-out ▪ call-pickup-key ▪ call-transfer-using-reinvites ▪ calls-cut-through ▪ cdr-report-level ▪ cdr-srvr-ip-adrr ▪ current-disc ▪ debug-level ▪ defaults ▪ delay-after-reset ▪ delay-b4-did-wink ▪ delayed-offer ▪ dflt-release-cse ▪ did-wink-enbl ▪ digit-delivery-2ip ▪ digit-delivery-2tel ▪ digit-pttrn-on-conn ▪ disc-broken-conn ▪ disc-on-silence-det ▪ e911-callback-timeout ▪ e911-gateway ▪ emerg-calls-regrt-t-out ▪ enum-resolution ▪ fax-re-routing ▪ filter-calls-to-ip ▪ graceful-bsy-out-t-out ▪ ip-security ▪ ip-to-ip-transfer-mode ▪ ldap-primary-key ▪ ldap-private-nm-attr ▪ ldap-secondary-key ▪ max-nb-of-act-calls ▪ media-cdr-rprt-level

Arguments	Description
	<ul style="list-style-type: none">▪ microsoft-ext▪ mx-call-duration▪ network-isdn-xfer▪ oos-behavior▪ polarity-rvrsl▪ prog-ind-2ip▪ pstn-alert-timeout▪ qos-statistics-in-release-msg▪ reanswer-time▪ reliable-conn-persistent▪ rep-calling-w-redir▪ replace-nb-sign-w-esc▪ single-dsp-transcoding▪ src-hdr-4-called-nb▪ t38-fax-mx-buff▪ tel-to-ip-call-forking-mode▪ user-inf-usage▪ x-channel-header <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the usage of the User Info file.

```
(config-voip)# sip-definition advanced-settings  
(sip-def-adv-setting)# set user-inf-usage on
```

28.9.3 general settings

This command defines the SIP Definitions general settings.

Syntax:

```

sip-definition general-settings
set <parameter> <value>
    
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ 183-msg-behavior ▪ 3xx-behavior ▪ ShouldRegister ▪ anonymous-mode ▪ app-sip-transport-type ▪ asserted-identity-m ▪ ch-select-mode ▪ comfort-tone ▪ contact-restriction ▪ defaults ▪ det-fax-on-ans-tone ▪ disp-name-as-src-nb ▪ early-media ▪ enable-gruu ▪ enable-sips ▪ fax-sig-method ▪ forking-handling ▪ hist-info-hdr ▪ min-session-expires ▪ mult-ptime-format ▪ nat-ip-addr ▪ np-n-type-to-rpi-hdr ▪ p-associated-uri-hdr ▪ p-charging-vector ▪ phone-in-from-hdr ▪ play-busy-tone-2tel ▪ play-rbt-2ip ▪ play-rbt2tel ▪ prack-mode ▪ reason-header ▪ remote-party-id ▪ rtp-only-mode ▪ sdp-session-owner ▪ semi-att-transfer ▪ session-exp-method ▪ session-expires-time ▪ sip-dst-port ▪ sip-max-rtx

Arguments	Description
	<ul style="list-style-type: none">▪ sip-tcp-local-port▪ sip-tls-local-port▪ sip-udp-local-port▪ src-nb-as-disp-name▪ src-nb-preference▪ t1-re-tx-time▪ t2-re-tx-time▪ tcp-conn-reuse▪ tcp-timeout▪ tel2ip-no-ans-timeout▪ uri-for-assert-id▪ use-tgrp-inf▪ user-agent-info▪ user=phone-in-url▪ usr-def-subject▪ voicemail-uri <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example disables the 'user=phone-in-url' parameter.

```
(config-voip)# sip-definition general-setting  
(sip-def-gnrl-setting)# set user=phone-in-url disable
```

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29 Configuring In-band Signaling Commands

The following defines how to configure In-band Signaling settings.

29.1 media in-band-signaling

This command configures the media in-band-signaling table.

Syntax:

```
media in-band-signaling
<parameter>      <value>
```

The command syntax format is described below:

Arguments	Description
parameter value	<p>Sets the following table parameters:</p> <ul style="list-style-type: none"> ▪ COT-detector-enable ▪ CPT-detector-frequency-deviation ▪ DTMF-detector-enable ▪ DTMF-generation-twist ▪ DTMF-transport-type ▪ DTMF-volume ▪ IBS-detection-redirection ▪ MF-transport-type ▪ MFR1-detector-enable ▪ MFR2-backward-detector-enable ▪ MFR2-forward-detector-enable ▪ NTT-DID-signaling-form ▪ SIT-detector-enable ▪ UDT-detector-frequency-deviation ▪ call-progress-detector-enable ▪ caller-ID-transport-type ▪ caller-ID-type ▪ defaults ▪ digit-hangover-time-rx ▪ digit-hangover-time-tx ▪ telephony-events-max-duration ▪ user-defined-tones-detector-enable <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Command Modes:

Enable

Examples:

The following example enables COT (Continuity Tones) detection and generation.

```
(config-voip)# media in-band-signaling
```

```
(media-in-band-signaling)# COT-detector-enable on
```

29.2 Advanced Parameter Commands

The following describes the commands configuring advanced SIP features.

29.2.1 advanced settings

This command defines advanced SIP settings.

Syntax:

```
sip-definition advanced-settings
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ 1st-call-rbt-id ▪ 3xx-use-alt-route ▪ amd-beep-detection ▪ broken-connection-event-timeout ▪ busy-out ▪ call-pickup-key ▪ call-transfer-using-reinvites ▪ calls-cut-through ▪ cdr-report-level ▪ cdr-srvr-ip-adrr ▪ current-disc ▪ debug-level ▪ defaults ▪ delay-after-reset ▪ delay-b4-did-wink ▪ delayed-offer ▪ dflt-release-cse ▪ did-wink-enbl ▪ digit-delivery-2ip ▪ digit-delivery-2tel ▪ digit-pttrn-on-conn ▪ disc-broken-conn ▪ disc-on-silence-det ▪ e911-callback-timeout ▪ e911-gateway ▪ emerg-calls-regrt-t-out ▪ enum-resolution ▪ farenddisconnectsilencemethod ▪ farenddisconnectsilenceperiod ▪ fax-re-routing ▪ filter-calls-to-ip ▪ forking-delay-time-invite

Arguments	Description
	<ul style="list-style-type: none"> ▪ graceful-busy-out-t-out ▪ ip-security ▪ ip-to-ip-transfer-mode ▪ ldap-primary-key ▪ ldap-private-nm-attr ▪ ldap-secondary-key ▪ max-nb-of-act-calls ▪ media-cdr-rprt-level ▪ microsoft-ext ▪ mx-call-duration ▪ network-isdn-xfer ▪ oos-behavior ▪ polarity-rvrsl ▪ prog-ind-2ip ▪ pstn-alert-timeout ▪ qos-statistics-in-release-msg ▪ reanswer-time ▪ reliable-conn-persistent ▪ rep-calling-w-redir ▪ replace-nb-sign-w-esc ▪ single-dsp-transcoding ▪ sip-nat-detect ▪ src-hdr-4-called-nb ▪ t38-fax-mx-buff ▪ tel-to-ip-call-forking-mode ▪ user-inf-usage ▪ x-channel-header <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the usage of the User Info file.

```
(config-voip)# sip-definition advanced-settings
(sip-def-adv-setting)# user-inf-usage on
```

29.2.2 enbl-non-inv-408

This command enables not sending a SIP 408 (Request Timeout) in response to non-INVITE requests, to comply with RFC 4320/4321. By default and in certain circumstances such as a timeout expiry, the device sends a SIP 408 Request Timeout in response to non-INVITE requests (e.g., REGISTER).

Syntax:

```
enbl-non-inv-408 [on | off]
```

Command Modes:

Enable

Examples:

The following example enables not sending a SIP 408 (Request Timeout) in response to non-INVITE requests.

```
(config-voip)# sip-definition advanced-settings  
(sip-def-adv-setting)# enbl-non-inv-408 on
```

29.2.3 net-node-id

This command defines the network Node Identifier of the device.

Syntax:

```
net-node-id value
```

The command's syntax format is described below:

Arguments	Description
value	Defines the Network Node Identifier of the device. The range is 0 – 32767. [0] - Disable, don't create User UI header.

Notes:

- The default value is 0.
- To use this feature, you must set this parameter to any value other than 0.

Command Modes:

Enable

Examples:

The following example defines the network Node Identifier as 10.

```
(config-voip)# sip-definition advanced-settings
(sip-def-adv-setting)# net-node-id 10
```

29.3 Account Table Commands

The following describes the Account Table commands.

29.3.1 account

This command defines the Account table.

Syntax:

```
# sip-definition account <index>
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ application-type ▪ contact-user ▪ defaults ▪ host-name ▪ password ▪ register ▪ served-ip-group ▪ served-trunk-group ▪ serving-ip-group ▪ user-name For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the username in the Account table.

```
(config-voip)# sip-definition account 1
(account-1)# user-name jsmith
```

29.3.2 account setting

This command defines the SIP Definitions account settings.

Syntax:

```

sip-definition account-setting
<parameter> <value>
  
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ aaa-indications ▪ accounting-port ▪ accounting-server-ip ▪ defaults ▪ enable ▪ radius-accounting For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the username in the Account table.

```

(config-voip)# sip-definition account-setting
(sip-def-account-setting)# enable on
  
```


29.4 SIP Proxy and Registration Commands

The following describes the SIP Proxy and Registration commands.

29.4.1 proxy and registration

This command defines proxy and registration settings.

Syntax:

```
sip-definition proxy-and-registration
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ always-use-proxy ▪ authentication-mode ▪ challenge-caching ▪ cnonce-4-auth ▪ defaults ▪ dns-query ▪ enable-proxy ▪ enable-registration ▪ fallback-to-routing ▪ gw-name ▪ gw-registration-name ▪ ip-addr-rgstr ▪ mutual-authentication ▪ nb-of-rtx-b4-hot-swap ▪ password-4-auth ▪ prefer-routing-table ▪ proxy-dns-query ▪ proxy-ip-lst-rfrsh-time ▪ proxy-name ▪ re-registration-timing ▪ redundancy-mode ▪ redundant-routing-m ▪ reg-on-conn-failure ▪ reg-on-invite-fail ▪ registrar-name ▪ registrar-transport ▪ registration-retry-time ▪ registration-time ▪ registration-time-thres ▪ rte-tbl-4-host-names ▪ set-oos-on-reg-failure ▪ sip-rerouting-mode

Arguments	Description
	<ul style="list-style-type: none"> ▪ subscription-mode ▪ use-gw-name-for-opt ▪ user-name-4-auth <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the gateway name to 'gateway1'.

```
(config-voip)# sip-definition proxy-and-registration
(sip-def-proxy-and-reg)# gw-name gateway1
```

29.5 Message Policy and Manipulation Commands

The following describes the Message Policy and Manipulation commands

29.5.1 sbc message-policy

This command defines the sbc message policy table.

Syntax:

```
sbc message-policy <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ body-list ▪ body-list-type ▪ defaults ▪ max-body-length ▪ max-header-length ▪ max-message-length ▪ max-num-bodies ▪ max-num-headers ▪ method-list ▪ method-list-type ▪ send-rejection For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the maximum header length to 100.

```
(config-voip)# sbc message-policy 1
(message-policy-1)# max-header-length 100
```

29.5.2 manipulations message-manipulations

This command defines the message manipulations table.

Syntax:

```
sbc manipulations message-manipulations <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ action-subject ▪ action-type ▪ action-value ▪ condition ▪ defaults ▪ manipulation-set-id ▪ message-type ▪ row-role For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Action Type to 'remove-prefix'.

```
(config-voip)# sbc manipulations message-manipulations 2
(message-manipulations-2)# action-type remove-prefix
```

29.6 Configuring User Information / Registration Database Commands

The following command provides support for configuring the User Information / Registration database. This database is used for the following applications:

- **Gateway Application:** Maps PBX extensions connected to the device to "global" IP numbers, and registers each PBX user to an external registrar server.
- **SBC Application:**
 - Registers to an external registrar server on behalf of a specific user
 - Authenticates (for any SIP request and as a client) on behalf of a specific user if challenged by an external server
 - Authenticates (as a server) incoming user requests

29.6.1 user-info

This command configures user information / registration database.

Syntax:

```
user-info <gw-user-info> <sbcs-user-info>
```

The command's syntax format is described below:

Arguments	Parameter Name	Description
gw-user-info	Sets the following table parameters:	
	▪ pbx-ext	Defines the PBX extension (e.g., 405).
	▪ global-phone-num	Defines the Global phone number (e.g., 405).
	▪ display-name	Defines the Display name (e.g., Ext405).
	▪ username	Defines the Username (e.g., user405)
	▪ password	Defines the Password (hidden for security)
	▪ status	Defines the Registration status ("registered" or "not-registered")
For a description of these parameters, refer to the <i>User's Manual</i> .		

Arguments	Parameter Name	Description
sbc-user-info	Sets the following table parameters:	
	▪ local-user	Identifies the user and is used as the URI user part for the AOR in the database.
	▪ ip-group-id	IP Group ID to which the user belongs and is used as the URI source host part for the AOR in the database.
	▪ username	Defines the Authentication username (e.g., user405).
	▪ password	Defines the Authentication password (hidden for security).
	▪ status	Defines the Registration status ("registered" or "not-registered").
For a description of these parameters, refer to the <i>User's Manual</i> .		

Defaults:

NA

Command Modes:

Enable

Examples:

The path to these tables is as follows:

```
# configure voip
(config-voip)# sip-definition proxy-and-registration
(sip-def-proxy-and-reg)# user-info <gw-user-info | sbc-user-info>
```

The following commands can be used:

- To view all database entries, use the **display** command, as shown in the example below:

```
(sip-def-proxy-and-reg)# user-info gw-user-info display
---- gw-user-info-0 ----
  pbx-ext (405)
  global-phone-num (405)
  display-name (Ext405)
  username (user405)
  password (0aGzoKfh5uI=)
  status (not-resgistered)
---- gw-user-info-1 ----
  pbx-ext (406)
  global-phone-num (406)
  display-name (Ext406)
  username (user406)
```

```
password (0KCwoaDg5eA=)
status (not-resgistered)
```

- To view a specific entry, enter the database record entry number and **display** command:

```
(sip-def-proxy-and-reg)# user-info gw-user-info 1
(gw-user-info-1)# display
pbx-ext (406)
global-phone-num (406)
display-name (Ext406)
username (user406)
password (0KCwoaDg5eA=)
status (not-resgistered)
```

- To add and/or define a user, use the **set** command, as shown in the example below:

```
(sip-def-proxy-and-reg)# user-info gw-user-info 1
(gw-user-info-1)# username user406b
```

- To apply your changes, you must enter the **exit** or **activate** command per user addition or modification (not per parameter)

```
(gw-user-info-1)# <activate | exit>
```

- To search a user (by pbx-ext for Gateway or by local-user for SBC), use the **find** command, as shown in the example below:

```
sip-def-proxy-and-reg)# user-info find <PBX-EXT e.g., 300 |
Local-User, e.g., JohnDoe>
300: Found at index 3 in GW user info table, not registered
```

The search locates the table index belonging to the searched user.

- To delete a user, use the **no** command, as shown in the example below:

```
(sip-def-proxy-and-reg)# no user-info gw-user-info <database
index entry, e.g., 1>
```



Note: If you load a User Info file to the device, all previous database entries are removed and replaced with the users in the loaded User Info file.

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30 Coders and Profiles Commands

The following describes the Coders and Profiles commands.

30.1 coders-and-profiles coders-group

This command defines the Coders Group table.

Syntax:

```
coders-and-profiles coders-group-<0-10> <index>  
<parameter>      <value>
```

The command syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ name▪ p-time▪ payload-type▪ rate▪ silence-suppression For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines the Coders Group 0 table and sets the name.

```
(config-voip)# coders-and-profiles coders-group-0 1  
(coders-group-0-1)# name C_group_1
```

30.2 coders-and-profiles ip-profile

This command defines the IP Profile table.

Syntax:

```
coders-and-profiles ip-profile <index>
<parameter>      <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ amd-max-greeting-time ▪ amd-max-post-silence-greeting-time ▪ amd-sensitivity-level ▪ amd-sensitivity-parameter-suit ▪ add-ie-in-setup ▪ cng-mode ▪ call-limit ▪ coders-group-id ▪ copy-dst-to-redirect-number ▪ disconnect-on-broken-connection ▪ early-media ▪ echo-canceller ▪ enable-early-183 ▪ enable-hold ▪ enable-qsig-tunneling ▪ enable-symmetric-mki ▪ fax-sig-method ▪ first-tx-dtmf-option ▪ generate-srtp-keys ▪ input-gain ▪ ip-preference ▪ is-dtmf-used ▪ jitter-buffer-minimum-delay ▪ jitter-buffer-optimization-factor ▪ media-ip-version-preference ▪ media-security-behavior ▪ mki-size ▪ nse-mode ▪ play-rbt-to-ip ▪ play-held-tone ▪ profile-name ▪ prog-ind-to-ip ▪ reliable-heldtone-source ▪ remote-base-udp-port ▪ remote-hold-format ▪ rtp-redundancy-depth ▪ rtp-ip-diffserv ▪ rx-dtmf-option

Arguments	Description
	<ul style="list-style-type: none"> ▪ sbc-2833dtmf-payload ▪ sbc-allowed-coders-group-id ▪ sbc-allowed-coders-mode ▪ sbc-allowed-media-types ▪ sbc-allowed-video-coders-group-id ▪ sbc-alternative-dtmf-method ▪ sbc-assert-identity ▪ sbc-diversion-mode ▪ sbc-enforce-mki-size ▪ sbc-ext-coders-group-id ▪ sbc-fax-coders-group-id ▪ sbc-fax-answer-mode ▪ sbc-fax-behavior ▪ sbc-fax-offer-mode ▪ sbc-history-info-mode ▪ sbc-media-security-behavior ▪ sbc-jitter-compensation ▪ sbc-play-rbt-to-transferee ▪ sbc-prack-mode ▪ sbc-preferred-ptime ▪ sbc-rfc2833-behavior ▪ sbc-rmt-3xx-behavior ▪ sbc-rmt-can-play-ringback ▪ sbc-rmt-delayed-offer ▪ sbc-rmt-early-media-resp ▪ sbc-rmt-early-media-rtp ▪ sbc-rmt-early-media-supp ▪ sbc-rmt-multiple-18x-supp ▪ sbc-rmt-renegotiate-on-fax-detect ▪ sbc-rmt-refer-behavior ▪ sbc-rmt-replaces-behavior ▪ sbc-rmt-re-invite-supp ▪ sbc-rmt-rfc3960-supp ▪ sbc-rmt-ringback-src-rel ▪ sbc-rmt-update-supp ▪ sbc-rtcp-mode ▪ sbc-rtp-red-behav ▪ sbc-sdp-ptime-ans ▪ sbc-session-expires-mode ▪ sbc-use-silence-supp ▪ sce ▪ second-tx-dtmf-option ▪ signaling-diffserv ▪ transcoding-mode ▪ voice-volume ▪ vxx-transport-type ▪ defaults <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:NA

Command Modes:Enable

Examples:

The following example defines enables the echo canceller.

```
(config-voip)# coders-and-profiles ip-profile 1  
(ip-profile-1)# echo-canceller enable
```

30.3 coders-and-profiles tel-profile

This command defines the Tel Profile table.

Syntax:

```
coders-and-profiles tel-profile <index>
<parameter>      <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	<p>Sets the following table parameters:</p> <ul style="list-style-type: none"> ▪ call-priority-mode ▪ coders-group-id ▪ current-disconnect ▪ defaults ▪ dial-plan-index ▪ digit-delivery ▪ digital-cut-through ▪ disconnect-on-busy-tone ▪ dtmf-volume ▪ early-media ▪ echo-canceller ▪ echo-canceller-nlp-mode ▪ enable-911-psap ▪ enable-agc ▪ enable-did-wink ▪ enable-voice-mail-delay ▪ fax-sig-method ▪ flash-hook-period ▪ fxo-double-answer ▪ input-gain ▪ IsFaxUsed ▪ is-two-stage-dial ▪ jitter-buffer-minimum-delay ▪ jitter-buffer-optimization-factor ▪ mwi-analog-lamp ▪ mwi-display ▪ polarity-rvrsl ▪ profile-name ▪ prog-ind-to-ip ▪ rtp-ip-diffserv ▪ signaling-diffserv ▪ swap-teltoip-phone-numbers ▪ tel-preference ▪ time-for-reorder-tone ▪ voice-volume <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:NA

Command Modes:Enable

Examples:

The following example sets the DTMF volume.

```
(config-voip)# coders-and-profiles tel-profile 1  
(tel-profile-1)# DtmfVolume 10
```

31 Gateway Commands

The following defines the Gateway commands.

31.1 interface fxs-fxo

This command enters a specific analog interface (FXS or FXO) configuration.

Syntax:

```
interface fxs-fxo <slot/port>
<parameter> <value>
```

The command syntax format is described below:

Arguments	Description
parameter value	<p>Sets the following table parameters:</p> <ul style="list-style-type: none"> ▪ bellcore-callerid-type-one-sub-standard ▪ bellcore-vmwi-type-one-standard ▪ caller-id-type ▪ caller-id-timing-mode ▪ current-disconnect-duration ▪ default-linepolarity-state ▪ defaults ▪ disable-analog-auto-calibration ▪ enable-analog-dc-remover ▪ enable-fxo-current-limit ▪ etsi-callerid-type-one-sub-standard ▪ etsi-vmwi-type-one-standard ▪ far-end-disconnect-type ▪ flash-hook-period ▪ fxo-country-coefficients ▪ fxo-dc-termination ▪ fxs-country-coefficients ▪ fxs-rx-gain-control ▪ fxs-tx-gain-control ▪ metering-on-time ▪ metering-type ▪ min-flash-hook-time ▪ mwi-indication-type ▪ polarity-reversal-type ▪ rx-gain-control ▪ time-to-sample-analog-line-voltage ▪ trk-xfer-mode-type <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Command Modes:

Enable

Related Commands:

```
show voip interface fxs-fxo
```

The above commands give the user the interface status, main PM parameters and main configuration parameters.

Examples:

This example sets the metering method for charging pulses.

```
(config-system)# interface fxs-fxo
(fxs-fxo)# metering-type 12-kHz-sinusoidal-bursts
```

The following example enters a specific analog interface configuration.

```
# show voip interface fxs-fxo
Module in slot 1, Ports type is FXS
Port 1 status:
  Chip Revision: 2
  Hook state(1- off hook, 0- onhook): 0
  Message Waiting Indication: 0
  Ring:0
  Reversal Polarity:0
  Tx Gain Control: 0db
  Rx Gain Control: 0db
Port configuration:
Various timing parameters:
  WinkTime 200 ms
  CurrentDisconnectDuration 900 ms
  FlashHookPeriod 700 ms
  MinFlashHookTime 300 ms
Caller ID and MWI parameters:
  Primary Caller ID and MWI type is 0
  AnalogCallerIDTimingMode is CallerID transferred between first
and second rings
  BellcoreCallerIDTypeOneSubStandard is 0
  ETSICallerIDTypeOneSubStandard is 0
  ETSIVMWITypeOneStandard is 0
  BellcoreVMWITypeOneStandard is 0
Various signal indications parameters:
  PolarityReversalType is 0
  MeteringType is 0
  LifeLineType is acLifeLineType_Hardware_Only
Country Coefficients is set to USA
```


31.1.1 analog-port-enable

This command provides the user the ability to enable / disable the analog port (FXS or FXO).

Syntax:

```
analog-port-enable [x/y] [on|off]
```

The command syntax format is described below:

Arguments	Description
x/y	Defines the port / module.

Command Modes:

Enable

Note:

This command is applicable to **Mediant 500**, **Mediant 500L**, **Mediant 800** and **Mediant 850**.

Examples:

This example disables Port 2 on Module 1.

```
(config-voip)# interface fxs-fxo  
(fxs-fxo)# analog-port-enable 1/2 off
```

31.2 Analog

The following describes the Analog commands.

31.2.1 authentication

This command defines the analog gateway authentication settings.

Syntax:

```
# gw analoggw authentication <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ username ▪ password ▪ defaults ▪ port ▪ port-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the userid to "user1".

```
(config-voip)# gw analoggw authentication 1
(authentication-1)# set username user1
```

31.2.2 automatic-dialing

This command defines the automatic-dialing settings.

Syntax:

```
# gw analoggw automatic-dialing <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ auto-dial-status▪ defaults▪ dst-number▪ hotline-dialtone-duration▪ port▪ port-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the hotline-dialtone-duration to 18.

```
(config-voip)# gw analoggw automatic-dialing 2
(automatic-dialing-2)# set hotline-dialtone-duration 18
```

31.2.3 caller-display-info

This command defines the caller-display-info settings.

Syntax:

```
# gw analoggw caller-display-info <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ display-string ▪ presentation ▪ port ▪ port-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the display string to "user1ab".

```
(config-voip)# gw analoggw caller-display-info 3
(caller-display-info-3)# set display-string user1ab
```

31.2.4 call-forward

This command defines the call-forward settings.

Syntax:

```
# gw analoggw call-forward <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ destination▪ no-reply-time▪ type▪ port▪ port-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the call forward type condition to "on busy".

```
(config-voip)# gw analoggw call-forward 3
(caller-display-info-3)# set type on-busy
```

31.2.5 call-waiting

This command defines the call-waiting settings.

Syntax:

```
# gw analoggw call-waiting <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ enable-call-waiting ▪ port ▪ port-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the call-waiting feature.

```
(config-voip)# gw analoggw call-waiting 4
(call-waiting-4)# set enable-call-waiting enable
```

31.2.6 enable-caller-id

This command defines the enable-caller-id settings.

Syntax:

```
# gw analoggw enable-caller-id <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ caller-id▪ defaults▪ port▪ port-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the enable-caller-id feature.

```
(config-voip)# gw analoggw enable-caller-id 2
(enable-caller-id-2)# set caller-id enable
```

31.2.7 enable-did

This command enables the DID table.

Syntax:

```
# gw analoggw enable-did <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ did ▪ defaults ▪ port ▪ port-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the DID table.

```
(config-voip)# gw analoggw enable-did 2
(enable-caller-id-2)# set did enable
```


31.2.8 charge-code

This command defines the analog gateway chargecode settings.

Syntax:

```
# gw analoggw charge-code <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	<p>Sets the following table parameters:</p> <ul style="list-style-type: none"> ▪ end-time-1 ▪ end-time-2 ▪ end-time-3 ▪ end-time-4 ▪ pulse-interval-1 ▪ pulse-interval-2 ▪ pulse-interval-3 ▪ pulse-interval-4 ▪ pulses-on-answer-1 ▪ pulses-on-answer-2 ▪ pulses-on-answer-3 ▪ pulses-on-answer-4 ▪ defaults <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the pulse interval.

```
(config-voip)# gw analoggw chargecode 1
(chargecode-1)# set endtime1 pulsintervall 20
```

31.2.9 fxo-setting

This command defines the fxo settings.

Syntax:

```
# gw analoggw fxo-setting
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ answer-supervision ▪ defaults ▪ dialing-mode ▪ disc-on-busy-tone-c ▪ disc-on-dial-tone ▪ fxo-autodial-play-busytn ▪ fxo-dbl-ans ▪ guard-time-btwn-calls ▪ reorder-tone-duration ▪ ring-detection-tout ▪ rings-b4-det-callerid ▪ snd-mtr-msg-2ip ▪ time-wait-b4-dialing ▪ waiting-4-dial-tone For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the wait for dial tone before initiating an outgoing call to the PBX/PSTN (FXO one-stage dialing mode).

```
(config-voip)# gw analoggw fxo-setting
(gw-analogGW-fxo)# set waiting-4-dial-tone enable
```

31.2.10 keypad-features

This command defines the keypad features settings.

Syntax:

```
gw analoggw keypad-features
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	<p>Sets the following table parameters:</p> <ul style="list-style-type: none"> ▪ blind-transfer ▪ caller-id-restriction-act ▪ cw-act ▪ cw-deact ▪ defaults ▪ fwd-busy-or-no-ans ▪ fwd-deactivate ▪ fwd-dnd ▪ fwd-no-answer ▪ fwd-on-busy ▪ fwd-unconditional ▪ hotline-act ▪ hotline-deact ▪ id-restriction-deact ▪ port ▪ port-type ▪ reject-anony-call-activate ▪ reject-anony-call-deactivate <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Key pad pattern for rejecting anonymous calls.

```
(config-voip)# gw analoggw keypad-features
(gw-analgw-keypad) # set KeyRejectAnonymousCall 2345
```

31.2.11 metering-tones

This command defines the metering tones.

Syntax:

```
# gw analoggw metering-tones
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ gen-mtr-tones ▪ metering-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the metering method for charging pulses.

```
(config-voip)# gw analoggw metering-tones
(gw-analgw-mtrtone)*# set metering-type 16-kHz-sinusoidal-bursts
```

31.2.12 gen-mtr-tones

This command determines the method used to configure the metering tones that are generated to the Tel side.

Syntax:

```
gen-mtr-tones [ disable | internal-table | sip-interval-provided |
sip-raw-data-incr-provided | sip-raw-data-provided ]
```

The command's syntax format is described below:

Arguments	Description
disable	This is the default value. Metering tones are not generated.
internal-table	Metering tones are generated according to the device's Charge Code table.
sip-interval-provided	This is the proprietary method of TELES Communications Corporation. Periodic generation of AOC-D and AOC-E toward PSTN. The time interval is calculated according to the scale and tariff provided in the proprietary formatted file included in SIP INFO messages, which is always sent before 200 OK.
sip-raw-data-incr-provided	
sip-raw-data-provided	This is the proprietary method of Cirpack. When receiving AOC-D in raw format, provided in the header of SIP INFO messages, the device parses AOC-D raw data in order to obtain the number of units. This number is sent in the Facility message with AOC-D. In addition, the device stores the latest number of units in order to send them in AOC-E IE when the call is disconnected.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the method of generating metering tones.

```
(config-voip)# gw analoggw metering-tones
(gw-analgw-mtrtone)# gen-mtr-tones disable
```

31.2.13 reject-anonymous-calls

This command defines the reject-anonymous-calls.

Syntax:

```
gw analoggw reject-anonymous-calls
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ reject-calls ▪ port ▪ port-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables reject-anonymous calls.

```
(config-voip)# gw analoggw reject-anonymous-calls 5
(reject-anonymous-calls-5)# set reject-calls enable
```

31.2.14 tone-index

This command defines the Tone Index table.

Syntax:

```
# gw analoggw tone-index
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ default▪ dst-prefix▪ fxs-port-first▪ fxs-port-last▪ priority▪ src-prefix For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Priority Index to "1".

```
(config-voip)# gw analoggw tone-index 1
(tone-index-1)# set priority 1
```

31.3 Digital

The following describes the Digital commands.

31.3.1 digital-gw-parameters

This command defines the digital gateway parameters.

Syntax:

```
gw digitalgw digital-gw-parameters
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ add-ie-in-setup ▪ add-pref-to-redir-nb ▪ b-ch-negotiation ▪ blind-xfer-add-prefix ▪ blind-xfer-disc-tmo ▪ cp-dst-nb-2-redir-nb ▪ defaults ▪ dflt-call-prio ▪ dflt-cse-map-isdn2sip ▪ dig-oos-behavior ▪ disc-on-busy-tone-c ▪ disc-on-busy-tone-i ▪ dscp-4-mlpp-flsh ▪ dscp-4-mlpp-flsh-ov ▪ dscp-4-mlpp-flsh-ov-ov ▪ dscp-4-mlpp-immed ▪ dscp-for-mlpp-prio ▪ dscp-for-mlpp-rtn ▪ epn-as-cpn-ip2tel ▪ epn-as-cpn-tel2ip ▪ etsi-diversion ▪ fax-rerouting-delay ▪ fax-rerouting-mode ▪ format-dst-phone-number ▪ ignore-bri-los-alarm ▪ isdn-facility-trace ▪ isdn-tnl-ip2tel ▪ isdn-tnl-tel2ip ▪ isdn-trsfr-on-conn ▪ mfcr2-category ▪ mlpp-dflt-namespace ▪ mlpp-dflt-srv-domain ▪ mlpp-norm-ser-dmn

Arguments	Description
	<ul style="list-style-type: none"> ▪ ni2-cpc ▪ np-n-ton-2-redirnb ▪ play-l-rbt-isdn-trsfr ▪ preemp-tone-dur ▪ PSTNReserved3 ▪ qsig-path-replacement ▪ qsig-tunneling ▪ rmv-calling-name ▪ rmv-cli-when-restr ▪ send-local-datetime-connect ▪ send-screen-to-ip ▪ send-screen-to-isdn ▪ swap-rdr-n-called-nb ▪ tdm-tunneling ▪ tel-to-ip-dflt-redir-rsn ▪ trkgrps-to-snd-ie ▪ trunk-status-reporting ▪ usr2usr-hdr-frmt ▪ uui-ie-for-ip2tel ▪ uui-ie-for-tel2ip ▪ xfer-cap-for-data-calls ▪ xfer-prefix-ip2tel <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Note:

- Applicable only to Mediant 5xx; Mediant 8xx; Mediant 1000B.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the gateway to maintain a permanent RTP connection.

```
# configure voip
(config-voip)# gw digitalgw digital-gw-parameters
(gw-digitalGW-params)# set tdm-tunneling on
```

31.3.2 isdn-supp-serv

This command defines the ISDN Supplementary Services table.

Syntax:

```
gw digitalgw isdn-supp-serv <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<index>	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ caller-id-enable ▪ caller-id-number ▪ defaults ▪ module ▪ phone-number ▪ port ▪ presentation-restricted ▪ user-id ▪ user-password For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the user password in the ISDN Supplementary Services to 'abc123'.

```
(config-voip)# gw digitalgw isdn-supp-serv 1
(isdn-supp-serv-1)# set user-password abc123
```

31.3.3 rp-network-domains

This command defines the Resource Priority Network Domains table.

Syntax:

```
gw digitalgw rp-network-domains <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ name For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the name of the Resource Priority Network Domains table to 'RPN1'.

```
(config-voip)# gw digitalgw rp-network-domains 1
(rp-network-domains-1)# set name RPN1
```

31.4 DTMF and Supplementary

The following describes the DTMF and Supplementary commands.

31.4.1 dtmf-and-suppl dtmf-and-dialing

This command defines the DTMF and supplementary parameters.

Syntax:

```
gw dtmf-and-suppl dtmf-and-dialing
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dflt-dest-nb ▪ dial-plan-index ▪ digitmapping ▪ dt-duration ▪ hook-flash-option ▪ hotline-dt-dur ▪ isdn-tx-overlap ▪ min-dg-b4-routing ▪ mxdig-b4-dialing ▪ rfc-2833-in-sdp ▪ special-digit-rep ▪ special-digits ▪ telephony-events-payload-type-tx ▪ time-btwn-dial-digs For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables ISDN Overlap IP to Tel Dialing.

```
(config-voip)# gw dtmf-and-suppl dtmf-and-dialing
(gw-dtmf-and-dial)# set isdn-tx-overlap on
```

31.4.2 dtmf-and-suppl supplementary-services

This command defines the dtmf and supplementary parameters.

Syntax:

```
gw dtmf-and-suppl supplementary-services
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ 3w-conf-mode ▪ 3w-conf-nonalloc-prts ▪ as-sub-igpgrp-id ▪ blind-transfer ▪ call-forward ▪ call-hold-remnd-rng ▪ call-prio-mode ▪ call-waiting ▪ caller-ID-type ▪ cfe-ring-tone-id ▪ conf-id ▪ defaults ▪ reminder-ring ▪ enable-3w-conf ▪ enable-caller-id ▪ enable-mwi ▪ enable-transfer ▪ flash-key-seq-style ▪ flash-key-seq-tmout ▪ held-timeout ▪ hold ▪ hold-format ▪ hold-to-isdn ▪ hook-flash-code ▪ mlpp-diffserv ▪ music-on-hold ▪ mwi-analog-lamp ▪ mwi-display ▪ mwi-srvr-ip-addr ▪ mwi-srvr-transp-type ▪ mwi-sub-expr-time ▪ mwi-sub-igpgrp-id ▪ mwi-sub-rtry-time ▪ mx-3w-conf-onboard ▪ nb-of-cw-ind ▪ nrt-sub-retry-time

Arguments	Description
	<ul style="list-style-type: none"> ▪ nrt-subscription ▪ precedence-ringing ▪ send-all-cdrs-on-rtrv ▪ should-subscribe ▪ str-tone-duration ▪ subscribe-to-mwi ▪ time-b4-cw-ind ▪ time-between-cw ▪ transfer-prefix ▪ waiting-beep-dur <p>For a description of these parameters, refer to the <i>User's Manual</i>.</p>

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the Call Waiting tone beep length (msec).

```
(config-voip)# gw dtmf-and-suppl supplementary-services
(gw-suppl-serv)# set waiting-beep-dur 180
```

31.5 Hunt or Trunk Group

The following describes the Hunt or Trunk group commands.

31.5.1 hunt-or-trunk-group trunk-group

This command defines the hunt-or-trunk-group Trunk Group table.

Syntax:

```
gw hunt-or-trunk-group trunk-group <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<index>	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ activate ▪ defaults ▪ display ▪ exit ▪ first-b-channel ▪ first-phone-number ▪ first-trunk-id ▪ help ▪ history ▪ last-b-channel ▪ last-trunk-id ▪ list ▪ module ▪ pwd ▪ quit ▪ tel-profile-id ▪ trunk-group-id ▪ do For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the first-phone-number to '123-345-567'.

```
(config-voip)# gw hunt-or-trunk-group trunk-group 4  
(trunk-group-4)# set first-phone-number 123-345-567
```


31.5.2 hunt-or-trunk-group trunk-group-setting

This command defines the Hunt or Trunk Group Settings table.

Syntax:

```
gw hunt trunk-group-setting <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<index>	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ channel-select-mode ▪ contact-user ▪ defaults ▪ gateway-name ▪ mwi-interrogation-type ▪ registration-mode ▪ serving-ip-group ▪ trunk-group-id ▪ trunk-group-name For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Registration Mode to 'per-account'.

```
(config-voip)# gw hunt-or-trunk-group trunk-group-setting 4
(trunk-group-setting-4)# set registration-mode per-account
```

31.6 Manipulations

The following commands define manipulations.

31.6.1 cause-map-isdn2sip

This command defines the cause-map-isdn2sip settings.

Syntax:

```
gw manipulations cause-map-isdn2sip <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ orig-q850-cause (Value 1 -127) ▪ map-q850-cause (Value 1 -127) For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the ISDN Release Cause to "2".

```
(config-voip)# gw manipulations cause-map-isdn2sip 1
(cause-map-isdn2sip-1)# set orig-q850-cause 2
```

31.6.2 cause-map-sip2isdn

This command defines the cause-map-sip2isdn settings.

Syntax:

```
gw manipulations cause-map-sip2isdn <index>  
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ q850-causes▪ sip-response For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the SIP response to "2".

```
(config-voip)# gw manipulations cause-map-sip2isdn 1  
(cause-map-sip2isdn-1)# set sip-response 2
```

31.6.3 cause-map-isdn2isdn

This command defines up to 10 ISDN-to-ISDN release cause code mapping rules. .

Syntax:

```

gw manipulations cause-map-isdn2isdn <index>
gw manipulations cause-map-isdn2isdn display
gw manipulations cause-map-isdn2isdn find-by orig-q850-cause
<value>| map-q850-cause <value>
gw manipulations cause-map-isdn2isdn new
    
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
orig-q850-cause value	Defines the ISDN release cause (Value 1 -127).
map-q850-cause value	Defines the ISDN release cause (Value 1 -127).
For a description of these parameters, refer to the <i>User's Manual</i> .	

Note:

This command is applicable to Mediant 5xx; Mediant 8xx; Mediant 1000B; Mediant 3000.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the ISDN Release Cause to "20".

```

(config-voip)# gw manipulations cause-map-isdn2isdn 1
(cause-map-isdn2isdn-1)# set orig-q850-cause 20
    
```

31.6.4 dst-number-map-ip2tel

This command defines the dst-number-map-ip2tel settings.

Syntax:

```
gw manipulations dst-number-map-ip2tel <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-host-prefix ▪ dst-prefix ▪ npf ▪ num-of-digits-to-leave ▪ prefix-to-add ▪ remove-from-left ▪ remove-from-right ▪ src-host-prefix ▪ src-ip-address ▪ src-prefix ▪ suffix-to-add ▪ ton For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the source IP address.

```
(config-voip)# gw manipulations dst-number-map-ip2tel 2
(dst-number-map-ip2tel-2)# set src-ip-address 12.10.4.120
```

31.6.5 dst-number-map-tel2ip

This command defines the dst-number-map-tel2ip settings.

Syntax:

```
gw manipulations dst-number-map-tel2ip <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-ip-group-id ▪ dst-prefix ▪ num-of-digits-to-leave ▪ prefix-to-add ▪ remove-from-left ▪ remove-from-right ▪ src-ip-group-id ▪ src-prefix ▪ src-trunk-group-id ▪ suffix-to-add For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the Destination Prefix.

```
(config-voip)# gw manipulations dst-number-map-tel2ip 10
(NumberMapTel2Ip-10)# set dst-prefix 02
```

31.6.6 src-number-map-ip2tel

This command defines the src-number-map-ip2tel settings.

Syntax:

```
gw manipulations src-number-map-ip2tel <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-host-prefix ▪ dst-prefix ▪ is-presentation-restricted ▪ np ▪ num-of-digits-to-leave ▪ prefix-to-add ▪ remove-from-left ▪ remove-from-right ▪ src-host-prefix ▪ src-ip-address ▪ src-prefix ▪ suffix-to-add ▪ ton For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets is-presentation-restricted to 'restricted'.

```
(config-voip)# gw manipulations src-number-map-ip2tel 20
(src-number-map-ip2tel-20)# set is-presentation-restricted
restricted
```

31.6.7 src-number-map-tel2ip

This command defines the src-number-map-Tel2Ip settings.

Syntax:

```
# gw manipulations src-number-map-tel2ip <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-prefix ▪ is-presentation-restricted ▪ num-of-digits-to-leave ▪ prefix-to-add ▪ remove-from-left ▪ remove-from-right ▪ src-ip-group-id ▪ src-prefix ▪ src-trunk-group-id ▪ suffix-to-add For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the Stripped Digits From Left to be '5'.

```
(config-voip)# gw manipulations src-number-map-Tel2Ip 18
(src-number-map-tel2ip-18)# set remove-from-left 5
```


31.6.8 calling-name-map-ip2tel

This command defines the calling-name-map-ip2tel settings.

Syntax:

```
# gw manipulations calling-name-map-ip2tel <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ calling-name-prefix ▪ defaults ▪ dst-host-prefix ▪ dst-prefix ▪ num-of-digits-to-leave ▪ prefix-to-add ▪ remove-from-left ▪ remove-from-right ▪ src-host-prefix ▪ src-ip-address ▪ src-prefix ▪ suffix-to-add For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the suffix to add.

```
(config-voip)# gw manipulations calling-name-map-ip2tel 1
(calling-name-map-ip2tel-1)# set suffix-to-add xxyy
```

31.6.9 calling-name-map-tel2ip

This command defines the calling-name-map-tel2ip settings.

Syntax:

```
# gw manipulations calling-name-map-tel2ip <index>
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ calling-name-prefix ▪ defaults ▪ dst-prefix ▪ num-of-digits-to-leave ▪ prefix-to-add ▪ remove-from-left ▪ remove-from-right ▪ src-ip-group-id ▪ src-prefix ▪ src-trunk-group-id ▪ suffix-to-add For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the source prefix to be 'abcd'.

```
(config-voip)# gw manipulations calling-name-map-tel2ip 5
(calling-name-map-tel2ip-5)# set src-prefix abcd
```

31.6.10 general-setting

This command defines the general settings.

Syntax:

```
# gw manipulations general-setting
# set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ add-ph-cntxt-as-pref ▪ defaults ▪ ip2tel-redir-reason ▪ prfm-ip-to-tel-dst-map ▪ prfm-ip-to-tel-src-map ▪ tel-to-ip-dflt-redir-rsn ▪ tel2ip-redir-reason For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables the parameter to add the phone context to src/dest phone number as a prefix.

```
(config-voip)# gw manipulations general-setting
(gw-manipul-gnrl-setting)# set add-ph-cntxt-as-pref on
```

31.6.11 phone-context-table

This command defines the phone context table.

Syntax:

```
gw manipulations phone-context-table <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ context ▪ defaults ▪ npf ▪ ton For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the context table string to 'abcd'.

```
(config-voip)# gw manipulations phone-context-table 1
(phone-context-table-1)# set context abcd
```

31.6.12 redirect-number-map-ip2tel

This command defines the redirect-number-map-ip2tel table.

Syntax:

```
gw manipulations redirect-number-map-ip2tel <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-host-prefix ▪ dst-prefix ▪ is-presentation-restricted ▪ npf ▪ num-of-digits-to-leave ▪ prefix-to-add ▪ redirect-prefix ▪ remove-from-left ▪ remove-from-right ▪ src-host-prefix ▪ src-ip-address ▪ suffix-to-add ▪ ton For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the number of digits to leave.

```
(config-voip)# gw manipulations redirect-number-map-ip2tel 1
(redirect-number-map-ip2tel-1)# set LeaveFromRight 5
```

31.6.13 redirect-number-map-tel2ip

This command defines the redirect-number-map-tel2ip table.

Syntax:

```

gw manipulations redirect-number-map-tel2ip <index>
set <parameter> <value>
  
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-prefix ▪ is-presentation-restricted ▪ num-of-digits-to-leave ▪ prefix-to-add ▪ redirect-prefix ▪ remove-from-left ▪ remove-from-right ▪ src-ip-group-id ▪ src-trunk-group-id ▪ suffix-to-add For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the destination prefix.

```

(config-voip)# gw manipulations redirect-number-map-tel2ip 8
(redirect-number-map-tel2ip-8)# set DestinationPrefix abcd
  
```

31.7 Routing

The following commands define gw routing commands.

31.7.1 gw routing alt-route-cause-tel2ip

This command defines the AltRouteCauseTel2IP table.

Syntax:

```
gw routing alt-route-cause-tel2ip <index>  
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ release-cause For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the release-cause to "1".

```
(config-voip)# gw routing alt-route-cause-tel2ip 5  
(alt-route-cause-tel2ip-5)# set release-cause 1
```

31.7.2 gw routing alt-route-cause-ip2tel

This command defines the AltRouteCauseIP2Tel table.

Syntax:

```
gw routing alt-route-cause-ip2tel <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ release-cause For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the release-cause to "2".

```
(config-voip)# gw routing alt-route-cause-ip2tel 4
(alt-route-cause-ip2tel-4)# set release-cause 2
```


31.7.3 gw routing fwd-on-busy-trk-dst

This command defines the ForwardOnBusyTrunkDest table.

Syntax:

```
gw routing fwd-on-busy-trk-dst <index>  
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ defaults▪ forward-dst▪ trunk-group-id For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the forward destination to "LTP1".

```
(config-voip)# gw routing fwd-on-busy-trk-dst 1  
(fwd-on-busy-trk-dst-1)# set forward-dst LTP1
```

31.7.4 gw routing general-setting

This command defines the ForwardOnBusyTrunkDest table.

Syntax:

```
gw routing general-setting <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ alt-routing-tel2ip ▪ alt-rte-tel2ip-keep-alive ▪ alt-rte-tel2ip-method ▪ alt-rte-tel2ip-mode ▪ alt-rte-tone-duration ▪ defaults ▪ empty-dst-w-bch-nb ▪ ip2tel-rmv-rte-tbl ▪ ip2tel-rte-mode ▪ mx-pkt-loss-4-alt-rte ▪ npi-n-ton-to-cld-nb ▪ npi-n-ton-to-cng-nb ▪ src-ip-addr-input ▪ src-manipulation ▪ tel2ip-rte-mode ▪ trk-id-as-prefix ▪ trkgrpid-prefix For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the forward destination to "LTP1".

```
(config-voip)# gw routing general-setting 1
(gw-routing-gnrlsetting)# set alt-routing-tel2ip enable
```

31.7.5 gw routing ip2tel-routing

This command defines the ip2tel-routing table.

Syntax:

```
gw routing ip2tel-routing <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-host-prefix ▪ dst-phone-prefix ▪ ip-profile-id ▪ src-host-prefix ▪ src-ip-address ▪ src-ip-group-id ▪ src-phone-prefix ▪ src-srd-id ▪ trunk-group-id ▪ trunk-id For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets ip-profile-id to "10".

```
(config-voip)# gw routing ip2tel-routing 1
(ip2tel-routing-1)# set ip-profile-id 10
```

31.7.6 gw routing tel2ip-routing

This command defines the tel2ip-routing table.

Syntax:

```
gw routing tel2ip-routing <index>
set <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none"> ▪ charge-code ▪ cost-group-id ▪ defaults ▪ dst-host-prefix ▪ dst-ip-address ▪ dst-ip-group-id ▪ dst-phone-prefix ▪ dst-port ▪ dst-srd ▪ forking-group ▪ ip-profile-id ▪ src-host-prefix ▪ src-ip-group-id ▪ src-phone-prefix ▪ src-trunk-group-id ▪ transport-type For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets ip-profile-id to "20".

```
(config-voip)# gw routing tel2ip-routing 8
(tel2ip-routing-8)# set ip-profile-id 20
```

32 SBC Commands

The following defines SBC commands.

32.1 General Settings

The following defines SBC General Setting commands.

32.1.1 sbc general-setting

This command defines the general settings.

Syntax:

```
sbc general-setting
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ auth-chlng-mthd ▪ auth-qop ▪ defaults ▪ gw-direct-route-prefix ▪ lifetime-of-nonce ▪ media-channels ▪ min-session-expires ▪ sbc-dialog-info-network ▪ sbc-fax-detection-timeout ▪ sbc-gruu-mode ▪ sbc-media-sync ▪ sbc-no-arelt-timeout ▪ sbc-preferences ▪ sbc-rgstr-time ▪ sbc-sess-exp-time ▪ sbc-sub-try ▪ transcoding-mode ▪ unclassified-calls For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the number of channels associated with media services (announcements, conferencing).

```
(config-voip)# sbc general-setting  
(sbc-gnrl-setting)# media-channels 10
```

32.1.2 sbc-rtcpxr-report-mode

This command enables the sending of RTCP-XR reports of QoE metrics at the end of each call session (i.e., after a SIP BYE). The RTCP-XR is sent in the SIP PUBLISH message..

Syntax:

```
sbc-rtcpxr-report-mode < not_sent | sent-when-call-ended >
```

Note:

- This command is applicable to Mediant E-SBC.

Command Modes:

Enable

Examples:

The following example enables the sending of RTCP-XR reports of QoE metrics at the end of each call session.

```
(config-voip)# sip-definition advanced-settings  
(sip-def-adv-setting)# sbc-rtcpxr-report-mode sent-when-call-ended
```

32.1.3 sbc-server-auth-mode

This command defines whether authentication of the SIP client is done locally (by the device) or by the RADIUS server.

Syntax:

```
sbc-server-auth-mode <local_mode | remote_server | sterman>
```

The command's syntax format is described below:

Arguments	Description
local_mode	Defines that local authentication is performed.
remote_server	Defines that authentication is performed remotely at an RFC 5090 compliant server.
sterman	Defines that authentication is performed according to <i>draft-sterman-aaa-sip-01</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables local authentication.

```
(config-voip)# sbc general-setting  
(sbc-gnrl-setting)# sbc-server-auth-mode local_mode
```


32.1.4 sbc-usr-reg-grace-time

This command provides support for adding extra time (graceful time) to the expiration timer of registered users in the device's Users Registration database.

Syntax:

```
sbc-usr-reg-grace-time <time in seconds>
```

The command's syntax format is described below:

Arguments	Description
time in seconds	Defines that local authentication is performed.
remote_server	Defines that authentication is performed remotely at an RFC 5090 compliant server.
sterman	Defines that authentication is performed according to <i>draft-sterman-aaa-sip-01</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example adds extra time to the expiration timer.

```
(config-voip)# sbc general-setting  
(sbc-gnrl-setting)# sbc-usr-reg-grace-time 100
```

32.2 Admission Control

The following describes the Admission Control commands.

32.2.1 sbc-admission-control

This command defines the sbc-admission-control table.

Syntax:

```
sbc sbc-admission-control <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ ip-group-id ▪ limit ▪ limit-per-user ▪ limit-type ▪ max-burst ▪ rate ▪ request-direction ▪ request-type ▪ srd-id For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Limit Type to 'srd'.

```
(config-voip)# sbc sbc-admission-control 1
(sbc-admission-control-1)# limit-type srd
```

32.3 Allowed Coders Group

The following describes the Allowed Coders commands.

32.3.1 allowed-coders-group

This command defines the allowed-coders-group.

Syntax:

```
sbc allowed-coders-group AllowedCodersGroup<0-4> <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
Index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ name▪ defaults For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the name in the coder's group.

```
(config-voip)# sbc allowed-coders-group AllowedCodersGroup0 1
(allowedcodersgroup0-1)# name j_brown
```

32.4 Routing SBC

The following commands describe Routing.

32.4.1 classification

This command defines the classification table.

Syntax:

```
# sbc routing classification <index>
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ action-type ▪ defaults ▪ dst-host-prefix ▪ dst-user-name-prefix ▪ message-condition ▪ src-host-prefix ▪ src-ip-address ▪ src-ip-group-id ▪ src-port ▪ src-srd-id ▪ src-transport-type ▪ src-user-name-prefix For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Action Type to 'allow'.

```
(config-voip)# sbc routing classification 1
(classification-1)# action-type allow
```

32.4.2 condition-table

This command defines the condition table.

Syntax:

```
# sbc routing condition-table <index>  
# <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ condition▪ description▪ defaults For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the description for the routing condition.

```
(config-voip)# sbc routing condition-table 1  
(condition-table-1)# description Maintable 1
```

32.4.3 ip2ip-routing

This command defines the ip2ip-routing table.

Syntax:

```

sbc routing ip2ip-routing <index>
<parameter> <value>
    
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ alt-route-options ▪ cost-group ▪ defaults ▪ dst-address ▪ dst-host ▪ dst-ip-group-id ▪ dst-port ▪ dst-srd-id ▪ dst-transport-type ▪ dst-type ▪ dst-user-name-prefix ▪ group-policy ▪ message-condition ▪ re-route-ip-group-id ▪ request-type ▪ src-host ▪ src-ip-group-id ▪ src-user-name-prefix ▪ trigger For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Request Type to 'invite'.

```

(config-voip)# sbc routing ip2ip-routing 1
(ip2ip-routing-1)# request-type invite
    
```

32.4.4 sbc-alternative-routing-reasons

This command defines the sbc-alternative-routing-reasons table.

Syntax:

```
sbc routing sbc-alternative-routing-reasons <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ ReleaseCause▪ defaults For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Release Cause to '1'.

```
(config-voip)# sbc routing sbc-alternative-routing-reasons 1
(sbc-alternative-routing-reasons-1)# ReleaseCause 1
```

32.5 Manipulations SBC

The following describes the Manipulation SBC commands.

32.5.1 manipulations ip-inbound-manipulation

This command defines the inbound manipulations table.

Syntax:

```
sbc manipulations ip-inbound-manipulation <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-host ▪ dst-user-name-prefix ▪ is-additional-manipulation ▪ leave-from-right ▪ manipulated-uri ▪ prefix-to-add ▪ purpose ▪ remove-from-left ▪ remove-from-right ▪ request-type ▪ src-host ▪ src-ip-group-id ▪ src-user-name-prefix ▪ suffix-to-add For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the number of channels associated with media services (announcements, conferencing).

```
(config-voip)# sbc manipulations ip-inbound-manipulation 1
(ip-inbound-manipulation-1) # media-channels 10
```


32.5.2 manipulations ip-outbound-manipulation

This command defines the outbound manipulations table.

Syntax:

```

sbc manipulations ip-outbound-manipulation <index>
<parameter> <value>

```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ dst-host ▪ dst-ip-group-id ▪ dst-user-name-prefix ▪ is-additional-manipulation ▪ leave-from-right ▪ manipulated-uri ▪ prefix-to-add ▪ privacy-restriction-mode ▪ re-route-ip-group-id ▪ remove-from-left ▪ remove-from-right ▪ request-type ▪ src-host ▪ src-ip-group-id ▪ src-user-name-prefix ▪ suffix-to-add ▪ trigger For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Request Type to 'all'.

```

(config-voip)# sbc manipulations ip-outbound-manipulation 1
(ip-outbound-manipulation-1)# request-type all

```

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33 Cloud Resilience Package (CRP) Commands

The following describes how to configure the Cloud Resilience Package.

33.1 crp-emerg-nb

This command defines emergency numbers for the CRP application. The device routes these calls received from the SIP server (IP Group 2) directly to the PSTN (IP Group 3). Up to four emergency numbers can be configured, where each number can include up to four digits.

Syntax:

```
crp <num1[ ,num2, num3, num4]>
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following example defines an emergency number.

```
(config-voip)# sbc general-setting  
(sbc-gnrl-setting)# set crp-emerg-nb 911
```

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34 IP Media Commands

The following describes the IP Media commands.

34.1 voice-streaming ivr

The following defines how to configure Voice Streaming settings.

Syntax:

```
voice-streaming ivr  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
<parameter> <value>	Sets the following table parameters: <ul style="list-style-type: none">▪ allow-url-as-alias▪ defaults▪ enable▪ enable-force-update▪ play-coder▪ profile▪ record-coder▪ use-aps-bundle For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example selects the profile for the Advanced Audio Syntax specification.

```
(config-voip)# voice-streaming ivr  
(vs-ivr)# profile h2489
```

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35 Services Commands

The following defines how to configure Services settings

35.1 RADIUS Setting Commands

The following commands configure the RADIUS settings.

35.1.1 radius

This command enables and defines the RADIUS server.

Syntax:

```
radius <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
parameter	Sets the following parameters: <ul style="list-style-type: none"> ▪ auth-server-ip ▪ auth-server-port ▪ default-access-level ▪ double-decode-url ▪ enable ▪ enable-mgmt-login ▪ local-cache-mode ▪ local-cache-timeout ▪ shared-secret ▪ timeout-behavior ▪ vsa-access-level ▪ vsa-vendor-id For a description of these parameters, refer to the <i>User's Manual</i> .

Note:

NA

Command Modes:

Enable

Examples:

This example defines the default access level for the device.

```
(config-system)# radius
(radius)# default-access-level 1
```

35.1.2 auth-server-ip

This command configures the RADIUS server IP address.

Syntax:

```
# auth-server-ip <a.b.c.d>
```

The command's syntax format is described below:

Arguments	Description
a.b.c.d	Defines the RADIUS authentication server IP address.

Defaults:

NA

Command Modes:

Enable

Note:

This configuration requires a reset.

Examples:

The following example configures the RADIUS server IP address.

```
(config-system)# radius
(radius)# auth-server-ip 192.168.0.199
```


35.1.3 auth-server-port

This command configures the RADIUS server port number.

Syntax:

```
# auth-server-port <port>
```

The command's syntax format is described below:

Arguments	Description
port	Defines the RADIUS authentication port.

Defaults:

NA

Command Modes:

Enable

Note:

This configuration requires a reset.

Examples:

The following example configures the RADIUS port.

```
(config-system)# radius  
(radius)# auth-server-port 1812
```

35.1.4 enable-mgmt-login

This command enables RADIUS for access to the device's management interface.

Syntax:

```
# enable-mgmt-login {on | off}
```

The command's syntax format is described below:

Arguments	Description
on	Enables RADIUS for access to the device's management interface.
off	Disables RADIUS for access to the device's management interface.

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables RADIUS for access to the device's management interface.

```
(config-system)# radius
(radius)# enable-mgmt-login on
```

35.1.5 source voip

This command specifies the voip source for the RADIUS server.

Syntax:

```
# source voip
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following example specifies the voip source for the RADIUS server.

```
(config-system)# ntp  
(ntp)# source voip
```

35.2 SIP Recording

The following commands enable sip-recording general settings.

35.2.1 enable-sip-rec

This command enables SIP recording functionality.

Syntax:

```
enable-sip-rec <on | off>
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enables sip-recording general settings.

```
(config-voip)# services sip-recording general-setting  
(sip-record-general-setting)# enable-sip-rec on
```

35.2.2 siprec-server-dest-username

This command defines the Recording Server (SRS) Destination Username.

Syntax:

```
siprec-server-dest-username <string>
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following example enable sip-recording general settings.

```
(config-voip)# services sip-recording general-setting  
(sip-record-general-setting)# siprec-server-dest-username  
siprecserv
```

35.2.3 sip-rec-routing

This command provides support for SIP-based media recording of call sessions and defines the calls to record.

Syntax:

```
services sip-recording sip-rec-routing <index | display | new>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
display	Displays the configuration.
new	Adds a new line in first available index.

Notes:

- This command is applicable to the following products: Mediant 500, Mediant 8xx, Mediant 3000, Mediant 2600, and Mediant 4000.

Command Modes:

Enable

Examples:

The following example enable sip-recording general settings.

```
(config-voip)# services sip-recording sip-rec-routing display
sip-rec-routing 0
  recorded-ip-group-id 1
  recorded-src-prefix "*"
  recorded-dst-prefix "*"
  peer-ip-group-id -1
  peer-trunk-group-id -1
  caller peer-party
  srs-ip-group-id 3
```

35.3 LDAP

The following describes the LDAP commands.

35.3.1 ldap

This command defines the LDAP server table.

Syntax:

```
ldap <parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
Index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ ldapserverip▪ cache▪ defaults▪ enable▪ password▪ search-dns▪ search-dns-in-parallel▪ server-domain-name▪ server-max-respond-time▪ server-port For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets LDAP server IP address.

```
(config-voip)# ldap  
(ldap)# ldapserverip 10.5.5.12
```

35.3.2 ldap-servers-search-dns

This command defines the full path (i.e., distinguished name / DN) to the objects in the Active Directory where the query is done. Up to three DNs can be configured per LDAP server.

Syntax:

```
ldap-servers-search-dns [[0-1]/[0-5] | [0-1] | display]
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following is an example of using this command.

```
(config-voip)# ldap
(ldap)# ldap-servers-search-dns display
```


35.4 Least Cost Routing

The following describes the Least Cost Routing commands.

35.4.1 services least-cost-routing cost-group-time-bands

This command enables the cost-group-time-bands table.

Syntax:

```
services least-cost-routing cost-group-time-bands <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ connection-cost ▪ cost-group ▪ defaults ▪ end-time ▪ minute-cost ▪ start-time ▪ timeband-index For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the Start Time for this timeband in ddd:hh:mm format.

```
(config-voip)# services least-cost-routing cost-group-time-bands 9
(cost-group-time-bands-9)# start-time Mon:08:00
```

35.4.2 services least-cost-routing routing-rule-groups

This command enables the routing-rule-groups table.

Syntax:

```
services least-cost-routing routing-rule-groups <index>
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none"> ▪ defaults ▪ lcr-call-length ▪ lcr-default-cost ▪ lcr-enable For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the average call length used for Least Cost Routing calculations to 10000.

```
(config-voip)# services least-cost-routing routing-rule-groups 9
(routing-rule-groups-0)# lcr-call-length 10000
```

35.4.3 services least-cost-routing cost-group

This command enables the cost-group table.

Syntax:

```
services least-cost-routing cost-group <index>  
<parameter> <value>
```

The command's syntax format is described below:

Arguments	Description
Index	Defines the table row index.
parameter value	Sets the following table parameters: <ul style="list-style-type: none">▪ cost-group-name▪ default-connection-cost▪ default-minute-cost▪ defaults For a description of these parameters, refer to the <i>User's Manual</i> .

Defaults:

NA

Command Modes:

Enable

Examples:

The following example sets the cost-group-name to "cgroup1".

```
(config-voip)# services least-cost-routing cost-group 1  
(cost-group-1)# cost-group-name cgroup1
```

35.5 Call Detail Records

The device generates Call Detail Records (CDRs) with default CDR field names. If required, you can customize these CDR field names (*titles*). For example, instead of the default CDR field titled "call-duration", you can change it to "phone-duration".

You can customize CDR field names for Syslog messages, RADIUS accounting requests and CDRs that are stored locally on the device.

The following commands provide support for customizing CDRs generated by the device and used for RADIUS accounting requests (e.g., for call billing purposes).

The maximum number of table rows for customizing CDR fields is 320. Each Syslog CDR can contain up to 128 columns and each history CDR can include up to 64 columns.

35.5.1 `cdr`

This command navigates to CDR configuration mode.

Syntax:

```
# cdr
```

Defaults:

NA

Command Modes:

Enable

Examples:

The following example accesses CDR configuration mode.

```
(config-system)# cdr
(cdr)#
```

35.5.2 cdr-format

This command customizes CDRs for gateway and SBC calls.

Syntax:

```
(cdr)# cdr-format <gw-cdr-format | sbc-cdr-format | show-title>
<table row index>
<parameter> <value>
```

The command's syntax format is described below:

Parameter	Value
cdr-format	Defines the CDR format table: <ul style="list-style-type: none"> ▪ gw-cdr-format ▪ sbc-cdr-format ▪ show-title: Displays the CDR column titles
table row index	Defines the table row index (0 – 167).
cdr-type	Defines the CDR type: <ul style="list-style-type: none"> ▪ history-sbc ▪ syslog-media ▪ syslog-sbc ▪ syslog-gw ▪ radius-sbc ▪ radius-gw
col-type	Defines the default CDR column that you want to customize. <default cdr field> Note: The value of the <i>col-type</i> command must be entered as it appears in the list of the default CDR fields. To view the list, use the question mark (?): (sbc-cdr-format-0)# col-type ?
title	Customizes the name of the CDR field (title). <customized CDR field name> Note: <ol style="list-style-type: none"> 1. The value for the <i>title</i> command is case-sensitive. For example, the command entry, # title Phone-Duration results in the column name "Phone-Duration" (i.e., upper case "P" and "D"). 2. You can enclose the string value of the <i>title</i> command by single (') or double (") apostrophes (e.g., "Phone Duration"). If apostrophes are not used, the value must not include spaces between words. In such cases, use a hyphen to separate the words (e.g., Phone-Duration).

Parameter	Value
radius-type	Defines the RADIUS attribute type of the CDR field: <ul style="list-style-type: none"> ▪ standard ▪ vendor-specific Note: To indicate a standard RADIUS attribute, set the <i>radius-type</i> command to "standard" and the <i>radius-id</i> to "0". The device generates the CDR with the default ID for the RADIUS attribute.
radius-id	Defines the RADIUS attribute's ID of the CDR field. For vendor-specific attributes, this represents the VSA ID; for standard attributes, this represents the attribute ID (first byte of the attribute): <customized radius id>

Defaults:

NA

Command Modes:

Enable

Examples:

- The following shows an example of how to customize CDR field names for Syslog messages and stored CDRs:

```
(config-system)# cdr
(cdr)# cdr-format sbc-cdr-format 0
(sbc-cdr-format-0)# cdr-type syslog-media
(sbc-cdr-format-0)# col-type call-duration
(sbc-cdr-format-0)# title Phone-Duration
```

- The following shows an example of how to customize CDR field names for RADIUS accounting:

```
(config-system)# cdr
(cdr)# cdr-format sbc-cdr-format 1
(sbc-cdr-format-1)# cdr-type radius-sbc
(sbc-cdr-format-1)# col-type connect-time
(sbc-cdr-format-1)# title call-connect-time=
(sbc-cdr-format-1)# radius-type vendor-specific
(sbc-cdr-format-1)# radius-id 281
```

- The following shows an example of a customized RADIUS CDR attribute:

```
(sbc-cdr-format-1) display
cdr-type (radius-sbc)
col-type (connect-time)
title (call-connect-time=)
radius-type (vendor-specific)
radius-id (281)
```

35.5.3 cdr-format show-title

This command displays the CDR field titles.

Syntax:

```
(cdr)# cdr-format show-title <local-storage-gw | local-storage-sbc
| syslog-gw | syslog-media | syslog-sbc>
```

The command's syntax format is described below:

Parameter	Description
local-storage-gw	Displays field titles of locally stored Gateway CDRs.
local-storage-sbc	Displays field titles of locally stored SBC CDRs.
syslog-gw	Displays field titles of Syslog Gateway (media and signaling) CDRs.
syslog-media	Displays field titles of media-related Syslog SBC CDRs.
syslog-sbc	Displays field titles of signalling-related Syslog SBC CDRs.

Defaults:

NA

Command Modes:

Enable

Examples:

The following shows an example of how to view CDR field titles for locally stored CDRs:

```
(config-system)# cdr
(cdr)# cdr-format show-title local-storage-sbc
SBCReportType, Trigger, EPTyp, SIPCallId, SessionId, LegId, Orig, SourceIp,
SourcePort, DestIp, DestPort, TransportType, SrcURI, SrcURIBeforeMap, DstURI,
DstURIBeforeMap, Durat, TrmSd, TrmReason, TrmReasonCategory, SetupTime,
ConnectTime, ReleaseTime, RedirectReason, RedirectURINum, RedirectURINumBeforeMap,
TxSigIPDiffServ, IPGroupName, SrdId (name), SIPInterfaceId (name), ProxySetId
(name), IpProfileId (name), MediaRealmId (name), DirectMedia, SIPTrmReason,
SIPTermDesc, Caller, Callee
```

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