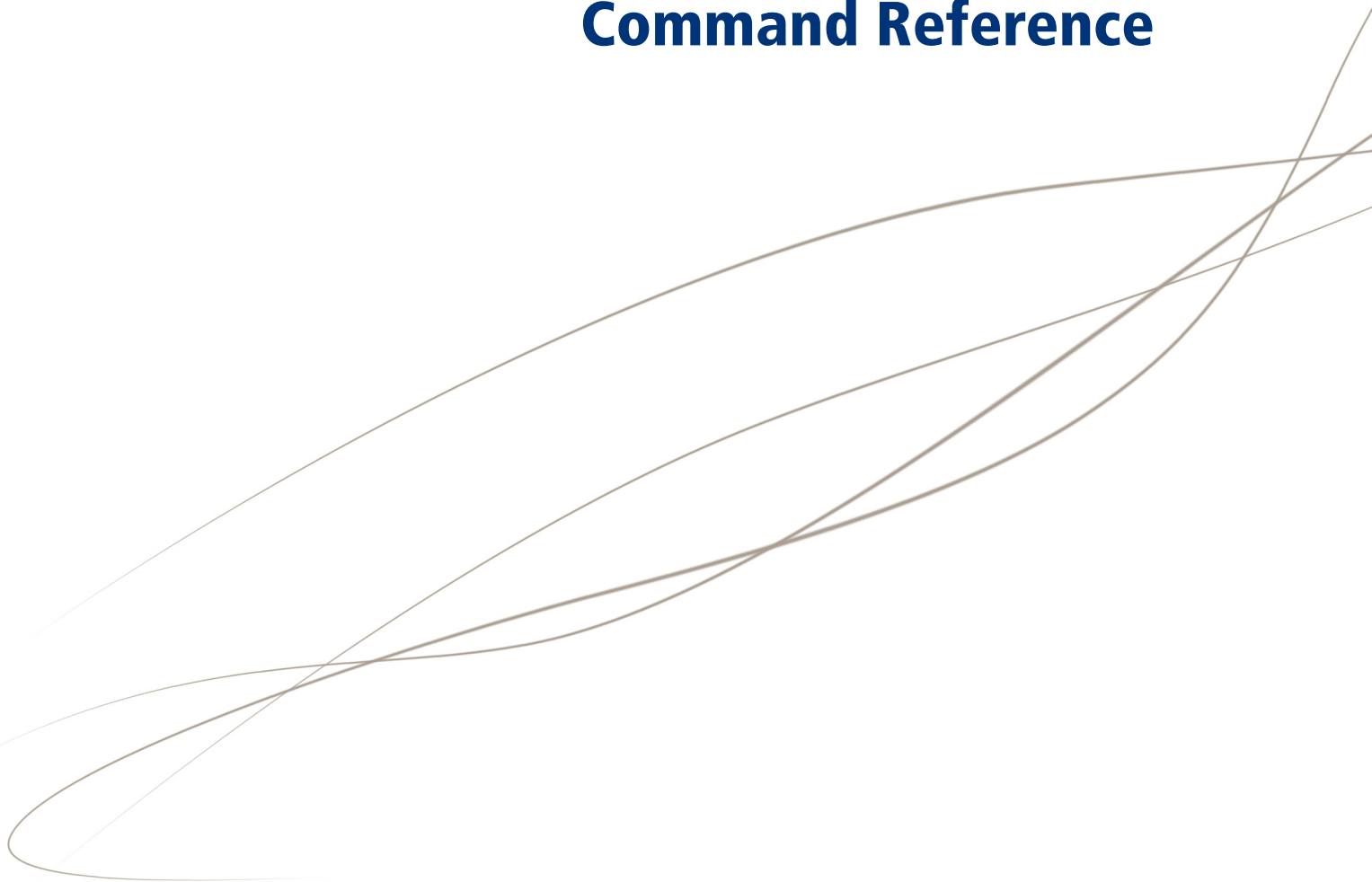




EdgeIQ R10.0

Command Reference



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- answering queries and providing information
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Safety Summary

The following general safety precautions must be observed during all phases of operation, service and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture and intended use of the product. Solacom assumes no liability for the customer's failure to comply with these requirements.

Ground the equipment

To minimize shock hazard, the equipment switch must be connected to an electrical ground. The equipment has a three-conductor AC power cable. This power cable must be plugged into an approved three-contact electrical outlet with the grounding wire (green) firmly connected to an electrical ground at the power outlet. The power cables meet International Electrotechnical Commission (IEC) safety standards.

Keep away from live circuits

Operating personnel must not remove modules or otherwise tamper with the equipment switch or related components. Component replacement and internal adjustments must be made by qualified maintenance personnel. Do not replace components with the power cable connected. To avoid injuries, always disconnect power and discharge circuits before removing equipment shelves or making major modifications.

Do not service or adjust alone

Do not attempt major component replacement, internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

Replacement of modules

Replacement of modules should be performed by qualified maintenance personnel. (Individuals trained and certified by Solacom.)

Electrostatic discharge (ESD)

This product contains components that can be damaged by electrostatic discharge. You must take precautions when handling modules. As a minimum precaution, use grounded wrist straps at all times when handling modules.

Do not modify the product

Do not install substitute parts or modify the product. To ensure that product integrity is maintained, contact the Solacom Customer System Support & Services Center for any service or repair.

Power surge advisory

Electrical surges (typically lightning transients) are very destructive to customer terminal equipment connected to AC power sources. We recommend that the customer install an AC surge arrestor in the AC outlet to which the equipment is connected.

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1 About This Document

This guide details the commands and parameters used to configure and maintain the EdgeIQ. These commands can be invoked from either the Careware graphical user interface or the Command Line Interface (CLI). Both interfaces allow you to execute Operations, Administration, Maintenance, and Provisioning (OAM&P) API functions without having to develop an OAM&P application.

The configuration commands pertain to communication management, hardware, trunk groups, route sets, VoIP, ISDN, CAS, SS7, and log files.

This document is of interest to you if you use an OAM&P application and are

- configuring cards and services for an EdgeIQ platform
- supporting or maintaining a telephony solution involving an EdgeIQ platform

1.1 How to use this Document

This document is divided into the following topics:

- Configuration Reference

displaysysparm

ParameterName	ParameterValue
CITY	Gatineau
CONFIG_VERSION	70000
CONTACT	Pierre
COUNTRY	Canada
ENABLE_PUBLICIE	0
ENBL_CLTLG_FL	1
ENBL_VRSTLG_FL	1
FLOOR	2nd
FORBIDENCLOCK	1
H110MASTER	0
LATITUDE	45° 28 N
LICENSENUMBER	12345678
LONGITUDE	75° 44 W

```

MAX_CLTLG_DAYS           30
MAX_CLTLG_SIZE           4096
MAX_VRSTLG_DAYS         30
MAX_VRSTLG_SIZE         100000
PATH_860                 C:\Versatel\Mesoware\
PATH_DSP                 C:\Versatel\Mesoware\
PATH_LOG_FILE           C:\Versatel\Mesoware\Logs\
PATH_MEZZANINE          C:\Versatel\Mesoware\
RACK_ID                  Shelf_31_Rack_1
SEQ_NUMBER               21
STATE                   Quebec
STREET_NAME              Jean-Proulx
STREET_NUMBER            84
SYSTEM_ID                N/A
SYSTEM_NAME              Gatineau VAC1
ZIP_CODE                 J8Z1W1
DIALING_GAINID          0
DIALING_PAUSE            500

```

- Display Reference

Refer to page 3 for a list of *configuration* and *control* commands in alphabetical order. Refer to page 4 for a list of *configuration* and *control* commands by topic. Refer to page 96 for a list of *display* commands in alphabetical order.

1.2 References

Other product documentation that may be used along with this guide includes the following:

- *EdgeIQ Configuration Guide*

This guide defines the configuration commands necessary for provisioning and monitoring your EdgeIQ cards and telephony services. The Command Line Interface (CLI) application is also described.

- *Operations, Administration, Maintenance, & Provisioning API*

This document details the OAM&P API functions used by the application developer to retrieve and modify configuration settings and perform maintenance functions on the EdgeIQ. The OAM&P API provides functions related to communication management, device state control, and system configuration related to hardware, trunk groups, bearer route set, log file, SS7, VoIP, ISDN, CAS, display and other miscellaneous items.

- *Managed API*

This document details the API functions used by the application developer to control and monitor the EdgeIQ. The Managed API Reference provides functions related to stream management, redundancy, reliability, call processing, and events.

2 Configuration Reference

This section describes each configuration and control command in detail.

2.1 Alphabetical List of Configuration and Control Commands

[AddBW](#)
[AddCard](#)
[AddTrunkGroupToRouteSet](#)
[ConfigureAppLinkMode](#)
[ConfigureBearerCapabilityIE](#)
[ConfigureBearerRouteSet](#)
[ConfigureBusH110](#)
[ConfigureCalledPartyIE](#)
[ConfigureCalledPartySubaddressIE](#)
[ConfigureCallingPartyIE](#)
[ConfigureCallingPartySubaddressIE](#)
[ConfigureCallParameterDNS](#)
[ConfigureCallParameterPrefix](#)
[ConfigureCASProfile](#)
[ConfigureCASSpill](#)
[ConfigureCASStage](#)
[ConfigureCauseIE](#)
[ConfigureChannelGain](#)
[ConfigureChannelIDIE](#)
[ConfigureClientLog](#)
[ConfigureClock](#)
[ConfigureDChannelProtocol](#)
[ConfigureGain](#)
[ConfigureGeneratedTone](#)
[ConfigureH110Control](#)
[ConfigureHighLayerCompatibilityIE](#)
[ConfigureLogPath](#)
[ConfigureLowLayerCompatibilityIE](#)
[ConfigurePRI Timer](#)
[ConfigureProgressIndicatorIE](#)
[ConfigurePublicIE](#)
[ConfigureRTPDestinationParameters](#)
[ConfigureRTPSourceParameters](#)
[ConfigureSignalIE](#)

[ConfigureSpan](#)
[ConfigureSS7BackwardCallIndicatorIE](#)
[ConfigureSS7CalledPartyNumberIE](#)
[ConfigureSS7CallingPartyCategoryIE](#)
[ConfigureSS7CallingPartyNumberIE](#)
[ConfigureSS7CauseIE](#)
[ConfigureSS7EventInformationIE](#)
[ConfigureSS7ForwardCallIndicatorIE](#)
[ConfigureSS7NatureOfConnectionIE](#)
[ConfigureSS7UserServiceInfoIE](#)
[ConfigureSolaComLog](#)
[ConfigureVoIPBW](#)
[ConfigureVoIPBWFaxModemPayload](#)
[ConfigureVoIPBWH323](#)
[ConfigureVoIPBWSIP](#)
[ConfigureVoIPCause](#)
[ConfigureVoIPECAN](#)
[ConfigureVoIPFaxModemPacketsIE](#)
[ConfigureVoIPOutOfBandTone](#)
[ConfigureVoIPProgress](#)
[ConfigureVoIPRTCP Packets](#)
[ConfigureVoIPRTTP Packets](#)
[ConfigureVoIPRTTP Payload Type Mapping](#)
[ConfigureVoIPSilentSuppression](#)
[ConfigureVoIPSpan](#)
[ConfigureVoIPVoicePackets](#)
[Connectdb](#)
[CreateCASTrunkGroup](#)
[CreateClearChannelTrunkGroup](#)
[CreatePRIIE](#)
[CreatePRINFASTrunkGroup](#)
[CreatePRITrunkGroup](#)
[CreateSS7IE](#)
[CreateSS7TrunkGroup](#)

[CreateVoIPBWTrunkGroup](#)
[CreateVoIPChannelProfileId](#)
[CreateVOIPClearChannelTrunkGroup](#)
[DisableBWSpan](#)
[DisableChannel](#)
[DisableRangeOfChannels](#)
[DisableSpan](#)
[EnableBWSpan](#)
[EnableChannel](#)
[EnableRangeOfChannels](#)
[EnableSpan](#)
[LoopbackSpan](#)
[MoveChannelToTrunkGroup](#)
[MoveSpanToTrunkGroup](#)
[RemoveBearerRouteSet](#)
[RemoveBW](#)
[RemoveCard](#)
[RemoveCASProfile](#)
[RemoveChannelFromTrunkGroup](#)
[RemoveClock](#)
[RemoveGeneratedTone](#)
[RemovePRIIE](#)
[RemoveSpanFromTrunkGroup](#)
[RemoveSS7IE](#)
[RemoveTrunkGroup](#)
[RemoveTrunkGroupFromRouteSet](#)
[RemoveVoIPChannelProfileId](#)
[ResetBW](#)
[ResetCard](#)
[ResumeDiagnostic](#)
[SuspendDiagnostic](#)
[TraceTool](#)

Configuration and Control Commands by Topic

The commands are grouped into the following functional areas:

- [Hardware Configuration](#) - page 5
- [Hardware Control](#) - page 11
- [Trunk Group Configuration](#) - page 13
- [Trunk Group Control](#) - page 22
- [Route Set Configuration](#) - page 26
- [VoIP Configuration](#) - page 27
- [VoIP and Media Bladeware Configuration](#) - page 47
- [VoIP and Media Bladeware Control](#) - page 57
- [ISDN Configuration](#) - page 58
- [ISDN Information Elements Configuration](#) - page 60
- [PRI Information Elements Configuration](#) - page 64
- [CAS Configuration](#) - page 72
- [SS7 Information Elements Configuration](#) - page 79
- [Log File Configuration](#) - page 88
- [Diagnostics](#) - page 89
- [Offline Connection to the Configuration Data](#) - page 90
- [Miscellaneous Configuration](#) - page 90

The associated display commands are described in section 0 `display sysparm`

ParameterName	ParameterValue
CITY	Gatineau
CONFIG_VERSION	70000
CONTACT	Pierre
COUNTRY	Canada
ENABLE_PUBLICIE	0
ENBL_CLTLG_FL	1
ENBL_VRSTLG_FL	1
FLOOR	2nd
FORBIDDENCLOCK	1
H110MASTER	0
LATITUDE	45°28 N
LICENSENUMBER	12345678

```

LONGITUDE                75° 44 W
MAX_CLTLG_DAYS           30
MAX_CLTLG_SIZE           4096
MAX_VRSTLG_DAYS         30
MAX_VRSTLG_SIZE         100000
PATH_860                  C:\Versatel\Mesoware\
PATH_DSP                  C:\Versatel\Mesoware\
PATH_LOG_FILE            C:\Versatel\Mesoware\Logs\
PATH_MEZZANINE           C:\Versatel\Mesoware\
RACK_ID                   Shelf_31_Rack_1
SEQ_NUMBER                21
STATE                     Quebec
STREET_NAME               Jean-Proulx
STREET_NUMBER             84
SYSTEM_ID                 N/A
SYSTEM_NAME               Gatineau VAC1
ZIP_CODE                  J8Z1W1
DIALING_GAINID           0
DIALLING_PAUSE           500

```

Display Reference on page 96.

2.3 Hardware Configuration

The commands described in this section allow you to configure the EdgeIQ hardware.

2.3.1 AddCard

This command adds a card to the configuration data whenever a new card is installed in a chassis. This command fills all configuration data tables for the assigned card.

Note: It is necessary to assign the H.110 bus timeslots to a card using the *ConfigureBusH110* command before using the AddCard command.

AddCard CardType, ShelfNumber, SlotNumber, Signalling, BackplaneEncodingType, BackUpSlotNumber, VirtualIpAddress		
Field Name	Values	Description
CardType	T1 E1 VOIP512	Type of card you are adding.
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number where the card is to be installed.
Signalling	ISDN CAS CLEARCHANNEL	The default protocol for the trunk groups created on this card. T1: ISDN or CAS E1: ISDN or CLEARCHANNEL VOIP512: CLEARCHANNEL.
BackplaneEncodingType	mu_law a_law	H.110 bus encoding type. T1: mu_law E1: a_law VoIP: mu_law or a_law
BackUpSlotNumber	0–15, -1	The slot number of a T1 or E1 backup card.
VirtualIpAddress	X.X.X.X	The IP address that is used when a card is in redundant mode. The active card will use this address as its own to communicate with the VSOS.

A shelf can support T1, E1, and VoIP cards. All spans are initialized in a disabled state (see the *EnableSpan* and *DisableSpan* commands).

T1 Trunk Cards configured for ISDN have their spans automatically configured as 23B+D with channel 23 configured as the D-Channel and channels 0-22 configured as the ISDN bearer circuits.

E1 Trunk Cards configured for ISDN have their spans automatically configured as 30B+D with channel 0 used for framing, channel 16 configured as the D-channel, and channels 1-15 and 17-31 configured as the ISDN bearer circuits.

Some compactPCI shelves can have up to 21 slots, but only the first 16 slots (0 to 15) must be used for cards being controlled by the VSOS.

To allow SS7 bearer spans, choose a signalling type of ISDN/CAS/CLEARCHANNEL. When the span is moved to an SS7 trunk group the span type is changed to SS7.

A backup card is only available for T1/E1 card. If no backup card exists, set BackUpSlotNumber to -1.

2.3.2 RemoveCard

This command removes a card from the configuration data. The shelf number and slot supplied must match an existing card in the configuration data.

All spans must be disabled before the command is executed.

If the card being removed contains a PRI non-facility associated signalling trunk group that specifies a D-channel span with associated bearer channels, the command fails. The bearer spans must be moved prior to executing the command.

If the card contains a backup D span, then its primary D span must not have associated bearer spans and the span must be disabled.

If the card being removed contains a D-channel that is configured in a NFAS trunk group, the D-channel must first be removed from the NFAS trunk group.

All span entries in the span configuration table for this card and all DS0 channel entries in the DS0 configuration table for this card are automatically removed.

If the card being removed contains a D-channel that is controlling ISDN bearer spans on another card, those bearer spans go out of service, and become clear channel spans within the default clear channel trunk group with a trunk group id of -1.

Once a card is removed, it is necessary to deallocate the H.110 bus timeslots using the *ConfigureBusH110* command.

RemoveCard ShelfNumber, SlotNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number where the card is to be installed.

2.3.3 ConfigureBusH110

This command allocates H.110 computer telephony bus timeslots to a card in a particular shelf and slot number. The H.110 bus is divided into 32 serial data lines, each with 128 time slots of 64 Kbps each, for a total of 4096. Refer to the COnfiguration Guide for h.110 bus assignment guidelines.

The switching of these timeslots is what provides the audio path to and from each card. Before a card is added (using the AddCard command) the ConfigureBusH110 command must be used to configure the H.110 timeslots.

We recommend that you allocate three busses to a T1 Trunk card and four busses to an E1 Trunk card. You must execute this command for each bus that is assigned. Therefore, to assign three busses to a T1 card, you must execute this command three times. Restart the system to implement the new H110 configuration.

To remove an H.110 bus assignment, enter -1 for the ShelfNumber and SlotNumber parameters.

ConfigureBusH110 BusId, ShelfNumber, SlotNumber		
Field Name	Values	Description
BusId	0–31	The H.110 bus that is to be assigned to the shelf and slot number.

ConfigureBusH110 BusId, ShelfNumber, SlotNumber		
Field Name	Values	Description
ShelfNumber	0–31, -1	The shelf number of the affected chassis.
SlotNumber	0–15, -1	The slot number in the affected chassis.

2.3.4 ConfigureH110Control

Configure the switch as the H110 bus Master or Slave. Restart the system to implement the new configuration.

ConfigureH110Control H110Control		
Field Name	Values	Description
H110Control	MASTER	The switch is either a MASTER in control of the H.110 bus or is a SLAVE.
	SLAVE	If H110 Control is configured as SLAVE, then the H110 control must be provided by another third party card in the system.

2.3.5 ConfigureGain

This command adds or modifies a value in the Gain table. GainId 0, 4, 5 and 47 are reserved for use by Solacom Networks and cannot be modified. These gains are fixed as follows: GainId 0 = 0dB, GainId 4 = -255, GainId 5 = 0 and GainId 47 = 0. Restart the system to implement the new configuration.

ConfigureGain GainId, GainValue		
Field Name	Values	Description
GainId	0–47	Gain Id
GainValue	-50 through 50	Gain in dB

2.3.6 ConfigureChannelGain

This command to configure gain for a specific channel is deprecated but has been kept for compatibility with older files, though it currently has no effect. Only VoIP channels have adjustable RX and TX gain, which can be configured using the ConfigureVoIPVoicePackets command. For T1 or E1 channels, gain must be set by the application using the gain parameter of the ctiConference or ctiConnect MAPI commands.

ConfigureChannelGain ShelfNumber, SlotNumber, SpanNumber, ChannelNumber, GainId		
Field Name	Values	Description

ConfigureChannelGain ShelfNumber, SlotNumber, SpanNumber, ChannelNumber, GainId		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected channel.
SlotNumber	0–15	The number of the slot that is being disabled.
SpanNumber	0–15	The number of the span that is being disabled.
ChannelNumber	0-31	The channel number of the timeslot within the span.
GainId	0–47, -1	Gain Id. If –1 is entered, all gains are displayed.

2.3.7 ConfigureClock

This command configures the system's synchronization clock sources. Synchronization clock sources are provided by the T1 and E1 Trunk cards and can be one of the following:

- One of the card's first seven spans (span 1 to 7)
- An external clock source that is a multiple of 8 kHz
- The card's internal clock

For VoIP cards the clock source must be set to internal.

ConfigureClock ShelfNumber, SlotNumber, Priority, ClockType, Action		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the clock reference to be configured.
Priority	0–99	The priority order of this configured clock. 0 is the highest.
ClockType	1–7 INTERNAL EXTERNAL	The specified card's reference to be used as the synchronization clock. A number between 1–7 represents the card spans 0–6. INTERNAL specifies the card's internal clock EXTERNAL specifies the card's external clock source (multiple of 8 kHz). VoIP Clock must be set to INTERNAL.
Action	Char	MOD - to overwrite an existing record for the specified priority. ADD - to add a new clock priority. If you specify ADD for a priority that already exists, a new clock priority is created at that priority and the entire existing equal or lower priority clocks are shifted down one priority lower.

By default, if there are no clock sources configured, the system clock is generated by the first T1 or E1 card that connects to the VSOS.

The system uses one clock source only at a time. A clock source is selected according to its Priority number (the clock source with Priority 0 has highest priority). When you assign a priority to a clock source, a new record is created.

If a priority number has already been assigned to one clock source (through an *ADD* action) and you assign the same priority number to a different clock source (through a *MOD* action), the new priority assignment is recorded and the previous priority record is deleted.

2.3.8 RemoveClock

This command removes any network synchronization clock sources configured for a given priority. If a clock source is not specified for the given priority, an error message is generated. When a clock is removed, the priorities are reordered to eliminate gaps in the priority order.

RemoveClock Priority, ShelfNumber		
Field Name	Values	Description
Priority	0–99	The priority order of this configured clock to be removed.
ShelfNumber	0–31	The shelf number of the affected chassis.

2.3.9 ConfigureSpan

This command configures the framing, coding, and line build-out for a span on a T1 or E1 trunk card.

ConfigureSpan ShelfNumber, SlotNumber, SpanNumber, Framing, LineCoding, LineBuildOut, LocalLoopback, RemoteLoopback		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The number of the span that is being configured.
Framing	D4 ESF FRAME	Framing format for the span. T1: D4 or ESF E1: FRAME
LineCoding	AMI B8ZS HDB3	Line coding format for the span. T1: AMI or B8ZS E1: HDB3
LineBuildOut	_0_133FT _133_266FT _266_399FT _399_533FT _533_655FT	Line Build Out / Attenuation specified for the span.

	_7dB _15dB _22dB	
LocalLoopback	ON OFF	The local loopback state of this span remains consistent from one reboot to the next.
RemoteLoopback	ON OFF	The remote loopback state of this span remains consistent from one reboot to the next.

2.4 Hardware Control

The commands described in this section control the EdgeIQ hardware, span state, and VoIP channel state.

2.4.1 ResetCard

This command resets the card in the designated shelf and slot. All associated card software is restarted.

ResetCard ShelfNumber, SlotNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected card.

2.4.2 EnableSpan

This command marks the span as enabled in the configuration data so that it can be used for call processing functions. All channels within the span are enabled. To disable individual channels see the DisableChannel command. The Blue alarm is not transmitted.

EnableSpan ShelfNumber, SlotNumber, SpanNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15, -1	The number of the span that is being enabled. If -1 is entered, all spans are enabled.

2.4.3 DisableSpan

This command marks the span as disabled in the configuration data so that it cannot be used for call processing functions. All channels within the span are disabled. The affected span transmits a blue alarm.

DisableSpan ShelfNumber, SlotNumber, SpanNumber, GradualShutDown		
Field Name	Values	Description

ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15, -1	The number of the span that is being disabled. If –1 is entered, all spans are disabled.
GradualShutDown	ON, OFF	When set to ON, the system checks that the channels are idle (no calls) before disabling them and then disabling the span.

2.4.4 EnableChannel

This command enables a VoIP channel of an enabled VoIP span.

EnableChannel ShelfNumber, SlotNumber, SpanNumber, ChannelNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The number of the span.
ChannelNumber	0–511	The channel number within the span.

2.4.5 DisableChannel

This command disables a VoIP channel.

DisableChannel ShelfNumber, SlotNumber, SpanNumber, ChannelNumber, GradualShutDown		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The number of the span.
ChannelNumber	0 to 511	The channel number within the span.
GradualShutDown	ON, OFF	When set to ON, the system checks that the channels are idle (no calls) before disabling them.

2.4.6 EnableRangeOfChannels

This command enables a range of VoIP channels of an enabled VoIP span.

EnableRangeOfChannel ShelfNumber, SlotNumber, SpanNumber, FirstChannelNumber, LastChannelNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The number of the span.
FirstChannelNumber	0–511	The first channel number within the range.
LastChannelNumber	0–511	The last channel number within the range.

2.4.7 DisableRangeOfChannels

This command disables a range of VoIP channels.

DisableRangeOfChannel ShelfNumber, SlotNumber, SpanNumber, ChannelNumber, GradualShutDown		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The number of the span.
FirstChannelNumber	0–511	The first channel number within the range.
LastChannelNumber	0–511	The last channel number within the range.
GradualShutDown	ON, OFF	When set to ON, the system checks that the channels are idle (no calls) before disabling them.

2.5 Trunk Group Configuration

A trunk group is defined as a collection of circuits comprising a unique physical connection between the EdgeIQ and another network element, whereby all bearer channels share identical signalling characteristics. Trunk group channels can be moved between trunk groups of the same type using the *MoveChannelToTrunkGroup* command, or removed from trunk groups using the *RemoveChannelFromTrunkGroup* command.

For example, if the trunk group is PRI, all bearer circuits in the group use the same D-channel (23). If the trunk group is CAS, all circuits share the same CAS timing parameters and signalling protocol.

A route set allows different physical paths in a network to be selected for a given dialed number depending upon such criteria as network congestion, least cost, time-of-day, shortest path, preferred carrier, or other considerations. Physical paths within a route set can have different signalling characteristics. As such, individual trunk groups (encapsulating the physical path) can be added to a route set for the purpose of network path selection.

To make modifications to a configured trunk group, you must first remove the trunk group and then reconfigure it. Hence to reduce the maintenance on trunk groups, you should assign a profile identifier to each trunk group.

Duplicated trunk group names are allowed.

2.5.1 CreateCASTrunkGroup

This command creates a robbed-bit (Channel Associated Signalling) trunk group. All channels in the specified span are automatically configured as robbed-bit bearer circuits and are given the same CAS profile, as specified in this command.

To create an empty trunk group, set the shelf, slot, and span to -1.

CreateCASTrunkGroup TrunkGroupName, TrunkGroupName, CASProfileId, ShelfNumber, SlotNumber, SpanNumber, HuntAlgorithm		
Field Name	Values	Description
TrunkGroupName	Integer (0–134217727)	Trunk Group number used to uniquely identify this trunk group.
TrunkGroupName	Char (up to 50)	Trunk Group name used to uniquely identify this trunk group. The name cannot contain spaces.
CASProfileId	Integer	Specifies which of the pre-configured or user-defined CAS signalling protocols is supported. If user defined, the Integer specified must be a valid CASProfileId (as displayed with the DisplayCASSignallingProfile command).
ShelfNumber	0–31, -1	Chassis shelf number
SlotNumber	0–15, -1	Card slot number
SpanNumber	0–15, -1	Card span number
HuntAlgorithm	FIRST_AVAILABLE ROUND_ROBIN_BACKWARD ROUND_ROBIN_FORWARD MOST_IDLE	Hunting Algorithm to be used.

2.5.2 CreateClearChannelTrunkGroup

Clear channel connections are required when an external application has control of both ends of the circuit, for example with direct connections to external Intelligent Voice Recognition (IVR) platforms. Generally speaking, these trunk groups are not required.

This command creates a clear channel trunk group. All channels in the specified span are automatically configured as clear channel bearer circuits.

To create a clear channel trunk group for a VoIP application, use *CreateVoIPBWTrunkGroup*.

To create an empty trunk group, set the shelf, slot, and span to -1.

CreateClearChannelTrunkGroup TrunkGroupName, TrunkGroupName, ShelfNumber, SlotNumber, SpanNumber, HuntAlgorithm		
Field Name	Values	Description
TrunkGroupName	Integer (0–134217727)	Trunk Group number used to uniquely identify this trunk group.
TrunkGroupName	Char (up to 50)	Name of the trunk group. The name cannot contain spaces.
ShelfNumber	0–31, -1	The shelf number of the affected chassis.
SlotNumber	0–15, -1	The affected slot number.
SpanNumber	0–15, -1	The span number to which the trunk group is associated.
HuntAlgorithm	FIRST_AVAILABLE ROUND_ROBIN_BACKWARD ROUND_ROBIN_FORWARD MOST_IDLE	Hunting Algorithm to be used.

2.5.3 CreatePRINFASTrunkGroup

This command creates a T1 PRI Non-facility Associated Signalling (NFAS) trunk group. In NFAS, the primary D-channel, the backup D-channel (if provided) and the associated B-channels are called an NFAS group.

ISDN Non Facility Associated Signalling (NFAS) extends D-channel control to the B-channels not resident on the same physical T1. This allows a single D-channel to control up to 20 T1 spans (a maximum of 479 B-channels). It minimizes the number of T1 channels that have to be used as D-channels.

A D-channel backup (DCBU) can be configured for use when the primary NFAS D-channel fails. D-channel backup is an option that increases reliability. When assigning a backup span, the span type must be PRI. In addition, the primary and backup spans must have the same configuration.

NFAS is supported on the Network/User side for NI2, 5ESS, and DMS switches.

DCBU is supported on the Network/User side for NI2 switches.

T1 Trunk Card spans are automatically configured as 23B+D with channel 23 configured as the D-Channel and channels 0-22 configured as the ISDN bearer circuits.

It is not possible to create an empty NFAS trunk group since signalling information is required.

Duplicated trunk group names are allowed.

If a span is specified, use the *ConfigureDChannelProtocol* command to configure the D-Channel for that span.

Ensure that the *InterfaceID* parameter and the *BackupDInterfaceID* parameters have unique values.

CreatePRINFASTrunkGroup TrunkGroupNumber, TrunkGroupName, PrimaryDShelfNumber, PrimaryDSlotNumber, PrimaryDSpanNumber, HuntAlgorithm, BackupDShelfNumber, BackupDSlotNumber, BackupDSpanNumber, BearerChannelIncluded, InterfaceID, BackupDInterfaceID		
Field Name	Values	Description
TrunkGroupNumber	Integer (0–134217727)	Trunk Group number used to uniquely identify this trunk group.
TrunkGroupName	Char (up to 50)	Name of the trunk group. The name cannot contain spaces.
PrimaryDShelfNumber	0–31, -1	Shelf number where the primary D-channel is configured.
PrimaryDSlotNumber	0–15, -1	Slot number where the primary D-channel is configured.
PrimaryDSpanNumber	0–15, -1	Span number where the primary D-channel is configured.
HuntAlgorithm	FIRST_AVAILABLE ROUND_ROBIN_BACKWARD ROUND_ROBIN_FORWARD MOST_IDLE	Hunting Algorithm to be used.
BackupDShelfNumber	0–31, -1	Shelf number where the backup D-channel is configured. Use –1 if there is no backup D-channel.
BackupDSlotNumber	0–15, -1	Slot number where the backup D-channel is configured. Use –1 if there is no backup D-channel.

CreatePRINFASTrunkGroup TrunkGroupNumber, TrunkGroupName, PrimaryDShelfNumber, PrimaryDSlotNumber, PrimaryDSpanNumber, HuntAlgorithm, BackupDShelfNumber, BackupDSlotNumber, BackupDSpanNumber, BearerChannelIncluded, InterfaceID, BackupDInterfaceID		
Field Name	Values	Description
BackupDSpanNumber	0–15, -1	Span number where the backup D-channel is configured. Use –1 if there is no backup D-channel.

CreatePRINFASTrunkGroup TrunkGroupNumber, TrunkGroupName, PrimaryDShelfNumber, PrimaryDSlotNumber, PrimaryDSpanNumber, HuntAlgorithm, BackupDShelfNumber, BackupDSlotNumber, BackupDSpanNumber, BearerChannellIncluded, InterfaceID, BackupDInterfaceId		
Field Name	Values	Description
BearerChannellIncluded	TRUE or FALSE	This field allows 2 trunk groups to be controlled by the same D channel. When this field is set to true the specified span channels are associated with newly created trunk group. If the field is set to false, the specified span channels are not associated with the newly created trunk group. The command fails if the user enters a command with <i>BearerChannellIncluded</i> set to false prior to true (i.e. if the channels specified have not been assigned to another trunk group). Note that the Interface Id is not updated when <i>BearerChannellIncluded</i> is set to false.
InterfaceId	Integer (0–127)	The identifier of the interface that matches the physical location of the ISDN bearer span with the telephony network.
BackupDInterfaceId	Integer (0–127)	The backup D identifier of the interface that matches the physical location of the ISDN bearer span with the telephony network.

2.5.4 CreatePRITrunkGroup

This command creates a standard Facility Associated Signalling (FAS) ISDN-PRI trunk group.

T1 Trunk Card spans are automatically configured as 23B+D with channel 23 configured as the D-Channel and channels 0-22 configured as the ISDN bearer circuits.

E1 Trunk Card spans are automatically configured as 30B+D with channel 0 used for framing, channel 16 configured as the D-channel, and channels 1-15 and 17-31 configured as the ISDN bearer circuits.

To create an empty PRI trunk group, set the shelf, slot number, and span to -1.

Duplicated trunk group names are allowed.

If a span is specified, use the *ConfigureDChannelProtocol* command to configure the D-Channel for that span.

CreatePRITrunkGroup TrunkGroupName, TrunkGroupName, ShelfNumber, SlotNumber, SpanNumber, HuntAlgorithm		
Field Name	Values	Description
TrunkGroupName	Integer (0–134217727)	Trunk Group number used to uniquely identify this trunk group.
TrunkGroupName	Char (up to 50)	Name of the trunk group. The name cannot contain spaces.
ShelfNumber	0–31, -1	Chassis shelf number
SlotNumber	0–15, -1	Card slot number
SpanNumber	0–15, -1	Card span number
HuntAlgorithm	FIRST_AVAILABLE ROUND_ROBIN_BACKWARD ROUND_ROBIN_FORWARD MOST_IDLE	Hunting Algorithm to be used.

2.5.5 CreateSS7TrunkGroup

This command creates an SS7 bearer trunk group. All channels in the specified span are automatically configured as SS7 bearer circuits.

To create an empty trunk group, set the shelf, slot, and span to -1.

CreateSS7TrunkGroup TrunkGroupName, TrunkGroupName, DPC, ShelfNumber, SlotNumber, SpanNumber, StartCIC, HuntAlgorithm, localSP, IEId, LocalTxCOToneID, RemoteTxCOToneID, PercentageOfOutgoingCOT		
Parameter	Values	Description
TrunkGroupName	Integer (0–134217727)	Trunk group number used to uniquely identify this trunk group.
TrunkGroupName	Char (up to 50). Must start with either SS7_ or SIGTRAN_.	Name of the trunk group. The name cannot contain spaces.
DPC	Integer	Destination point code.
ShelfNumber	0–31, -1	Chassis shelf number
SlotNumber	0–15, -1	Card slot number
SpanNumber	0–15, -1	Card span number
StartCIC	0 Multiple of 24 (for T1)	This is the starting CIC (Circuit Identification Code) for the first channel in the span. For T1 cards the StartCIC must be a multiple of

CreateSS7TrunkGroup TrunkGroupName, TrunkGroupNumber, DPC, ShelfNumber, SlotNumber, SpanNumber, StartCIC, HuntAlgorithm, localSP, IEId, LocalTxCOTToneID, RemoteTxCOTToneID, PercentageOfOutgoingCOT		
Parameter	Values	Description
	Multiple of 32 (for E1)	24, and for E1 cards it must be a multiple of 32. The CIC is then incremented by 1 for each subsequent channel in the span. For example, if the StartCIC parameter is 72, then the first channel has a CIC of 72, the next 73, and so on.
HuntAlgorithm	FIRST_AVAILABLE ROUND_ROBIN_BACKWARD ROUND_ROBIN_FORWARD MOST_IDLE	Hunting algorithm to be used.
localSP	0-7	SP (signalling point) number. Allows multiple local point codes. Refers to the SP number configured at the SS8 Networks stack.
IEId	Integer	The unique Id for this group of Information Element Profiles.
LocalTxCOTToneID	Integer (0-63)	LocalTxCOTToneID and RemoteTxCOTToneID are tones from the GeneratedTone table that will be played on this trunkgroup when a ContinuityTest is performed. If the initiator of the ContinuityTest is local, then the LocalTxCOTToneID is played. If the initiator of the ContinuityTest is remote, then the RemoteTxCO TToneID is played. For COT 4-wire to 4-wire, set LocalTxCOTToneID = 61, RemoteTxCOTToneID = 62.
RemoteTxCOTToneID	Integer (0-63)	
PercentageOfOutgoingCOT	Integer (0-100);	Percentage of outgoing calls COT will be performed on..

2.5.6 CreateVoIPBWTrunkGroup

This command creates a VoIP trunk group that is associated with a particular VoIP SIL. Through this command, the range of bearer channels for the given shelf, slot, and span are associated with the VoIP signalling trunk group. Any channels that fall outside the range are dropped. The trunk group hunting process can be used if needed.

Note: Add a VoIP SIL record to the configuration database for the VoIP SIL that you are using (see *AddBW*) before you issue the *CreateVoIPBWTrunkGroup* command.

To create an empty trunk group, set the shelf, slot, and span to -1.

The number of channels available on a VoIP512 span is dependent on the card's CODEC switch settings. Refer to the VoIP section of the Installation Guide.

CreateVoIPBWTrunkGroup TrunkGroupName, TrunkGroupNumber, BearerShelfNumber, BearerSlotNumber, BearerSpanNumber, BWId, HuntAlgorithm, VoIPChannelProfileId		
Parameter	Values	Description
TrunkGroupNumber	Integer (0–134217727)	Trunk group number used to uniquely identify the new VoIP signalling trunk group.
TrunkGroupName	Char (up to 50)	Name of the new VoIP signalling trunk group. The name cannot contain spaces.
BearerShelfNumber	0–31, -1	Chassis shelf number
BearerSlotNumber	0–15, -1	Card slot number
BearerSpanNumber	0–15, -1	Card span number
BWId	101–255	Unique identifier of a VoIP SIL.
HuntAlgorithm	FIRST_AVAILABLE ROUND_ROBIN_BACKWARD ROUND_ROBIN_FORWARD MOST_IDLE	Hunting algorithm to be used.
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.

2.5.7 CreateVoIPClearChannelTrunkGroup

This command creates a VoIP bearer trunk group that carries voice information only (no signalling). All channels in the specified span are automatically configured as stream-socket clear channels.

To create an empty trunk group, set the shelf, slot, and span to -1.

CreateVoIPClearChannelTrunkGroup TrunkGroupNumber, TrunkGroupName, ShelfNumber, SlotNumber, SpanNumber, HuntAlgorithm, VoIPCallParameter		
Parameter	Values	Description
TrunkGroupNumber	Integer (0–134217727)	Trunk group number used to uniquely identify this trunk group.
TrunkGroupName	Char (up to 50)	Name of the trunk group. The name cannot contain spaces.
ShelfNumber	0–31, -1	Chassis shelf number

CreateVoIPClearChannelTrunkGroup TrunkGroupName, ShelfNumber, SlotNumber, SpanNumber, HuntAlgorithm, VoIPCallParameter		
Parameter	Values	Description
SlotNumber	0–15, -1	Card slot number
SpanNumber	0–15, -1	Card span number
HuntAlgorithm	FIRST_AVAILABLE ROUND_ROBIN_BACKWARD ROUND_ROBIN_FORWARD MOST_IDLE	Hunting algorithm to be used.
VoIPCallParameter	(0–255)	VoIP channel characteristic of the specified span.

2.6 Trunk Group Control

Trunk group control commands are listed below:

- RemoveTrunkGroup
- MoveChannelToTrunkGroup
- RemoveChannelFromTrunkGroup
- MoveSpanToTrunkGroup
- RemoveSpanFromTrunkGroup

2.6.1 RemoveTrunkGroup

This command removes a trunk group.

The following two points are applicable to PRI Non-facility Associated Signalling (NFAS):

If the NFAS trunk group is not empty, the D-Channel NFAS span must not have any bearer channels associated with it.

If two trunk groups are being controlled by the same D-Channel span (e.g. trunk groups 500 and 501 are controlled by the same span), the following applies:

- If trunk group 500 is removed and there are no channels in trunk group 501, trunk group 500 is removed and trunk group 501 remains.
- If trunk group 501 is being removed and there are no channels in it, trunk group 501 is removed.

- If both trunk groups have associated channels (e.g. trunk group 500 contains the D-Channel span and trunk group 501 contains the bearer channels of another span), any attempt to remove either trunk group fails.

This command is not supported for trunk groups that have a PRI span with an associated backup D-channel: you must move or remove the backup D span first.

Note: Before you issue the command, all spans associated with the trunk group must be moved to another trunk group first (see *MoveSpanToTrunkGroup*).

RemoveTrunkGroup TrunkGroupNumber		
Field Name	Values	Description
TrunkGroupNumber	Integer (0–134217727)	Trunk Group number to be removed.

2.6.2 MoveChannelToTrunkGroup

This command moves a bearer channel from a trunk group to another trunk group of the same type. The channel is removed from the group for which it is currently a member and placed in the specified group provided that all validation checks pass.

This command is not supported for PRI Non-facility Associated Signalling (NFAS) trunk groups (if a bearer channel from an NFAS trunk group is moved, the channel loses its signalling).

You can use this command to move a channel into a VoIP clear channel trunk group or into a VoIP signalling trunk group.

MoveChannelToTrunkGroup ShelfNumber, SlotNumber, SpanNumber, ChannelNumber, TrunkGroupNumber		
Field Name	Values	Description
ShelfNumber	0–31	Chassis' shelf number
SlotNumber	0–15	Card's slot number
SpanNumber	0–15	Card's span number
ChannelNumber	0–31	Span's channel
TrunkGroupNumber	Integer (0–134217727)	Trunk group number

2.6.3 RemoveChannelFromTrunkGroup

This command removes a bearer channel from its current trunk group.

This command is not supported for PRI Non-facility Associated Signalling (NFAS) trunk groups (if a bearer channel from an NFAS trunk group is moved, the channel loses its signalling). The same is true for channels in D-channel NFAS

spans. The entire span must be removed or a move channel command must be executed.

Note: You can use this command to remove a VoIP clear channel from a VoIP clear channel trunk group. However, do not use this command to remove a VoIP signalling channel from a VoIP signalling trunk group—to remove signalling from a VoIP signalling channel (i.e. place the channel in a VoIP clear channel trunk group), use the *MoveChannelToTrunkGroup* command instead.

RemoveChannelFromTrunkGroup ShelfNumber, SlotNumber, SpanNumber, ChannelNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the chassis.
SlotNumber	0–15	The slot number.
SpanNumber	0–15	The span number to which the trunk group is associated.
ChannelNumber	0–31	The channel within the span. If the channel belongs to a VoIP trunk group, ChannelNumber must be 0.

2.6.4 MoveSpanToTrunkGroup

An entire span can be moved from a trunk group to another compatible trunk group. Each channel in the span is removed from the group for which it is currently a member and placed in the specified group, provided that all validation checks pass.

For PRI Non-facility Associated Signalling (NFAS), if the span being moved is a D-channel NFAS span and it is being moved to a non-NFAS trunk group, the trunk group becomes empty. You can remove the trunk group through the *RemoveTrunkGroup* command. Note that the D-channel NFAS span must not have any bearer channels associated with it.

This command is not supported for any PRI span that has a D-channel backup associated with it. You must move or remove the backup D span first. If a backup D span is being moved, its primary D span must be disabled and it must not have any bearer spans associated with it.

You can use this command to move a bearer span in a VoIP clear channel trunk group into a VoIP signalling trunk group (to add signalling to the span), or move a VoIP signalling span from one VoIP signalling trunk group to another (to change the signalling of the span).

Note: If you use this command to divide a VoIP span into two SILs, initiate the command during low traffic periods. This reduces the effects of the command on your system processes.

MoveSpanToTrunkGroup ShelfNumber, SlotNumber, SpanNumber, TrunkGroupNumber, SpecialID		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the chassis.
SlotNumber	0–15	The slot number.
SpanNumber	0–15	The span number to which the trunk group is associated. If the span belongs to a VoIP bearer trunk group, the value of SpanNumber must be identical to the value that was specified through the VoIPCallParameter parameter of a previous CreateVoIPClearChannelTrunkGroup command.
TrunkGroupNumber	Integer (0–134217727)	Trunk Group number used to uniquely identify this trunk group.
SpecialID	0–72888 (SS7) 0–127 (NFAS) 0 for others	This parameter is only applicable to SS7 trunk groups or NFAS (ISDN PRI) trunk groups. For SS7, this parameter is the starting CIC (Circuit Identification Code) for the first channel in the span. For T1 cards the StartCIC must be a multiple of 24, and for E1 cards it must be a multiple of 32. (The CIC is then incremented by 1 for each subsequent channel in the span. For example if the StartCIC parameter is 72, then the first channel has a CIC of 72, the next 73, and so on.) For NFAS this is the Interface ID configured for the span. This value is obtained from your ISDN PRI service provider at provisioning time, and it is the same value for all channels on the NFAS span.

2.6.5 RemoveSpanFromTrunkGroup

This command removes every channel of the span from the specified trunk group.

The following two points are applicable for PRI Non-facility Associated Signalling (NFAS):

1. If the span being removed is a D-channel NFAS span with no bearer channels, every channel of the D-channel span is removed.
2. If the span being removed contains only bearer channels, the command fails (signalling information is lost). The span must be moved to another non-NFAS trunk group and then removed. As an alternative, use any of the CreateTrunkGroup commands on the span.

This command is not supported for any PRI span that has a D-channel backup associated with it. You must move or remove the backup D span first. If a backup D span is being removed, its primary D span must be disabled and it must not have any bearer spans associated with it.

Note: You can use this command to remove a bearer span from a VoIP clear channel trunk group. However, do not use the command to remove a VoIP signalling span from a VoIP signalling trunk group—to remove signalling from a VoIP signalling span (i.e. place the span in a VoIP clear channel trunk group), use the

MoveSpanToTrunkGroup command instead.

RemoveSpanFromTrunkGroup ShelfNumber, SlotNumber, SpanNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The affected slot number.
SpanNumber	0–15	The span number to which the trunk group is associated. If the span belongs to a VoIP trunk group, SpanNumber must be 0.

2.7 Route Set Configuration

A route set allows different physical paths in a network to be selected for a given dialed number depending upon such criteria as network congestion, least cost, time-of-day, shortest path, preferred carrier, or other considerations. Physical paths within a route set can have different signalling characteristics. As such, individual trunk groups (encapsulating the physical path) can be added to a route set for the purpose of network path selection.

Trunk groups are searched based upon an order value assigned using the *AddTrunkGroupToRouteSet* command.

2.7.1 ConfigureBearerRouteSet

This command configures bearer route sets. If the specified route set number already exists, the existing route set name is overwritten. Otherwise, the route set is created as specified in the command. The maximum number of Bearer Route Sets that can be configured is 2048.

ConfigureBearerRouteSet BearerRouteSetNumber, BearerRouteSetName		
Field Name	Values	Description
BearerRouteSetNumber	Integer	The number assigned to the bearer route set.
BearerRouteSetName	Char (50)	The name assigned to the bearer route set. The name cannot contain spaces.
Loadsharing	ON, OFF	Loadsharing of traffic between trunk groups within route sets can be enabled or disabled. When set to <i>ON</i> , calls are assigned to the trunk groups within the route set in a round-robin fashion starting with the trunk group with the lowest hunting order. When set to <i>OFF</i> , calls are assigned to the first trunk group until the trunk group is fully utilized, then the second trunk group is used and so on. The default configuration for loadsharing is <i>OFF</i> .

2.7.2 RemoveBearerRouteSet

This command removes a bearer route set. If the specified route set number does not exist, an error code is returned. All trunk groups are removed from the route set prior to its deletion.

RemoveBearerRouteSet BearerRouteSetNumber		
Field Name	Values	Description
BearerRouteSetNumber	Integer	The number assigned to the bearer route set

2.7.3 AddTrunkGroupToRouteSet

This command adds a trunk group to a bearer route set. The trunk group is added in the order specified. The maximum number of Trunk Groups that can be added to a Bearer Route Set is 128.

AddTrunkGroupToRouteSet BearerRouteSetNumber, TrunkGroupNumber, HuntOrder		
Field Name	Values	Description
BearerRouteSetNumber	Integer	The number assigned to the bearer route set.
TrunkGroupNumber	Integer (0-134217727)	The trunk group number to add.
HuntOrder	Integer	The order in which this trunk group is selected in relation to the other trunk groups in the routeset.

2.7.4 RemoveTrunkGroupFromRouteSet

This command removes a trunk group from a bearer route set.

RemoveTrunkGroupFromRouteSet BearerRouteSetNumber, TrunkGroupNumber		
Field Name	Values	Description
BearerRouteSetNumber	Integer	The number assigned to the bearer route set
TrunkGroupNumber	Integer (0-134217727)	The trunk group number to add.

2.8 VoIP Configuration

VoIP profiles allow you to define a set of system parameters and link them to one or more trunk groups. For example, the *CreateVoIPChannelProfileId* command links parameters from several commands into a single profile. Parameters from the following commands are linked to a single VoIP channel profile identifier:

- *ConfigureVoIPCause*

- ConfigureVoIPProgress
- ConfigureVoIPECAN
- ConfigureVoIPSilentSuppression
- ConfigureVoIPVoicePackets
- ConfigureVoIPRTTPackets
- ConfigureVoIPRTCPPackets
- ConfigureVoIPOutOfBandTone
- ConfigureVoIPRTTPayloadTypeMapping
- ConfigureCallParameterDNS
- ConfigureCallParameterPrefix
- CreateVoIPBWTrunkGroup
- ConfigureVoIPFaxModemPacketsIE

The default VoIP profile is *VoIPChannelProfile 0*. The *MoveChannelToTrunkGroup* and *MoveSpanToTrunkGroup* commands link the specified channel or span to a *VoIPChannelProfileId*.

To reduce the maintenance on trunk groups, you should assign a unique VoIP channel profile identifier to each trunk group.

2.8.1 CreateVoIPChannelProfileId

This command creates a VoIP clear channel profile in the configuration database. The profile is initialized with default values. Refer to the Configuration Guide for details on the default parameter values.

CreateVoIPChannelProfileId VoIPChannelProfileId		
Parameter	Values	Description
VoIPChannelProfileId	1–255	The unique identifier of a VoIP clear channel profile. The default profile 0 cannot be changed or deleted.

2.8.2 RemoveVoIPChannelProfileId

This command removes a VoIP clear channel profile from the configuration database.

RemoveVoIPChannelProfileId VoIPChannelProfileId		
Parameter	Values	Description
VoIPChannelProfileId	1–255	The unique identifier of a VoIP clear channel profile. The default profile 0 cannot be changed or deleted.

2.8.3 ConfigureRTPDestinationParameters

This command configures the default destination (far-end) IP address and UDP port for transmitting RTP and RTCP packets over a VoIP clear channel. The default RTP/RTCP destination addresses that you specify can be overwritten dynamically when a call is made through the Managed API's *ctiMakeCall* function.

More specifically, this commands sets:

- The TxUdpRtpDestPort and RxUdpRtpSourcePort to DestPort.
- The TxUdpRtcpDestPort and RxUdpRtcpSourcePort to DestPort+1.
- The VoIPDestIpAddress and FarEndAltAddressForRTCP to DestIpAddress.

If the channel parameter is set to –1, the entire span is configured. In this case *IncPortIndex* must increment the *DestPort* for every succeeding channel. If *IncPortIndex* is set to 0 then all channels must use the same value for *DestPort*.

ConfigureRTPDestinationParameters ShelfNumber, SlotNumber, SpanNumber, ChannelNumber, DestPort, DestIpAddress, IncPortIndex		
Parameter	Values	Description
ShelfNumber	0-31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number where the card is installed.
SpanNumber	0	The number of the affected span.
ChannelNumber	0-511, -1	The channel to configure. If –1 is entered the whole span is configured.
DestPort	0	UDP destination port for transmitting RTP packets—specify an even port number.
DestIpAddress	X.X.X.X	Destination (far-end) IP address (in dot format) for transmitting RTP packets.
IncPortIndex		UDP destination port for transmitting RTCP packets—this value must be equivalent to <i>FarEndPort</i> +1 (an odd number). If <i>IncPortIndex</i> is set to 0, all <i>FarEndPorts</i> for all channels are used.

A sample command is shown below:


```
ConfigureRTPDestinationParameters 26, 1, 0, -1, 8000, 196.18.29.101, 0
```

2.8.4 ConfigureRTPSourceParameters

This command configures the default source (local) IP address and UDP port from which RTP and RTCP packets are sent over a VoIP clear channel. The default RTP/RTCP source addresses that you specify can be overwritten dynamically when a call is made through the Managed API's *ctiMakeCall* function. More specifically, this commands sets:

- The TxUdpRtpSourcePort and RxUdpRtpDestPort to SourcePort.
- The TxUdpRtcpSourcePort and RxUdpRtcpDestPort to SourcePort+1.
- The VoIPSourceIpAddress to SourceIpAddress.

If the channel parameter is set to -1 , the entire span is configured. In this case *IncPortIndex* must increment the *SourcePort* for every succeeding channel. If *IncPortIndex* is set to 0 then all the channels must use the same value for *SourcePort*.

Use *ConfigureVoipSpan* to configure the *GatewayIP* first.

ConfigureRTPSourceParameters ShelfNumber, SlotNumber, SpanNumber, ChannelNumberSourcePort, SourceIpAddress, IncPortIndex		
Parameter	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number where the card is installed.
SpanNumber	0-15	The number of the affected span.
ChannelNumber	0-511, -1	The channel to configure, if value -1 is specified, then the whole span is configured.
SourcePort	0-65535	UDP source port from which RTP packets are sent—specify an even port number.
SourceIpAddress	X.X.X.X	Source (local) IP address (in dot format) from which RTP packets are sent. The value must be the same for all channels. The sourceip must be in the same subnet as the <i>gatewayip</i> . See the <i>ConfigureVoipSpan</i> command. Maximum of 15 characters.
IncPortIndex	0-10	If channel is set to -1 , this means that the entire span must be configured. In this case <i>IncPortIndex</i> must increment the <i>SourceEndPort</i> for every succeeding channel. If <i>IncPortIndex</i> is set to 0 then all the channels must use the same value for <i>SourceEndPort</i> .

A sample command is shown below:

```
ConfigureRTPSourceParameters 26, 1, 0, -1, 8000, 192.16.26.100, 4
```

2.8.5 ConfigureCallParameterDNS

This command defines the signaling source ID of the Domain Name System (DNS) server. For example 8197710011@127.0.0.3.

ConfigureCallParameterDNS VoIPChannelProfileId, String		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
String	Up to 1,500 characters	The default value is an empty string in which case NONE must be entered.

2.8.6 ConfigureCallParameterPrefix

This command adds a prefix to the called party number.

ConfigureCallParameterPrefix VoIPChannelProfileId, String		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
String	Up to 5 characters	The default value is empty.

2.8.7 ConfigureVoIPCause

This command configures the Cause Value associated with a given *VoIPChannelProfileId* for VoIP calls. The valid cause codes are described in A Q.850 Release Cause Codes on page 148.

ConfigureVoIPCause VoIPChannelProfileId, CauseValue		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
CauseValue	0-65535	The cause code as specified by the recommendation.

2.8.8 ConfigureVoIPECAN

This command configures G.168 echo cancellation for all VoIP bearer channels that are associated with the specified VoIP clear channel profile.

ConfigureVoIPecan VoIPChannelProfileId, EcanG168, EcanNonLinearProcessor, EcanTail, WorstCaseExpectedERL		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
EcanG168	On Off	Enables or disables G.168 echo cancellation processing. By default, processing is enabled.
EcanNonLinearProcessor	On Off	Enables or disables G.168 echo cancellation non-linear processing. By default, processing is enabled.
EcanTail	24msec 32msec 48msec 64msec	Sets the maximum amount of time (in milliseconds) that echo can be delayed in order for it to be cancelled successfully. The value is set to 64 ms by default.
WorstCaseExpectedERL	0db 3db 6db	Threshold of worst possible echo return loss (in decibels) before echo cancellation is applied. The value is set to 6 dB by default.

2.8.9 ConfigureVoIPFaxModemPacketsIE

This command configures the fax packet information elements for all VoIP bearer channels associated with the specified *VoIPChannelProfileId*.

ConfigureVoIPFaxModemPacketsIE VoIPChannelProfileId, FaxMaxJitter, FaxMaxDelay, FaxCEDDuration, FaxCNGDoneDelay, FaxCNGDuration, NumRedundantImagePkts, NumRedundantControlPkts, ReorderDelay		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
FaxMaxJitter	0-65535	Defines the maximum hold time for a given packet. Values are in units of 125 microseconds. Default value is 150 (18.75 milliseconds).
FaxMaxDelay	0-65535	Maximum Delay Values are in milliseconds Default is 200.
FaxCEDDuration	2600-4000	Defines the duration of the answer tone used by the called device to indicate that it is a fax device. Values are in milliseconds. Default is 3000.

ConfigureVoIPFaxModemPacketsIE VoIPChannelProfileId, FaxMaxJitter, FaxMaxDelay, FaxCEDDuration, FaxCNGDoneDelay, FaxCNGDuration, NumRedundantImagePkts, NumRedundantControlPkts, ReorderDelay		
Parameter	Values	Description
FaxCNGDoneDelay	2550-3450	CNG Done Delay Values are in milliseconds. Default is 3000.
FaxCNGDuration	424-575	Defines the duration of the tone transmitted by the calling terminal to indicate that it is a fax device. Values are in milliseconds. Default is 500.
NumRedundantImagePkts	0 - 3	Number of secondary Internet Fax Protocol (IFP) image packets (TCF and page data) in each UDPTL packet. The default is 3.
NumRedundantControlPkts	0 - 4	Number of secondary Internet Fax Protocol (IFP) control packets (T.30 messages) in each UDPTL packet. The default is 3.
ReorderDelay	0 - 200	Allotted period, in milliseconds, to queue packets for the purpose of reordering received packets. The default is 200.

A sample configuration command is shown below:

```
ConfigureVoIPFaxModemPacketsIE 0,150,200,3000,3000,500,3,3,200
```

2.8.10 ConfigureVoIPOutOfBandTone

This command configures DTMF tone signalling, Fax Relay, and Modem Relay services. For additional information, see RFC 2833 and H.323 documentation.

The software setting of the T.38 Fax Relay service must match the current setting of the dipswitches on the VoIP512 carrier card. Refer to the Installation Guide for details.

DTMF Tone Transport over the H.245 Signalling Channel

DTMF tones can be detected and forwarded over the H.245 signalling channel of an H.323 interface. For both H.245 Alphanumeric and H.245 Signal modes, DTMF tones are supplied as ASCII characters. In addition to supplying tones, the H.245 Signal mode provides tone duration information.

DTMF Tone Detection

The supported detection modes are Inband, RFC2833, H245Signal, and H245Alphanumeric. The EdgeIQ automatically

detects the mode. No configuration is required for this feature.

DTMF Tone Forwarding over an H.245 Signalling Channel

DTMF tones can be forwarded over an H.245 Signalling channel using the *H.245 Alphanumeric* mode. The application generates the DTMF digits with the existing *ctiGenerateDigits* command. Forwarding DTMF tones with the H.245 Signal mode is not supported.

ConfigureVoIPOutOfBandTone VoIPChannelProfileId, FaxMode, DTMFMode, DTMFRelay, ModemRelay, UpSpeedCodec, UpspeedPktSize		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
FaxRelay	T38FaxRelay NoFaxRelay FaxUpspeed	<p>Enables or disables the T.38 Fax/Mode Service.</p> <p>The <i>FaxUpspeed</i> option enables fax relay and allows modulated fax information from the PSTN to be passed in-band end-to-end over an RTP stream. This option is supported for G.711 Codecs with no voice activity detection (VAD) and no echo cancellation (EC).</p> <p>Default is T38FaxRelay.</p> <p>See the Installation Guide for hardware settings.</p>
DTMFMode	InBand RFC2833 H245Alphanumeric H245Signal SIPInfoMethod SIPNotifyMethod	<p>Sets the tone forwarding mode.</p> <p>For <i>InBand</i>, DTMF tones are sent as in-band voice samples.</p> <p>For <i>RFC2833</i>, DTMF tones are sent as telephony event messages.</p> <p>For <i>H245Alphanumeric</i>, DTMF tones are sent on an H.245 signalling channel as ASCII characters. The tone duration is set to 100 ms.</p> <p><i>H245Signal</i>, <i>SIPInfoMethod</i>, and <i>SIPNotifyMethod</i> modes are not used.</p> <p>Default is RFC2833.</p>

ConfigureVoIPOutofBandTone VoIPChannelProfileId, FaxMode, DTMFMode, DTMFRelay, ModemRelay, UpSpeedCodec, UpspeedPktSize		
Parameter	Values	Description
DTMFRelay	On Off	When ON, any tones received are sent to the H.110 bus. When OFF, tones received are NOT sent to the H.110 bus meaning that any party in a conference will not hear the tones. For RFC2833 and inBand, DTMFRelay is always ON even if DTMFRelay is set to OFF. Default is Off.
ModemRelay	On Off	Modem signal control When On, allows modulated modem information from the PSTN to be passed in-band end-to-end over an RTP stream using the highest possible speed. Supported for G.711 codecs with no voice activity detection (VAD) and no echo cancellation (EC). Default is Off.
UpspeedCodec	G711_uLaw G711_aLaw	Codec selection Default is G711_uLaw
UpspeedPktSize	10 msec 20 msec	Packet size Default is 10 msec

2.8.11 ConfigureVoIPProgress

This command configures the progress indicator associated with a given *VoIPChannelProfileId* for VoIP calls.

ConfigureVoIPProgress VoIPChannelProfileId, ProgressValue		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
ProgressValue	0, 3	Progress indicator 0: Ring 3: Progress

2.8.12 ConfigureVoIPRTCPackets

This command configures RTCP packets for transmission over any VoIP bearer channel that is associated with the specified VoIP clear channel profile. RTCP packets contain control information about the quality of an RTP session.

ConfigureVoIPRTCPackets VoIPChannelProfileId, TxRTCPackets, TxRTCPInterval, UseFarEndAltIpAddrForRTCP, RTCPName		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
TxRTCPackets	On or Off	Enable or disable the transmission of RTCP packets. RTCP packets are transmitted by default. The default is ON.
TxRTCPInterval	5000–65535	Interval (in milliseconds) at which RTCP packets are to be sent. The default is 30000 ms.
UseFarEndAltIpAddrForRTCP	On or Off	Enables or disables the specification of a far-end IP address for RTCP packets (see RTCPName) that is different than the one given for RTP packets. By default, a second IP address does not have to be specified. The default is OFF.
RTCPName	X.X.X.X <i>user@X.X.X.X</i>	Identifier of an RTCP source with the IP address in dot format: the string can be up to 22 characters. If a single-user host is used, the name must be in the <i>user@X.X.X.X</i> format. The default value is the VoIPSourceIPAddress. The default is 127.0.0.1.

2.8.13 ConfigureVoIPRTPPayloadTypeMapping

This command sets the RTP payload type for RTP packets that are sent over any VoIP bearer channel that is associated with the specified VoIP clear channel profile.

ConfigureVoIPRTPPayloadTypeMapping voipChannelProfileId, RedundantPT, g711uLawPT, g711aLawPT, g726_16kPT, g726_24kPT, g726_32kPT, g726_40kPT, g729aPT, G723_1PT, rfc2833PT		
Parameter	Values	Description

ConfigureVoIPRTTPayLoadTypeMapping		
voipChannelProfileId, RedundantPT, g711uLawPT, g711aLawPT, g726_16kPT, g726_24kPT, g726_32kPT, g726_40kPT, g729aPT, G723_1PT, rfc2833PT		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
redundantPT	96–127	RTP payload type for redundant RTP packets. The default value is 102.
g711uLawPT	0–127	RTP payload type for RTP packets containing G.711 μ -law encoded voice samples. The default value is 0.
g711alawPT	0–127	RTP payload type for RTP packets containing G.711 A-law encoded voice samples. The default value is 8.
g726_16KPT	96–127	RTP payload type for RTP packets containing 16 Kbps G.726 encoded voice samples. The default value is 96.
g726_24KPT	96–127	RTP payload type for RTP packets containing 24 Kbps G.726 encoded voice samples. The default value is 97.
g726_32KPT	0–127	RTP payload type for RTP packets containing 32 Kbps G.726 encoded voice samples. The default value is 2.
g726_40KPT	96–127	RTP payload type for RTP packets containing 40 Kbps G.726 encoded voice samples. The default value is 98.

ConfigureVoIPRTTPayLoadTypeMapping voipChannelProfileId, RedundantPT, g711uLawPT, g711aLawPT, g726_16kPT, g726_24kPT, g726_32kPT, g726_40kPT, g729aPT, G723_1PT, rfc2833PT		
Parameter	Values	Description
g729aPT	0–127	RTP payload type for RTP packets containing G.729a and G.729ab encoded voice samples. The default value is 18.
g723_1PT	0–127	RTP payload type for RTP packets containing G.723 encoded voice samples at 5.3 or 6.3 kbits/s. The default value is 4.
rfc2833PT	96–127	RTP payload type for RTP packets containing telephony event messages that conform to RFC 2833. The default value is 101.

2.8.14 ConfigureVoIPRTTPackets

This command lets you specify how to encode and transmit voice samples as RTP packets over any VoIP bearer channel that is associated with the specified VoIP clear channel profile.

On the receive side, the payload type of RTP packets ensures the proper decoding of voice samples.

You can select up to 4 codecs. Information on codec negotiation is provided in the Managed API Reference document.

ConfigureVoIPRTTPackets VoIPChannelProfileId, Codec1, Codec2, Codec3, Codec4, PacketPeriod1, PacketPeriod2, PacketPeriod3, PacketPeriod4, TxIpTypeOfService, TxIpTimeToLive, RxUdpValidateChecksum, TxUdpChecksumCalculation, RxRtpRedundant, TxRtpRedundant, NatTraversal, RTPMonitoring, RTPMonitoringTimer		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
Codec1 Codec2 Codec3 Codec4	NONE G711_uLaw G711_aLaw G726_32K G729a G729ab G723_1_53 G723_1_63	Type of CODEC to use for encoding and transmitting voice samples into RTP packets. Codec1 cannot be set to NONE. The defaults are: Codec 1: G711_uLaw Codec 2: None Codec 3: None Codec 4: None
PacketPeriod1 PacketPeriod2 PacketPeriod3	See the table below.	RTP packet period in milliseconds.

ConfigureVoIPRTTPackets VoIPChannelProfileId, Codec1, Codec2, Codec3, Codec4, PacketPeriod1, PacketPeriod2, PacketPeriod3, PacketPeriod4, TxIpTypeOfService, TxIpTimeToLive, RxUdpValidateChecksum, TxUdpChecksumCalculation, RxRtpRedundant, TxRtpRedundant, NatTraversal, RTPMonitoring, RTPMonitoringTimer		
Parameter	Values	Description
PacketPeriod4		<p>The defaults are:</p> <p>PacketPeriod1: 20 ms PacketPeriod2: -1 PacketPeriod3: -1 PacketPeriod4: -1</p> <p>Use -1 for Codec type NONE.</p>
TxIpTypeOfService	0–255	<p>Provides a value for the Type Of Service field in the IP message headers of RTP packets.</p> <p>This parameter sets the quality of service requested by the host computer sending the packet. The default value tags the packets for minimum delay, maximum throughput, and highest priority.</p> <p>The default is 184.</p>
TxIpTimeToLive	0–255	<p>Provides a value for the Time To Live field in the IP message headers of RTP packets.</p> <p>This parameter specifies the maximum number of intermediate hosts a packet can encounter along the route from source to destination. Each time an IP device such as a router receives a packet, it decrements the <i>TimeToLive</i> (TTL) counter by one. This parameter ensures that a datagram which cannot reach its destination host is given a finite lifetime.</p> <p>The default is 255.</p>
RxUdpValidateChecksum	On or Off	<p>Enable or disable the validation of UDP checksums in incoming RTP messages. If set to OFF, the statistics will not report any bad packets based on failed checksums.</p> <p>By default, checksum validation is enabled.</p>
TxUdpChecksumCalculation	On or Off	<p>Enable or disable the calculation of UDP checksums for outgoing RTP messages.</p> <p>By default, checksum calculation is enabled.</p>
RxRtpRedundant	On or Off	<p>Enable or disable reception of redundant RTP packets. When disabled, any redundant RTP packets are ignored.</p>

ConfigureVoIPRTTPackets		
VoIPChannelProfileId, Codec1, Codec2, Codec3, Codec4, PacketPeriod1, PacketPeriod2, PacketPeriod3, PacketPeriod4, TxIpTypeOfService, TxIpTimeToLive, RxUdpValidateChecksum, TxUdpChecksumCalculation, RxRtpRedundant, TxRtpRedundant, NatTraversal, RTPMonitoring, RTPMonitoringTimer		
Parameter	Values	Description
		By default, redundant RTP packets are ignored.
TxRtpRedundant	On or Off	Enable or disable transmission of redundant RTP packets. By default, redundant RTP packets are not transmitted.
NatTraversal	NoNatTraversal NatTraversal SecuredNatTraversal	(NAT = network address translator) NoNatTraversal: No adjustment of network address. NatTraversal: Adjustment of network address is enabled. The VOIP card adjusts the IP and port of the far end to match the address of the packets being received. This allows for 2-way audio for VOIP devices that are located behind a NAT router. SecuredNatTraversal: Secured or partial adjustment of network address is enabled. The VOIP card only adjusts the IP port of the far end to match the address of the packets being received. This method can be used in conjunction with a proxy that has adjusted the IP address of the SDP of the INVITE message and therefore only the port remains to be adjusted by the VOIP card. This is the most secure method of doing NAT traversal.
RTPMonitoring	On or Off	When set to On, the system must receive at least one RTP packet within the time specified in TRPMonitoringTimer, otherwise the call is cleared.
RTPMonitoringTimer	100–60000	The amount of time (in msec) affecting RTPMonitoring.

The available codecs and packet periods are dependent on the dipswitch settings of the VoIP512 card as shown below. Refer to the Installation Guide to locate and set the VoIP card dipswitches. The supported protocols, codecs, and packet periods for each dipswitch setting is shown below:

VoIP512 Dipswitch Settings SW2 SW1	Available Channels	Protocol	Codecs	Packet Period in Milliseconds (Packet Size in Bytes)
OFF ON	512	SIP H.323	G.711 A Law G.711 u Law	5 (40), 10 (80), 15 (120), 20 (160), 25 (200), 30 (240), -1 (None)
OFF OFF	399	SIP H.323	G.711 A Law G.711 u Law	5 (40), 10 (80), 15 (120), 20 (160), -1 (None)
		SIP H.323	G.729a G.729ab	10 (10), 20 (20), 30 (30), 40 (40), 50 (50), 60 (60), 70 (70), 80 (80), 90 (90), 100 (100), 110 (110), 120 (120), -1 (None)
		SIP	G.726 32K	5 (20), 10 (40), 15 (60), 20 (80), 25 (100), 30 (120), 35 (140), 40 (160), -1 (None)
ON OFF	300	SIP H.323	G.711 A Law G.711 u Law	5 (40), 10 (80), 15 (120), 20 (160), 25 (200), 30 (240), -1 (None)
		SIP H.323	G.729a G.729ab	10 (10), 20 (20), 30 (30), 40 (40), 50 (50), 60 (60), 70 (70), 80 (80), 90 (90), 100 (100), 110 (110), 120 (120), -1 (None)
		SIP	G.726 32K	5 (20), 10 (40), 15 (60), 20 (80), 25 (100), 30 (120), 35 (140), 40 (160), 45 (180), 50 (200), 55 (220), 60 (240), -1 (None)
		SIP H.323	G.723 5.3 kbits/s G.723 6.3 kbits/s	30 (24), 60 (48), 90 (72), 120 (96), 150 (120), -1 (None)
ON ON	Reserved			

2.8.15 ConfigureVoIPSilentSuppression

This command lets you choose an algorithm to deal with silence on all VoIP bearer channels that are associated with the specified VoIP clear channel profile.

You can enable the use of a Comfort Noise Generation (CNG) algorithm to deal with silence when the far-end detects that it has no meaningful voice packets to send. Voice Activity Detection (VAD) is supported for detecting whether the signal being packetized contains active speech information. When VAD is enabled, a Silence Insertion Descriptor (SID) packet is generated at the onset of the silence period. SID packets are also transmitted when background noise characteristics change. SID packets describe background noise (silence) instead of actual speech packets, so they consume less bandwidth than voice packets.

ConfigureVoIPSilentSuppression VoIPChannelProfileId, CNGMode, VADType, GenericVADMode		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
CNGMode	OFF WHITE_NOISE HOTH_NOISE SPECTRAL_NOISE	Selects the CNG algorithm for inserting SID packets. One of: Off—Absolute silence White noise—A flat spectrum signal Hoth noise—ITU-T P.800 compliant noise with a high-frequency, roll-off spectrum Spectral noise—A close estimate of the far-end background noise The value is set to Hoth noise by default.
VADType	NONE GENERIC BUILT_IN_CODEC	Selects the method of VAD to use when the far-end detects silence. One of: None—Disable VAD Generic—Enable the VAD algorithm with GenericVADMode settings BuiltInCodec—Use the CODEC’s built-in VAD algorithm (G.729) The value is set to Generic by default.
GenericVADMode	OFF TRANSPARENT CONSERVATIVE AGGRESSIVE	Specific VAD settings when VADType is set to Generic. One of: Off—Disable VAD Transparent—“Silence” is defined as anything lower than -62 dBm Conservative—“Silence” is defined as anything lower than -42 dBm (Default) Aggressive—“Silence” is defined as anything lower than -35 dBm

2.8.16 ConfigureVoIPSpan

The *ConfigureVoIPSpan* command is used to assign the gateway IP address and define the subnet mask for the specified span. The span must be disabled prior to configuring the gateway address. The *DisplayVoIPSpan* command is used to view the configuration.

The *ConfigureVoIPSpan* command always returns a warning message to prompt the user to check that the source IP address set with the *ConfigureRTPSourceParameters* command is in the same subnet as the gateway IP address. The warning message is shown below:

WARNING. code: 2511
 VERIFY THAT THE GATEWAYIP AND SOURCEIP ADDRESSES ARE ON THE SAME SUBNET

The Gateway IP address must be on the same subnet as the source IP address. The source IP address is defined with the *ConfigureRTPSourceParameters* command.

ConfigureVoIPSpan ShelfNumber, SlotNumber, SpanNumber, GatewayIP, SubnetMask		
Parameter	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number where the card is installed.
SpanNumber	0	The span number.
GatewayIP	XXX.XXX.XXX.XXX	Gateway IP address
SubnetMask	XXX.XXX.XXX.XXX	Subnet mask

A sample command sequence is shown below:

```
DisableSpan 26, 1, 0
ConfigureVoIPSpan 26, 1, 0, 192.16.7.0, 255.255.0.0
EnableSpan 26, 1, 0
DisplayVoIPSpan 26, 1, 0
```

```
CardNumber   SpanNumber   GatewayIp   SubnetMask
-----
           6             0   192.16.7.0   255.255.0.0
```

2.8.17 ConfigureVoIPVoicePackets

This command configures the adaptive jitter buffer service and packet gain for all VoIP bearer channels that are associated with the specified VoIP clear channel profile.

The transfer of speech packets through a packet network introduces a variable transport delay. Packets may take different paths and arrive out of order. This variance in arrival time variance is referred to as “jitter”. To account for jitter, the arriving packets are placed in a buffer before they are processed. If the buffer is too large, unnecessary delay is introduced. If the buffer is too small, packets may be lost. The adaptive jitter buffer service reduces the effects of the jitter buffer by adapting the buffer’s length to the measured jitter.

ConfigureVoIPVoicePackets VoIPChannelProfileId, JitterBufferLengthAdapt, JitterMin, JitterMax, JitterTarget, RxPktGain, TxPktGain		
Parameter	Values	Description

ConfigureVoIPVoicePackets VoIPChannelProfileId, JitterBufferLengthAdapt, JitterMin, JitterMax, JitterTarget, RxPktGain, TxPktGain		
Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.
JitterBufferLengthAdapt	On Off	<p>Enable or disable the adaptive jitter buffer service. One of:</p> <p>On—Adapt the length of the jitter buffer to the measured jitter</p> <p>Off—Use the value of JitterTarget to set the length of the jitter buffer</p> <p>By default, the service is enabled.</p>
JitterMin	0–50	<p>Minimum length of the jitter buffer (i.e. min. hold time for a given packet).</p> <p>Set JitterMin to 0 or to a small non-zero value if there is considerable clock drift between the two endpoints.</p> <p>Units are in steps of 125 usec.</p> <p>The default value is 0.</p>

ConfigureVoIPVoicePackets VoIPChannelProfileId, JitterBufferLengthAdapt, JitterMin, JitterMax, JitterTarget, RxPktGain, TxPktGain		
Parameter	Values	Description
JitterMax	0–100	Maximum length of the jitter buffer (i.e. max. hold time for a given packet). Units are in steps of 125 usec. Default value is 100 (12,500 usec)
JitterTarget	0–50	The expected or measured jitter of the packet network. When the adaptive jitter buffer service is disabled, JitterTarget must specify the size of the jitter buffer: make the value lower than half of the JitterMax setting and higher or equal to the JitterMin setting. If the jitter of the network is unknown, set JitterTarget and JitterMin to 0. Units are in steps of 125 usec. The Default value is 20 (2,500 usec)
RxPktGain	-40 to +18	Amount of gain (volume) to apply to received voice packets. The default is 0 dB.
TxPktGain	-40 to +18	Amount of gain (volume) to apply to transmitted voice packets. The default is 0 dB.

2.8.18 ConfigureVoIPTnsIE

This command configures the Transit Network Selection Information Element for VoIP calls. IEs are grouped using a *VoIPChannelProfileID*.

ConfigureVoIPTnsIE VoIPChannelProfileID, NetworkId		
Field Name	Values	Description
VoIPChannelProfileID	0..255	The unique Id for this group of Information Elements.

NetworkId	Up to 20 characters	Network identifier.
-----------	---------------------	---------------------

A sample command is shown below:

```
ConfigureVoIPTnsIE 0, 0000
```

2.8.19 ConfigureVoIPCallerIE

This command configures the Caller Information Element for all VoIP bearer channels associated with the specified *VoIPChannelProfileId*.

ConfigureVoIPCallerIE VoIPChannelProfileID, PresenceInd, ScreeningInd, IDTypeInd		
Field Name	Values	Description
VoIPChannelProfileID	0..255	The unique Id for this group of Information Elements.
PresenceInd	VOIP_PRIVACY_FULL VOIP_PRIVACY_NAME VOIP_PRIVACY_URI VOIP_PRIVACY_OFF VOIP_PRIVACY_FULL_NETWORK VOIP_PRIVACY_NAME_NETWORK VOIP_PRIVACY_URI_NETWORK VOIP_PRIVACY_OFF_NETWORK	Presence indicator.
ScreeningInd	VOIP_SCREEN_NO VOIP_SCREEN_YES	Screening indicator.
IDTypeInd	VOIP_ID_TYPE_SUBSCRIBER VOIP_ID_TYPE_USER VOIP_ID_TYPE_TERM	Identification type indicator.

A sample command is shown below:

```
ConfigureVoIPCallerIE 0, VOIP_PRIVACY_OFF, VOIP_SCREEN_NO,  
VOIP_ID_TYPE_SUBSCRIBER
```

2.9 VoIP and Media Bladeware Configuration

2.9.1 AddBW

This command adds a Signalling Interface Layer (SIL) record to the configuration database.

AddBW CardType, BWId, SignallingStandard, BWShelf, BWSlot, EncodingType
--

Parameter	Values	Description
CardType	VoIPSIL MEDIASIL	Identifies the card type associated with this signalling interface layer.
BWId	101–255	Unique identifier of the bladeaware SIL that provides signalling services. Odd numbers indicate MediaServerA (MEDIASIL) Even numbers indicate MediaServerB (MEDIASIL) A maximum of 12 bladeawares can be assigned.
SignallingStandard	H323 SIP None	H.323 signalling (VoIP) Session initiation protocol (SIP) signalling (VoIP) None (Media)
BWShef	0-255	The shelf number of the chassis. If the bladeaware is added to a card installed in a shelf, use BWShef values 0 to 31 corresponding to the shelf identifier. If the bladeaware is added to an external server, use BWShef 100 to 255.
BWSlot	0-255	If the bladeaware is added to a card installed in a shelf, use BWSlot values 0 to 15 corresponding to the slot identifier. If the bladeaware is added to an external server, use a BWSlot most suited to the BWShef.
EncodingType	mu_Law a_Law None	Defines the H.110 bus encoding type for the Media SIL. The <i>EncodingType</i> can be either <i>mu_Law</i> or <i>a_Law</i> for a MediaSIL. Must be set to <i>None</i> for a VoIPSIL. In the case of a VoIP SIL bladeaware, the <i>EncodinType</i> must be entered as <i>None</i> . To configure the encoding type for a VoIP card, use the <i>BackplaneEncodingType</i> parameter of the <i>addCard</i> command.

Sample commands are shown below:

```
addBW VOIPSIL, 102, H323, 222, 45, none
```

```
addBW MEDIASIL, 201, NONE, 31, 7, mu_Law
```

2.9.2 RemoveBW

This command removes a VoIP or Media SIL record from the configuration database. To execute the command, the associated spans must be disabled.

CAUTION: If the associated VoIP SIL is currently controlling signalling spans, move the spans to a VoIP clear channel trunk group before you issue the command (see *MoveSpanToTrunkGroup*).

RemoveBW BWId		
Parameter	Values	Description
BWId	101–255	Unique identifier of the SIL that is to provide signalling services.

2.9.3 ConfigureVoIPBW

This command configures parameters for a given VoIP H.323 or VoIP SIP bladeaware. Use the *ConfigureVoIPBWSIP* and *ConfigureVoIPBWH323* commands to configure the remaining bladeaware parameters.

ConfigureVoIPBW BWId, SpanNumber, GWExternalPort, GWExternalIP, RouteNumber, EarlyMedia		
Parameter	Values	Description
BWId	101–255	Unique identifier of a VoIP SIL.
SpanNumber	0	Number of the span that connects to the gateway controller's external Ethernet link. Default is 0.
GWExternalPort	0-65535	UDP port number of the VoIP SIL's external Ethernet link. Default is 1720 for H.323. Default is 5060 for SIP.
GWExternalIP	XXX.XXX.XXX.XXX	IP address, in dot format, of the VoIP SIL's external Ethernet link. Default is 127.0.0.1.
RouteNumber	Integer	The number assigned to the route set. Default is –1.
EarlyMedia	ON OFF	Enables (ON) or disables (OFF) Early Media for the bladeaware. Default is ON.

A sample configuration command is shown below:

```
ConfigureVOIPBW 101,0,5060,127.0.0.1,1,ON
```

2.9.4 ConfigureVoIPBWH323

This command configures the core H.323 parameters. Use the *ConfigureVoIPBW* command to configure the remaining parameters.

The VoIP H.323 SIL provides standards-based support for the audio and signalling streams at the session layer. The ITU Q.931 protocol is used to establish and tear-down calls between endpoints. H.245 control signalling for the audio channel can be used to negotiate channel usage and capabilities between endpoints.

The Solacom gateway controller, which is a functional module of the VoIP H.323 SIL, acts as a translator and provides call control to support communications between H.323 entities and the VSOS. Encoding, protocol, and call-control mappings are handled through the gateway, and it is responsible for transferring information between the VSOS (PSTN) and the Internet.

ConfigureVoIPBWH323		
BWId, SpanNumber, GWDebug, GWGZone, GWAcceptNonFastStart, GWUseFastStart, GWGkEnabled, GWGkAddress, GWUseH245Tunneling, GWGId, GWUseT38Fax, GWH450Enabled, GWForwardNSD, GWUseSignalForTone, GWSignallingChannelCallT/O, GWControlChannelStartT/O, GWMasterSlaveDeterminT/O, GWCapabilityExchangeT/O, GWLogicalChannelT/O, GWGatekeeperRequestT/O, GWRasRequestT/O, GWAliveTimer, GWGkRegisterRetries, GWGkRegisterPeriod, GWEnableLocalCallLogging, GWLocalCallLoggingFile, GWGkPrefixCount, GwTerminationEvent		
Parameter	Values	Description
BWId	101–255	Unique identifier of a VoIP H.323 SIL.
SpanNumber	0	Span number that connects to the gateway controller's external Ethernet link. Default is 0.
GWDebug	0-5	Debug level. 0 (min), 5 (max) Default is 0.
GWGZone	String, maximum of 80 characters	Zone of registered endpoints managed by the gatekeeper. Default is H323Zone.
GWAcceptNonFastStart	0 or 1	Accept (1) or reject (0) non-fast start calls. Default is 1.

GWUseFastStart	0 or 1	Allows (1) or disallows (0) fast start to originate calls. Default is 1.
GWGkEnabled	0 or 1	Enables (1) or disables (0) the H.323 gatekeeper. Default is 0.
GWGkAddress	String, maximum of 80 characters	Address of the H323 gatekeeper: Can be an IP address (e.g. 192.168.2.1) or domain name (e.g. www.Versatelgatekeeper.com). Internet Protocol Version 4 (IPV4) dotted address format. Default is 127.0.0.1.
GWUseH245Tunneling	0 or 1	Enables (1) or disables (0) H.245 control signalling for negotiating channel usage and capabilities over logical channels. Default is 0.
GWGId	String, maximum of 80 characters	Gateway name. Default is cml@Versatelnetworks.com.
GWUseT38Fax	0 or 1	Enables (1) or disables (0) T.38 Fax Relay. Default is 0.
GWH450Enabled	0 or 1	Enables (1) or disables (0) H.450 services. Includes H.450.2, H.450.4, and H.450.6. Supported for Windows and Linux. Default is 0.
GWForwardNSD	0 or 1	Enables (1) or disables (0) the forwarding of non-standard data. Default is 0.
GWUseSignalForTone	0 or 1	Set to 0 to use tones for DTMF. Set to 1 to use signals. Default is 0.

GWSignallingChannelCallT/O	0-65535	Sets the signalling channel setup timeout period. Time in seconds.
GWControlChannelStartT/O	0-65535	Sets the Start timeout period for the control channel. Time in seconds.
GWMasterSlaveDeterminT/O	0-65535	Sets the master/slave detection timeout period. Time in seconds.
GWCapabilityExchangeT/O	0-65535	Sets the capability exchange timeout period. Time in seconds.
GWLogicalChannelT/O	0-65535	Sets the logical channel setup timeout period. Time in seconds.
GWGatekeeperRequestT/O	0-65535	Sets the gatekeeper request timeout period. Time in seconds.
GW RasRequestT/O	0-65535	Sets RAS request timeout period. Time in seconds.
GWAliveTimer	0-65535	Sets the period for sending alive messages to the call agent.
GWGkRegisterRetries	0-65535	Sets the gatekeeper registration retries limit. 0 = Always Default is 3.
GWGkRegisterPeriod	0-65535	Sets the gatekeeper re-registration period. Time in minutes. Set to 0 for infinite period. Default is 5.
GWEnableLocalCallLogging	0 or 1	Enables (1) or disables (0) a local log to disk of all calls. Default is 0.
GWLocalCallLoggingFile	String, maximum of 120 characters	Specifies the local call log filename, NULL terminated.
GWGkPrefixCount	0-65535	Size of the prefix array. Default is 0.

GwTerminationEvent	String, maximum of 80 characters	Sets the name of the semaphore that triggers the shutdown of the gateway controller. Windows only. Default is <i>test01</i> .
--------------------	----------------------------------	--

A sample configure command is shown below:

```
ConfigureVOIPBWH323 201,0,1,H323Zone,1,1,0,127.0.0.1,0,cml@vers.com,  
0,0,0,0,0,0,0,0,0,0,0,0,0,3,5,0,n/a,0,test01
```


2.9.5 ConfigureVoIPBWSIP

This command configures the core SIP parameters. Use the *ConfigureVoIPBW* command to configure the remaining bladeaware parameters.

The Session Initiation Protocol, which has been designed to handle session control, is fully defined in RFC 2543. Since SIP is an application-layer protocol that is independent of the underlying packet protocol (e.g. TCP and UDP), any client can initiate a call and the servers answer the calls.

A SIP client can be a gateway such as the Solacom VoIP SIP SIL, which also provides translation functionality. In the Solacom implementation of the VoIP SIP SIL, the SIP server is a proxy server. The VoIP SIP SIL determines to which server a request must be forwarded and forwards the request. The VoIP SIP SIL can act as both a client and a server and can issue requests and responses.

SIP addresses are always of the format *user@host*, where *user* can be a name or a telephone number, and *host* can be a domain name (e.g. domain.com) or a numeric IP address. Clients must register with the VoIP SIP SIL to provide location contact information.

ConfigureVoIPBWSIP BWId, SpanNumber, GWDebug, GWName, GWProxyAddress, GWProxyRealm, GWProxyUserName, GWProxyPassword, GWProxyRegExpire, GWUseContactAsSrcDomain, GWGKEnabled, GWForwardSDP, GWSendTelephoneEvent, GWProxyIsStrictRouter, GWTerminationEvent		
Parameter	Values	Description
BWId	101–255	Unique identifier of a VoIP SIP SIL.
SpanNumber	0	Number of the span that connects to the gateway controller's external Ethernet link. Default is 0.
GWDebug	0-5	Debug level. 0 (min), 5 (max) Default is 0.
GWName	String, maximum 80 characters	Gateway name. Default is cml@Versatelnetworks.com.
GWProxyAddress	String, maximum 80 characters	Proxy Address. Can be an IP address or domain name. Default is 127.0.0.1.
GWProxyRealm	String, maximum 80 characters	SIP Proxy Realm Default is cml@Versatelnetworks.com.
GWProxyUserName	String, maximum 80 characters	SIP Proxy User Name Default is cml@Versatelnetworks.com.

GWProxyPassword	String, maximum 80 characters	SIP Proxy Password Default is J8Z1W1.
GWProxyRegExpire	0-65535	Proxy registration period. Time is in seconds. Default is 0.
GWUseContactAsSrcDomain	0 or 1	Enables (1) or disables (0) the use of SIP contact addresses as the domain for inbound call routing. Default is 0.
GWGkEnabled	0 or 1	Enable (1) or disables (0) SIP proxy registration. Default is 0.
GwForwardSDP	0 or 1	Enables (1) or disables (0) forwarding of SDP to the API. Default is 0.
GwSendTelephoneEvent	0 or 1	Enables (1) or disables (0) the sending of telephone events (Payload type = 101). Default is 1.
GwProxylsStrictRouter	0 or 1	Enables (1) or disables (0) strict routing. Default is 0.
GwTerminationEvent	String, maximum 80 characters	Sets the name of the semaphore that triggers the shutdown of this gateway controller. Windows only. Default is <i>test01</i> .

A sample configure command is shown below:

```
ConfigureVOIPBWSIP 101,0,1,cml@Versatelnetworks.com,127.0.0.1,
cml@Versatelnetworks.com,cml@Versatelnetworks.com,J8Z1W1,0,0,0,0,1,0,
test01
```

2.9.6 ConfigureVoIPBWFaxModemPayload

This command configures the T.38 Fax Relay service for a gateway controller.

ConfigureVoIPBWFaxModemPayload

Bwld, SpanNumber, T38MaxBitRate, T38FaxVersion, T38FaxMaxBuffer,
T38FaxMaxDatagram, T38FaxFillBitRemoval, T38FaxTranscodingMMR,
T38FaxTranscodingJBIG, Reserved1, Reserved2, Reserved3

Parameter	Values	Description
BWId	101–255	Unique identifier of a VoIP SIL.
SpanNumber	0	The number of the span.
T38MaxBitRate	2400 4800 7200 9600 12000 14400	T.38 maximum bit rate in bits/s. Default is 14400.
T38FaxVersion	0-65535	This is the version number of the T.38 Annex D call. Default is 0.
T38FaxMaxBuffer	0-65535	For UDP mode, this option indicates the maximum number of bytes that can be stored on the remote device before an overflow condition occurs. It is the responsibility of the transmitting application to limit the transfer rate to prevent an overflow. The negotiated data rate must be used to determine the rate at which data is being removed from the buffer. Default is 76 bytes.
T38FaxMaxDatagram	0-65535	The maximum size of a UDPTL packet that can be accepted by the remote device. Default is 316.
T38FaxFillBitRemoval	0-65535	Indicates the capability to remove and insert fill bits to reduce bandwidth. Default is 0.
T38FaxTranscodingMMR	0-65535	Indicates the ability to convert from MMR to the line format and from the line format to MMR. This increases the compression of the data and reduces bandwidth requirements. Default is 0.
T38FaxTranscodingJBIG	0-65535	Indicates the ability to convert from JBIG to the line format and from the line format to JBIG. This increases the compression of the data and reduces bandwidth requirements. Default is 0.
Reserved1	Don't care, enter t38udp for display purposes.	T.38 operating mode. Preset to t38udp.
Reserved2	Don't care, enter transferredTCF	For localTCF, the TCF signal is generated locally by the receiving gateway. Data rate management is performed

	for display purposes.	by the emitting gateway based on results from both connections. For transferredTCF, the TCF signal is transferred from the sending end. Preset to transferredTCF.
Reserved3	Don't care, enter t38updRedundancy for display purposes.	Sets the error protection to either Forward Error Correction (FEC) or redundancy. Preset to t38updRedundancy.

A sample configure command is shown below:

```
ConfigureVOIPBWFaxModemPayload 101,0,14400,0,76,316,0,0,0,r,r,r
```

2.10 VoIP and Media Bladeware Control

2.10.1 ResetBW

Bladewares can be reset with the *ResetBW* command. The *ResetBW* command restarts the SIL. To execute the command, the associated spans must be disabled.

ResetBW BWId		
Parameter	Values	Description
BWId	101–255	Unique identifier of a SIL.

A sample command sequence to reset bladeware 101 is shown below:

```
DisableBWspan 101,0
ResetBW 101
```

2.10.2 EnableBWspan

For VoIP, this command enables the span that connects to the gateway controller's external Ethernet link. The span corresponds directly to the IP address of the VoIP SIL gateway controller. The VoIP SIL verifies that the VoIP clear channel is in service before establishing a socket connection and notifying the VSOS that the connection is made.

For Media, this command allows media requests to be sent to the Media SIL.

EnableBWSpan BWId, SpanNumber		
Parameter	Values	Description
BWId	101–255	Unique identifier of a VoIP SIL.
SpanNumber	0	Number of the span that connects to the gateway controller's external Ethernet link. Must be 0.

2.10.3 DisableBWSpan

For VoIP, this command disables the span that connects to the VoIP SIL gateway controller's external Ethernet link. When a span is disabled, the streaming process for all bearer channels is stopped and the stream socket connection is disconnected.

For Media, this command prevents media requests from being sent to the Media SIL.

DisableBWSpan BWId, SpanNumber		
Parameter	Values	Description
BWId	101–255	Unique identifier of a SIL.
SpanNumber	0	The span number. must be 0.

2.11 ISDN Configuration

2.11.1 ConfigureDChannelProtocol

This command configures D-channel protocol information for an ISDN signalling span.

The command fails if the specified span is a backup D span. If the span being configured has an associated backup D span, it must be disabled before primary and backup D spans are configured.

A D-channel backup (DCBU) can be configured for use when the primary NFAS D-channel fails. D-channel backup is an option that increases reliability and improves maintenance.

In NFAS, the primary D-channel, the backup D-channel (if provided) and the associated B-channels are called an NFAS group. NFAS is supported on the Network/User side for NI2, 5ESS, and DMS switches.

DCBU is supported on the Network/User side for NI2 switches.

Note that the backup D span must have the Side parameter must set to NI2, and the FarEndProtocol parameters set to User.

When using D-channel backup, ensure that the *Restart* parameter set with the *ConfigureDChannelProtocol* command is the same for both the primary and secondary D-channels.

ConfigureDChannelProtocol ShelfNumber, SlotNumber, SpanNumber, ChannelNumber, IEId, Side, FarEndProtocol, RestartControl, MultipleInterface		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The number of the span that is being disabled.
ChannelNumber	0–23	The channel to be configured as the D-channel.
IEId	Integer	The unique Id for this group of Information Element Profiles.
Side	USER NETWORK	ISDN PRI user-side interface for connection to the PSTN (public switched telephone network), or network-side for connection to a platform that only supports user-side.
FarEndProtocol	NI2 5ESS DMS ETSI	The protocol at the far end of the ISDN connection.
RestartControl	Integer	User or network request for the recipient to restart the specified span (return to idle condition). One of: 0—FALSE 1—TRUE (default)
MultipleInterface	0, 1	Sends the Interface ID in the ISDN Setup message. 0—FALSE 1—TRUE For ISDN PRI NFAS, it must be set to 1.

2.11.2 ConfigurePRITimer

This command configures timers for the specified D-Channel. The command fails if the span is not configured for PRI or the span is a backup D span.

If the span being configured has an associated backup D span, it must be disabled before primary and backup D spans are configured.

ConfigurePRITimer ShelfNumber, SlotNumber, SpanNumber, TimerId, TimerValue		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected D-Channel.
SlotNumber	0–15	The slot number of the D-channel.

ConfigurePRITimer ShelfNumber, SlotNumber, SpanNumber, TimerId, TimerValue		
Field Name	Values	Description
SpanNumber	0–15	The span number of the D-channel to be configured.
TimerId	T200 T202 T203 N200 T303 T304 T305 T308 T309 T310 T313 T316 T318 T319 T321	Identifier of a timer.
Timer Value	Integer	Valid values are outlined in ITU-T Q.931 and ITU-T Q.921 specifications.

2.12 ISDN Information Elements Configuration

Each configurable information element (IE) has an associated *Display* and *Remove* command. Parameters are positional and specified as ASCII text. If an invalid input is supplied, each of these commands generates an error message with the valid values for that field.

IEs are grouped using an IE ID and are then associated with a D-channel using the *ConfigureDChannelProtocol* command.

2.12.1 ConfigureChannelIDIE

This command modifies the values in a Channel ID Information Element for an outgoing ISDN call. If a ChannelID IE profile does not already exist for the specified profile Id, an error is returned.

ConfigureChannelIDIE IEId, InterfaceType, Preference, DChannelIndicator, PRIInfoSelection, InterfaceId, CodingStandard, BearerRate		
Field Name	Values	Description
IEId	Integer (0–15)	The unique Id for this group of Information Element Profiles.
InterfaceType	BRI PRI	The type of interface specified by this channel.
Preference	EXCLUSIVE	Must be set to EXCLUSIVE. Indicates that the channel specified in this information element is to be the only one considered for the operation.
DChannelIndicator	B_CHANNEL D_CHANNEL	Indicates whether the channel Id specified is a D-channel or a B-channel.
PRIInfoSelection	NO_CHANNEL NEXT_OCTET RESERVED ANY_CHANNEL	PRI Information.
InterfaceId	Integer	The PRI Interface ID.
CodingStandard	CCITT RESERVED NI2 NETWORK	Coding standard used for this Information Element.

BearerRate	B_UNITS H0_UNITS H11_UNITS H12_UNITS BRATE_128K BRATE_192K BRATE_256K BRATE_320K BRATE_448K BRATE_512K BRATE_576K BRATE_640K BRATE_704K BRATE_768K BRATE_832K BRATE_896K BRATE_960K BRATE_1024K BRATE_1088K BRATE_1152K BRATE_1216K BRATE_1280K BRATE_1344K BRATE_1408K BRATE_1472K BRATE_1600K BRATE_1664K BRATE_1728K BRATE_1792K BRATE_1856K	Rate used for bearer services.
------------	--	--------------------------------

2.12.2 ConfigureBearerCapabilityIE

This command modifies the values in a Bearer Capability Information Element for an outgoing ISDN call. If a Bearer Capability IE profile does not already exist for the specified profile Id, an error is returned.

ConfigureBearerCapabilityIE IEId, CodingStandard, TransferCapability, TransferMode		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
CodingStandard	CCITT RESERVED NI2 NETWORK	Coding standard used for this Information Element.
TransferCapability	SPEECH DIGITAL_UNRESTRICTED DIGITAL_RESTRICTED AUDIO_3KHZ AUDIO_7KHZ VIDEO	Transfer Capability of the bearer services.
TransferMode	CIRCUIT PACKET	Transfer Mode for the bearer services.

2.12.3 ConfigureISDNtnsIE

This command configures the Transit Network Selection Information Element for ISDN calls. IEs are grouped using an *IEId* and then associated to a D-Channel using the *ConfigureDChannelProtocol* command.

ConfigureISDNtnsIE IEId, TypeOfNetwork, NumberingPlan, NetworkId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
TypeOfNetwork	USERSPECIFIED NATIONAL	Type of network used for the ISDN calls.

	INTERNATIONAL	
NumberingPlan	UNKNOWN CARRIER_IDENTIFICATION_CODE NA_DUE_TO_INTERWORKING USER_SPECIFIED	Type of network identification plan used for the ISDN calls.
NetworkId	3 or 4 characters	Network identifier.

Sample command is shown below:

```
ConfigureISDNtnsIE 0, NATIONAL, CARRIER_IDENTIFICATION_CODE, 0000
```

2.13 PRI Information Elements Configuration

PRI IE profiles allow you to define a set of system parameters and link them to one or more trunk groups. For example, the *CreatePRIIE* command links parameters from several commands into a single profile. Parameters from the following commands are linked to a single PRI profile identifier:

- *ConfigureCalledPartyIE*
- *ConfigureCallingPartyIE*
- *ConfigureCalledPartySubaddressIE*
- *ConfigureCallingPartySubaddressIE*
- *ConfigureCauseIE*
- *ConfigureProgressIndicatorIE*
- *ConfigureHighLayerCompatibilityIE*
- *ConfigureLowLayerCompatibilityIE*
- *ConfigureSignalIE*

There are 20 preconfigured PRI IE profiles (0 to 19). They are all identical. Refer to the Configuration Guide for information on how to display the parameters associated with profile 0.

The *ConfigureDChannelProtocol* command links a specified signalling channel to a *PRIIEId*.

To simplify modifications to IE parameters for a given D-Channel, you should create an IE Id for each D-Channel.

2.13.1 CreatePRIIE

This command creates a PRI Information Element profile.

CreatePRIIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile.

2.13.2 RemovePRIIE

This command removes a PRI Information Element ID.

RemovePRIIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile.

2.13.3 ConfigureCalledPartyIE

This command modifies the values in a Called Party Information Element for an outgoing ISDN call. If a CalledPartyIE profile does not already exist for the specified IEId, an error is returned.

ConfigureCalledPartyIE IEId, NumberType, NumberingPlan		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
NumberType	UNKNOWN INTERNATIONAL NATIONAL NETWORK SUBSCRIBER ABBREVIATED EXTENSION	The type of number specified by this information element.
NumberingPlan	UNKNOWN ISDN_TELEPHONY DATA TELEX NATIONAL	The numbering plan specified by the called party number.

ConfigureCalledPartyIE IEId, NumberType, NumberingPlan		
Field Name	Values	Description
	PRIVATE EXTENSION	

2.13.4 ConfigureCallingPartyIE

This command modifies the values in a Calling Party Information Element for an outgoing ISDN call. If a CallingPartyIE profile does not already exist for the specified IEId, an error is returned.

ConfigureCallingPartyIE IEId, NumberType, NumberingPlan, PresentationIndicator, ScreeningIndicator		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
NumberType	UNKNOWN INTERNATIONAL NATIONAL NETWORK SUBSCRIBER ABBREVIATED EXTENSION	The type of number specified by this information element.
NumberingPlan	UNKNOWN ISDN_TELEPHONY DATA TELEX NATIONAL PRIVATE EXTENSION	The numbering plan specified by the Calling party number.
PresentationIndicator	ALLOWED RESTRICTED NOT_AVAILABLE	The presentation indicator for this IE.
ScreeningIndicator	USER_NOT_SCREENED USER_VERIFIED USER_FAILED NETWORK	The screening indicator for this IE.

ConfigureCallingPartyIE IEId, NumberType, NumberingPlan, PresentationIndicator, ScreeningIndicator		
Field Name	Values	Description

2.13.5 ConfigureCalledPartySubaddressIE

This command modifies the values in a Called Party Subaddress Information Element for an outgoing ISDN call. If a Called Party Subaddress IE profile does not already exist for the specified IEId, an error is returned.

ConfigureCalledPartySubaddressIE IEId, SubaddressType, OddOrEven		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
SubaddressType	NASP USER_SPECIFIED	The type of subaddress specified by this information element.
OddOrEven	ODD EVEN	Indicates whether the subaddress is odd or even.

2.13.6 ConfigureCallingPartySubaddressIE

This command modifies the values in a Calling Party Subaddress Information Element for an outgoing ISDN call. If a Calling Party Subaddress IE profile does not already exist for the specified IEId, an error is returned.

ConfigureCallingPartySubaddressIE IEId, subaddrType, oddEven		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
SubaddressType	NASP USER_SPECIFIED	The type of subaddress specified by this information element.
OddOrEven	ODD EVEN	Indicates whether the subaddress is odd or even.

2.13.7 ConfigureCauseIE

This command modifies the configurable values for a Cause Information Element for an outgoing ISDN call. If a Cause IE profile does not already exist for the specified IEId, an error is returned.

ConfigureCauseIE IEId, CodingStandard, Location, Recommendation, Cause		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
CodingStandard	CCITT RESERVED NI2 NETWORK	Coding standard used for this Information Element.
Location	USER PRIVATE_NET_LOCAL_USER PUBLIC_NET_LOCAL_USER TRANSIT_NET PUBLIC_NET_REMOTE_USER PRIVATE_NET_REMOTE_USER INTERNATIONAL NETWORK_BEYOND	Indicates the location of the network element.
Recommendation	Q931 X21 X25	The ITU Recommendation referenced by this cause code.
Cause	Integer	The cause code as specified by the above recommendation.

2.13.8 ConfigureProgressIndicatorIE

This command modifies the values in a Progress Indicator Information Element for an outgoing ISDN call. If a Progress Indicator IE profile does not already exist for the specified IEId, an error is returned.

ConfigureProgressIndicatorIE IEId, CodingStandard, Location, ProgressDescription		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
CodingStandard	CCITT RESERVED NI2 NETWORK	Coding standard used for this Information Element.
Location	USER_SPECIFIED PRIVATE_NET_LOCAL_USER PUBLIC_NET_LOCAL_USER PUBLIC_NET_REMOTE_USER PRIVATE_NET_REMOTE_USER NETWORK_BEYOND	Indicates the location of the network element.
ProgressDescription	NOT_ISDN DEST_NOT_ISDN ORIG_NOT_ISDN CALL_RETURNED INFO_AVAIL	Description of progress.

2.13.9 ConfigureHighLayerCompatibilityIE

This command modifies the values of the High Layer Compatibility Information Element (IE) for outgoing ISDN calls. IEs are grouped using an IEId and then associated to a D-channel using *ConfigureDChannelProtocol*.

ConfigureHighLayerCompatibilityIE IEId, CodingStandard, Interpretation, Presentation		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile.
CodingStandard	CCITT RESERVED NI2	Coding standard used for this Information Element.

	NETWORK	
Interpretation	FIRST_HIGH_LAYER_CHARACTERISTIC	Interpretation
Presentation	HIGH_LAYER_PROTOCOL_PROFILE	Presentation

2.13.10 ConfigureLowLayerCompatibilityIE

This command modifies the default values of the Low Layer Compatibility Information Element (IE) for outgoing ISDN calls. IEs are grouped using an IEId and then associated to a D-channel using *ConfigureDChannelProtocol*.

ConfigureLowLayerCompatibilityIE IEId, CodingStandard, TransferCapability, NegotiationIndicator, TransferMode, TransferRate		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile.
CodingStandard	CCITT RESERVED NI2 NETWORK	Coding standard used for this Information Element.
TransferCapability	SPEECH DIGITAL_UNRESTRICTED DIGITAL_RESTRICTED AUDIO_3KHZ AUDIO_7KHZ VIDEO	Transfer capability.
NegotiationIndicator	OUT_BAND_NOT_POSSIBLE OUT_BAND_POSSIBLE	Negotiation indicator.
TransferMode	CIRCUIT PACKET	Transfer mode.
TransferRate	USED_FOR_PACKET_MODE 64 Kbits/s 128Kbits/s 384Kbits/s 1536Kbits/s 1920Kbits/s	Information transfer rate.

2.13.11 ConfigureSignallE

This command modifies the default values of the Signal Information Element profile for outgoing ISDN calls. IEs are grouped using an IEId and then associated to a D-channel using *ConfigureDChannelProtocol*.

ConfigureSignallE IEId, SignalValue		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile.
SignalValue	DIAL_TONE_ON RING_BACK_TONE_ON INTERCEPT_TONE_ON NETWORK_CONGESTION_TONE_ON BUSY_TONE_ON CONFIRM_TONE_ON ANSWER_TONE_ON CALL_WAITING_TONE_ON OFF_HOOK_WARNING_TONE_ON TONE_OFF ALERTING_ON_PATTERN_0 ALERTING_ON_PATTERN_1 ALERTING_ON_PATTERN_2 ALERTING_ON_PATTERN_3 ALERTING_ON_PATTERN_4 ALERTING_ON_PATTERN_5 ALERTING_ON_PATTERN_6 ALERTING_ON_PATTERN_7 ALERTING_OFF	Signal value.

2.14 CAS Configuration

The number of stage spill characteristics and timing parameters of various CAS protocols is configurable through the following set of commands:

- ConfigureCASProfile
- ConfigureCASStage

- ConfigureCASSpill

You can use these commands to configure your own profiles. Alternately, once a CAS signalling type is configured for a T1 card, you can access a set of 18 preconfigured CAS signalling profiles. The profiles can be displayed with the *DisplayCASSignalingProfile* command. The current default CAS profiles and their description are provided below:

Profile ID	Name	Description
0	Feature GRP D	Wink start, MF Stage 1: ANI and Dialed Number Stage 2: Acknowledge wink.
1	CAMA-ANI	wink start, MF, Stage 1: Dialed number Stage 2: ANI
2	Feature GRP B	Wink start, MF Stage 1: Dialed number
3	Feature GRP B ANI	Wink start, MF Stage 1: Dialed number Stage 2: ANI
4	ERKSN	Wink start, MF Stage 1: ANI and Dialed Number Stage 2: Acknowledge wink
5	MF/ANI/DN	Wink start, MF Stage 1: ANI and Dialed Number Stage 2: Acknowledge wink
6	DTMF/FGD1	Wink start, DTMF Stage 1: Dialed Number and ANI in same spill
7	DTMF/FGD2	Wink start, DTMF Stage 1: ANI and Dialed Number in same spill
8	MF/DN	Wink start, MF Stage 1: Dialed Number
9	Cell/Tandem	Wink start, MF Stage 1: ANI and Dialed Number in same spill
10	TOPS	Wink start, MF Stage 1: Dialed number Stage 2: ANI
11	INTL FTR GRP D	Wink start, MF Stage 1: Carrier code only present for international call Stage 2: ANI and Dialed Number Stage 3: Acknowledge wink
12	LastWinkIsOffHook MF	Wink start, MF Stage 1: ANI Stage 2: Dialed number and offhook signal

13	Immediate MF	Immediate start, MF Stage 1: ANI and Dialed Number in same spill
14	Unknown DTMF	Wink start, DTMF Stage 1: Dialed Number
15	Unknown MF	Wink start, MF Stage 1: Dialed Number
16	Lastwinkisoffhook DT	Wink start, DTMF Stage 1: ANI, Dialed number and offhook signal
17	Immediate DTMF	Immediate start, DTMF Stage 1: ANI and Dialed number

To view the configuration of each profile use the following commands:

- *DisplayCASProfile*
- *DisplayCASSpill*
- *DisplayCASStage*

2.14.1 ConfigureCASProfile

This command lets you create a new CAS profile. It also performs the following functions:

- Configures existing CAS profile for the specified card
- Specifies the timing parameters
- Specifies which CAS protocol is associated with this particular CAS profile

ConfigureCASProfile		
CASProfileId, Description, Delimiter, ToneType, LastOffHookIsWink, DecoderTimeout, MinimumRxWink, MaximumRxWink, DurationOfTxWink, DurationOfRxOffHook, DurationOfRxOnHook, WinkTimeout, GuardTimePeriod, minLengthFlashDetect, maxLengthFlashDetect, lengthFlashGeneration, CanGoDisable, NumberOfStages, Signaling Type		
Field Name	Values	Description
CASProfileId	Integer (20 default)	The unique Id for this CAS Profile. The default 20 is a Ground Start line.
Description	Char (50)	The name of this CAS profile.
Delimiter	ST ST' ST" ST" *' NUL	Delimiter tone between spills.
ToneType	DTMF MF	The type of frequency generation. Note: When the value of Delimiter is *, ToneType must be set to DTMF.
LastOffHookIsWink	TRUE FALSE	True if the last off hook is to be generated/detected as a wink instead.
DecoderTimeout	Integer (milliseconds)	Timeout to receive one spill (in milliseconds). Applies when ToneType is set to MF or DTMF.
MinimumRxWink	Integer (milliseconds)	Minimum acceptable duration of a received wink event.
MaximumRxWink	Integer (milliseconds)	Maximum acceptable duration of a received wink event.
DurationOfTxWink	Integer (milliseconds)	The duration of a transmitted wink event.
DurationOfRxOffHook	Integer (milliseconds)	The minimum length of time to wait before declaring an Off Hook event.
DurationOfRxOnHook	Integer (milliseconds)	The minimum length of time to wait before declaring an On Hook event.
WinkTimeout	Integer (milliseconds)	The time to wait for the wink.
GuardTimePeriod	Integer (milliseconds)	The time before channels can be reused after a disconnect.
minLengthFlashDetect	Integer (milliseconds)	The minimum hook flash duration detectable by the application. Note: A value of 0 means that no hook flash will be reported.

ConfigureCASProfile CASProfileId, Description, Delimiter, ToneType, LastOffHookIsWink, DecoderTimeout, MinimumRxWink, MaximumRxWink, DurationOfTxWink, DurationOfRxOffHook, DurationOfRxOnHook, WinkTimeout, GuardTimePeriod, minLengthFlashDetect, maxLengthFlashDetect, lengthFlashGeneration, CanGoDisable, NumberOfStages, Signaling Type		
Field Name	Values	Description
maxLengthFlashDetect	Integer (milliseconds)	The maximum hook flash duration detectable by the application.
lengthFlashGeneration	Integer (milliseconds)	The length of the flash generated by the application.
CanGoDisable	TRUE FALSE	Specifies that the system must go off-hook when the channel is disabled. This is normally the case for channels or trunks that are used only for receiving calls.
NumberOfStages	Integer (milliseconds)	The number of stage definitions to be expected in the stage definition table. Note: When the value of Delimiter is '*', NumberOfStages must be set to 1.
Signaling Type	E&M ReverseBatter Ground Start_FXO	Specify the signal type.

Refer to the Configuration Guide for information on how to configure CAS profiles.

2.14.2 RemoveCASProfile

This command removes the specified CAS profile from the configuration data.

RemoveCASProfile CASProfileId		
Field Name	Values	Description
CASProfileId	Integer	The unique Id for the CAS Protocol Profile to be removed.

2.14.3 ConfigureCASStage

The number of spills in each stage of a CAS profile is configured with the *ConfigureCASStage* command. The CAS profile must have been previously configured with the *ConfigureCASProfile* command or this command fails. *ConfigureCASStage* does create CAS stage entries, but can only modify them.

ConfigureCASStage CASProfileId, CASStageId, NumberOfSpills		
Field Name	Values	Description
CASProfileId	Integer	The unique Id for the CAS Protocol Profile to be displayed.
CASStageId	Integer	The stage number to be configured.
NumberOfSpills	Integer	The number of digit spills in this stage. If ToneType (see ConfigureCASProfile) was set to DTMF, NumberOfSpills must be set to 1, even when both the ANI and DNIS are expected.

2.14.4 ConfigureCASSpill

This command configures a single spill for the specified stage in a given CAS Protocol. The entire set of configurations (stages and spills for each stage) for a *CASProtocolId* defines the protocol for a CAS signalling channel.

ConfigureCASSpill ProfileArrayId, StageId, SpillId, SpillType, StartOfMiddleDigit, DurationOfMiddleDigit, NumOfDigitInFront, NumOfDigitInBack, NumberOfDigits		
Field Name	Values	Description
ProfileArrayId	Integer	The unique Id for the CAS Profile to be configured.
StageId	Integer	The unique stage identifier.
SpillId	Integer	The unique spill identifier.
SpillType	ANI_DIAL DIAL_ANI DIAL ANI UNKNOWN	<p>Describes the characteristics of the spill for a tone type – explains what the digits at the beginning and end of the spill mean.</p> <p>DTMF tone types If SpillType is set to ANI_DIAL or DIAL_ANI, digits are received until one of the following situations occurs:</p> <ul style="list-style-type: none"> ANI: the number of received digits equals NumberOfDigits UNKNOWN: three '*' delimiters are received <p>a timeout occurs (the timeout value is determined by the DecoderTimeout value, which is specified in the spill profile (see ConfigureCASProfile))</p> <p>If SpillType is set to DIAL or ANI, digits are received until one of the following situations occurs:</p> <ul style="list-style-type: none"> the number of received digits equals NumberOfDigits two '*' delimiters are received <p>a timeout occurs (the timeout value is determined by the DecoderTimeout value, which is specified in the spill profile (see ConfigureCASStage))</p> <p>MF tone types For all values of SpillType, digits are received until one of the following situations occurs:</p> <ul style="list-style-type: none"> a timeout occurs (the timeout value is determined by the DecoderTimeout value, which is specified in the spill profile (see ConfigureCASProfile)) an ST, ST', ST'', or ST''' delimiter is received. <p>For Spill Types defined as "Unknown", digits before the "*" define the</p>

ConfigureCASSpill ProfileArrayId, Stageld, SpillId, SpillType, StartOfMiddleDigit, DurationOfMiddleDigit, NumOfDigitInFront, NumOfDigitInBack, NumberOfDigits		
Field Name	Values	Description
		unknown string and digits after the "*" define the calledPartyNumber.
StartOfMiddleDigit	Integer	The starting position of the middle string in the digit. The position can start at 1 and includes KP. This field is used only when ToneType is set to MF for an incoming call (see ConfigureCASProfile). If ToneType is set to DTMF, set to 0.
LengthOfMiddleDigit	Integer	The number of digits in the middle string. This field is used only when ToneType is set to MF for an incoming call (see ConfigureCASProfile). If ToneType is set to DTMF, set to 0.
NumOfDigitInFront	Integer	The number of digits between the front delimiter and the spill digit, including KP. This field is used only when ToneType is set to MF for an incoming call (see ConfigureCASProfile). If ToneType is set to DTMF, set to 0.
NumOfDigitInBack	Integer	The number of digits between the spill digit and the end delimiter, including the end delimiter ST, ST', ST'', or ST'''. This field is used only when ToneType is set to MF for an incoming call (see ConfigureCASProfile). If ToneType is set to DTMF, set to 0.
NumberOfDigits	Integer	The total number of digits in the spill. This field is used only when ToneType is set to DTMF for an incoming call (see ConfigureCASProfile). If ToneType is set to MF, set to 0.

2.15 SS7 Information Elements Configuration

The SS7 information elements (IEs) are linked to a common identifier created with the *CreateSS7IE* command. SS7 spans are linked to an IE Id with the *CreateSS7TrunkGroup* command. To simplify modifications to IE parameters for a given trunk group, you should create an IE Id for each SS7 trunk group.

The IEs that can be associated with an IE Id are configured with the following commands:

- ConfigureSS7BackwardCallIndicatorIE
- ConfigureSS7CalledPartyNumberIE
- ConfigureSS7CallingPartyCategoryIE
- ConfigureSS7CallingPartyNumberIE
- ConfigureSS7CauseIE
- ConfigureSS7EventInformationIE

- ConfigureSS7ForwardCallIndicatorIE
- ConfigureSS7NatureOfConnectionIE
- ConfigureSS7UserServiceInfoIE

There are 11 preconfigured SS7 IE profiles (0 to 10). Use the associated display commands to view the parameter values associated with each profile.

2.15.1 CreateSS7IE

This command creates an SS7 Information Element profile.

CreateSS7IE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

When you create a new profile, the profile parameters are based on the default profile identifier (IEId) 0. If the profile exists, the profile parameters associated with the profile identifier will be overwritten with the default profile 0 parameters.

Refer to the Configuration Guide for the default IE parameter values of the default SS7 IE profile 0.

2.15.2 RemoveSS7IE

This command removes all of the SS7 information element parameters that were created for the specified SS7 Information Element ID.

RemoveSS7IE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

2.15.3 ConfigureSS7BackwardCallIndicatorIE

This command modifies the values in a Backward Call Indicator Information Element for an outgoing SS7 call. If a *BackwardCallIndicatorIE* profile does not already exist for the specified IEId, an error is returned.

ConfigureSS7BackwardCallIndicatorIE		
Field Name	Values	Description
IEId, Charge, CalledPartyStatus, CalledPartyCategory, EndToEndMethod, Interworking, IAMSegmentation, ISDNUserPart, Holding, ISDNAccess, EchoControlDevice, SCCPMethod		

ConfigureSS7BackwardCallIndicatorIE IEId, Charge, CalledPartyStatus, CalledPartyCategory, EndToEndMethod, Interworking, IAMSegmentation, ISDNUserPart, Holding, ISDNAccess, EchoControlDevice, SCCPMethod		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
Charge	NO_INDICATION NO_CHARGE CHARGE	Charge indicator.
CalledPartyStatus	NO_INDICATION SUBSCRIBER_FREE CONNECT_WHEN_FREE EXCESSIVE_DELAY	Called party's status indicator.
CalledPartyCategory	NO_INDICATION ORDINARY_SUBSCRIBER PAYPHONE	Category of the called party.
EndToEndMethod	NO_END_TO_END PASS_ALONG SCCP PASS_ALONG_AND_SCCP	End-to-end method indicator of the protocol control indicator.
Interworking	NO_INTERWORKING INTERWORKING	Internetworking indicator of the protocol control indicator.
IAMSegmentation	NO_INDICATION SEGMENTATION	IAM segmentation indicator of the protocol control indicator.
ISDNUserPart	NOT_ISDN ISDN	ISDN user part indicator of the protocol control indicator.
Holding	NOT_REQUIRED REQUIRED	Holding indicator.
ISDNAccess	NOT_ISDN ISDN	ISDN access indicator.
EchoControlDevice	NO_ECHO_DEVICE	Echo control device indicator.

ConfigureSS7BackwardCallIndicatorIE IEId, Charge, CalledPartyStatus, CalledPartyCategory, EndToEndMethod, Interworking, IAMSegmentation, ISDNUserPart, Holding, ISDNAccess, EchoControlDevice, SCCPMethod		
Field Name	Values	Description
	ECHO_DEVICE	
SCCPMethod	NO_INDICATION CONNECTIONLESS CONNECTION_ORIENTED BOTH_METHODS	SCCP method indicator.

2.15.4 ConfigureSS7CalledPartyNumberIE

This command modifies the values in a SS7 Called Party Number Information Element for an outgoing SS7 call. If an *SS7CalledPartyNumberIE* profile does not already exist for the specified IEId, an error is returned.

ConfigureSS7CalledPartyNumberIE IEId, NatureOfAddress, NumberingPlan		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
NatureOfAddress	SUBSCRIBER NATIONAL INTERNATIONAL	Nature of address indicator.
NumberingPlan	UNKNOWN ISDN PRIVATE	Numbering plan indicator.

2.15.5 ConfigureSS7CallingPartyCategoryIE

This command modifies the values in a SS7 Calling Party Category Information Element for an outgoing SS7 call. If an *SS7CallingPartyCategoryIE* profile does not already exist for the specified IEId, an error is returned.

ConfigureSS7CallingPartyCategoryIE IEId, CallingPartyCategory		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
CallingPartyCategory	UNKNOWN	Calling party's category.

ConfigureSS7CallingPartyCategoryIE IEId, CallingPartyCategory		
Field Name	Values	Description
	ORDINARY_SUBSCRIBER PAYPHONE EMERGENCY	

2.15.6 ConfigureSS7CallingPartyNumberIE

This command modifies the values in a SS7 Calling Party Number Information Element for an outgoing SS7 call. If an *SS7CallingPartyNumberIE* profile does not already exist for the specified IEId, an error is returned.

ConfigureSS7CallingPartyNumberIE IEId, NatureOfAddress, NumberingPlan, Presentation, Screening		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
NatureOfAddress	SUBSCRIBER NATIONAL INTERNATIONAL	Nature of address indicator.
NumberingPlan	UNKNOWN ISDN PRIVATE	Numbering plan indicator.
Presentation	ALLOWED RESTRICTED	Address presentation restricted indicator.
Screening	USER_PROVIDED NETWORK_PROVIDED	Screening indicator.

2.15.7 ConfigureSS7CauseIE

This command modifies the values in a SS7 Cause Information Element for an outgoing SS7 call. If an *SS7CauseIE* profile does not already exist for the specified IEId, an error is returned.

ConfigureSS7CauseIE IEId, CodingStandard, Location, Cause		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
CodingStandard	CCITT ANSI	Coding standard.
Location	USER LOCAL_PRIVATE LOCAL_LOCAL TRANSIT REMOTE_LOCAL REMOTE_PRIVATE LOCAL_LINK INTERNATIONAL	Location indicator.
Cause	Integer	Cause value. See AQ.850 Release Cause Codes for details.

2.15.8 ConfigureSS7EventInformationIE

This command configures the SS7 Event Information Element profile. For information on events, refer to ANSI recommendation T1.113, Signalling System No. 7 (SS7) Integrated Services Digital Network (ISDN) User Part (92).

ConfigureSS7EventInformationIE IEId, EventInformation		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
EventInformation	ALERTING FWR_BUSY FWR_NOREPLY FWR_UNCONDITIONAL	See ANSI Recommendation T1.113 (92).

ConfigureSS7EventInformationIE IEId, EventInformation		
Field Name	Values	Description
	INBAND_INFO PROGRESS SERVICE_INCLUDEDSUPPL_SERVICE	

2.15.9 ConfigureSS7ForwardCallIndicatorIE

This command modifies the values in a SS7 Forward Call Information Element for an outgoing SS7 call. If an *SS7ForwardCallIndicatorIE* profile does not already exist for the specified IEId, an error is returned.

ConfigureSS7ForwardCallIndicatorIE IEId, IncomingInternationalCall, EndToEndMethod, Interworking, ISDNUserPart, ISDNUserPartPreference, ISDNAccess, SCCPMethod, PortedNumberTranslation, QueryOnReleaseAttempt		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
IncomingInternationalCall	NOT_INTERNATIONAL INTERNATIONAL	Incoming international call indicator.
EndToEndMethod	NO_END_TO_END PASS_ALONG SCCP PASS_ALONG_AND_SCCP	End-to-end method indicator of the protocol control indicator.
Interworking	NO_INTERWORKING INTERWORKING	Interworking indicator of the protocol control indicator.
ISDNUserPart	NOT_ISDN ISDN	ISDN user part indicator of the protocol control indicator.
ISDNUserPartPreference	ISDN_NOT_PREFERRED ISDN_PREFERRED ISDN_REQUIRED	ISDN user part preference indicator.
ISDNAccess	NOT_ISDN ISDN	ISDN access indicator.
SCCPMethod	NO_INDICATION CONNECTIONLESS CONNECTION_ORIENTED BOTH_METHODS	SCCP method indicator.
PortedNumberTranslation	NOT_TRANSLATED	Translated called number indicator.

ConfigureSS7ForwardCallIndicatorIE IEId, IncomingInternationalCall, EndToEndMethod, Interworking, ISDNUserPart, ISDNUserPartPreference, ISDNAccess, SCCPMethod, PortedNumberTranslation, QueryOnReleaseAttempt		
Field Name	Values	Description
	TRANSLATED	
QueryOnReleaseAttempt	NO_QOR QOR_ATTEMPT	Query on release (QoR) attempt.

2.15.10 ConfigureSS7NatureOfConnectionIE

This command modifies the values in a SS7 Nature Of Connection Information Element for an outgoing SS7 call. If an *SS7NatureOfConnectionIE* profile does not already exist for the specified IEId, an error is returned.

ConfigureSS7NatureOfConnectionIE IEId, SatelliteIndicator, ContinuityIndicator, EchoControlDeviceIndicator		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
SatelliteIndicator	NO_SATELLITE ONE_SATELLITE TWO_SATELLITES THREE_SATELLITES	Satellite indicator.
ContinuityIndicator	NOT_REQUIRED REQUIRED PREVIOUS_CIRCUIT	Continuity check indicator.
EchoControlDeviceIndicator	NO_ECHO_DEVICE ECHO_DEVICE	Echo control device indicator.

2.15.11 ConfigureSS7UserServiceInfoIE

This command modifies the values in a SS7 User Service Info Information Element for an outgoing SS7 call. If an *SS7UserServiceInfoIE* profile does not already exist for the specified IEId, an error is returned.

ConfigureSS7UserServiceInfoIE IEId, CodingStandard, InfoTransferCapability, UserInfoLayer1Protocol		
--	--	--

Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
CodingStandard	CCITT NATIONAL	Coding standard.
InfoTransferCapability	SPEECH UNRESTRICTED_DIGITAL_INFO RESTRICTED_DIGITAL_INFO 3.1_KHZ_Audio	Information transfer capability.
UserInfoLayer1Protocol	G.711	User information layer 1 protocol.

2.15.12 ConfigureSS7XnsIE

This command configures the Xnet Code Indicator Information Element. Xnet is an OpenSS7 implementation of the XNS 5.2 XT1/TLI Library for LiS (Linux STREAMS). OpenSS7 supports SIGTRAN (Signalling Transport) a protocol used to transport signalling information over IP.

ConfigureSS7XnsIE IEId, TypeOfNetwork, NumberingPlan, NetworkId, CircuitCode		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
TypeOfNetwork	CCITT NATIONAL	Type of network used for the SS7 calls.
NetworkIDPlan	UNKNOWN NANP_3_DIGIT_CIRCUIT_CODE NANP_4_DIGIT_CIRCUIT_CODE CCITT_DNIC CCITT_MNIC	Type of network identification plan used for the SS7 calls.
NetworkId	3 or 4 characters	Network identifier.
CircuitCode	UNSPECIFIED INTERNATIONAL_NO_OPERATOR	

	INTERNATIONAL_W_OPERATOR	
--	--------------------------	--

Sample command is shown below:

```
ConfigureSS7XNSIE 0, CCITT, UNKNOWN, 0000, UNSPECIFIED
```

2.16 Log File Configuration

2.16.1 ConfigureLogPath

This command defines the storage path for the log files that are created by the VSOS. The files are located in the directory as specified by the *LogPathName* parameter.

Restart the system to implement the new configuration.

ConfigureLogPath LogPathName		
Field Name	Values	Description
LogPathName	Char (up to 140)	Pathname on disk where log files are located. Default is C:\Versatel\Mesoware\Logs\

2.16.2 ConfigureClientLog

This command configures the Client log file parameters. This command refers to the .csv log files that are created by the VSOS, and are located in the directory specified by the *ConfigureLogPath* command.

The EnableFlag option allows you to define the logging state after a restart. Once the system is operational, you can dynamically enable and disable the logging with *ResumeDiagnostics* and *SuspendDiagnostics* commands.

Restart the system to implement the new configuration.

The log file can be read using the Versatel LogReader application. The log file can be opened with any text editor.

ConfigureClientLog EnabledFlag, MaxDirectorySize, NumberDaysToKeep		
Field Name	Values	Description
EnabledFlag	TRUE or FALSE	Enables or disables logging. Default is TRUE
MaxDirectorySize	Integer (1000–1000000)	Size in kilobytes. Default is 4096

NumberOfDaysToKeep	Integer (2–30)	Number of days to store the records. Default is 5
--------------------	----------------	--

2.16.3 ConfigureVersatelLog

This command configures the Versatel log file parameters. This command refers to the *.cmf* log files that are created by the VSOS. The files are located in the directory specified by the *ConfigureLogPath* command.

The *EnableFlag* option allows you to define the logging state after a restart. Once the system is operational, you can dynamically enable and disable the logging with *ResumeDiagnostics* and *SuspendDiagnostics* commands.

Restart the system to implement the new configuration.

The log file can be read using the Versatel LogReader application. The log file cannot be opened with a text editor.

The *.cmf* log files contain more information than the *.csv* log files.

ConfigureVersatelLog EnabledFlag, MaxDirectorySize, NumberOfDaysToKeep		
Field Name	Values	Description
EnabledFlag	TRUE or FALSE	Enables or disables logging. Default is TRUE
MaxDirectorySize	Integer (1000–1000000)	Size in kilobytes. Default is 100000
NumberOfDaysToKeep	Integer (2–30)	Number of days to store the records. Default is 30

2.17 Diagnostic Log Files

The VSOS creates diagnostic logs and presents them through the OAM&P API. You can use the *ResumeDiagnostics* and *SuspendDiagnostics* commands to start and stop the VSOS from sending these diagnostic logs. Diagnostic logging is automatically enabled when VSOS is started. The filename is *DIAGmmdd.csv* where *mm* is the month and *dd* is the day of the month. The file is stored in the same directory as the application.

The maximum size of the diagnostic log file is 100,000 bytes. The file is not written to after the size reaches 100,000 bytes. Seven days worth of log files are kept. When a log is created after midnight, the current log file is closed and a new log file is created. At this time, any log files older than 7 days are deleted.

The log file can be read using the Versatel LogReader application. The log file can also be opened using any text editor.

2.17.1 ResumeDiagnostics

You can use this command to start logging to the *DIAGmdd.csv* file. This command has no parameters.

When the EdgeIQ is initialized, diagnostic logging is enabled.

2.17.2 SuspendDiagnostics

You can use this command to stop logging to the *DIAGmdd.csv* file. This command has no parameters.

When the EdgeIQ is initialized, diagnostic logging is enabled.

2.18 Offline Connection to the Configuration Data

2.18.1 Connectdb

This CLI-only command establishes a connection to the database server without going through the VSOS.

Connectdb DSNname		
Field Name	Values	Description
DSNname	Char	The DSN name of the database server (usually "Nexus"), as defined in Mesoware.ini and set up via ODBC (refer to the Installation Guide). The name must be identical to that given for the MesowareDSN parameter in the Mesoware.ini file (see section 6.3.2 of the Installation Guide), and corresponds to the ODBC data source name configured in the .odbc.ini file (see section 6.4.2 of the Installation Guide).

If VSOS is already running, CLI cannot connect directly to the server. The following error message is displayed:

Cannot change connection to server if CLI is connected to VSOS.

Terminate VSOS and retry the command.

If the server is not found, the following error message is displayed:

Failed to Connect to Server.

Check the *Mesoware.Ini* file to obtain the *MesowareDSN* name.

2.19 Miscellaneous Configuration

2.19.1 ConfigureApplLinkMode

Up to eight applications can connect to VSOS. Only one application is active at a given time, the remaining applications (if any) are in standby mode. See the Managed API Reference document for additional information.

The *Mode* parameter must be set to *REDUNDANT*, even if a single application is used. The *SIMPLEX* mode is used for test purposes only.

Restart the system to implement the new configuration.

ConfigureApplLinkMode Mode		
Field Name	Values	Description
Mode	SIMPLEX REDUNDANT	Application Link Mode. Set to REDUNDANT mode. Do not use the SIMPLEX mode.

2.19.2 ConfigureGeneratedTone

Use this command to add or modify a user-programmable tone from the configuration data. Restart the system to implement the new configuration.

Note: You can modify all elements of a tone for Tonelds 0-63 except the Name fields of Tonelds 0-5, which are read-only.

ConfigureGeneratedTone Toneld, ElementId, Name, Frequency, Amplitude, OnDuration, OffDuration, GainId, Action		
Field Name	Values	Description
Toneld	Integer (0–63)	The unique Id for this tone. A maximum of 64 tones are supported.
ElementId	-1, 1–8	Unique identifier of the element to add or modify within the specified Toneld (see Action field).
Name	Up to 50 characters	Name of the element. The name cannot contain spaces.
Frequency	Integer	Frequency is Hz. Setting the value to 0 disables the tone.
Amplitude	Integer	Specifies the gain of a tone. Setting 0 will default to –9 dBm. Setting the value other than 0 will modify the gain of the tone in the following manner: <ul style="list-style-type: none"> • 1 decreases gain to -10 dBm • -1 increases gain to -8 dBm • 6 decreases gain to -15 dBm • -6 increases gain to -3 dBm You must try different values to achieve optimum tone.
OnDuration	Integer	Time in ms of the Tone “ON” cycle for a cadenced tone.
OffDuration	Integer	Time in ms that the tone is in the “OFF” cycle for a cadenced tone.
GainId	Integer (0–47)	N/A, this field has no effect. The default GainId is 47. To modify the gain of a tone, you must modify the Amplitude value.
Action	Char	<p>MOD - to Modify an existing Toneld/ElementID.</p> <p>To modify the Name, the ElementId must be set to 1 so that all elements of that Toneld are updated with the new Name. Note that the Name can only be modified for Toneld numbers between 36–63 since Tonelds 0–35 are read-only.</p> <p>ADD - to add a new Toneld/ElementId.</p> <p>You can specify a Name for any Toneld numbered 36-63 for the first element (ElementID 1) only, and then you must use the same name for all other elements of the specified Toneld (if you try to use a different name, the new name is ignored).</p> <p>If you specify ADD for a Toneld/ElementId that already exists, a new ElementID is created at that index and all the existing ElementIds for that Toneld are shifted up one index higher.</p> <p>If -1 is specified for ElementId, the Tone Element is added to the bottom of the list.</p>

2.19.3 RemoveGeneratedTone

Use this command to remove a user programmable tone. Restart the system to implement the new configuration.

Note: You can remove all elements of a tone having Tonelds 36-63. Tones having Tonelds 0-35 must contain a minimum of one element—they cannot be completely removed.

RemoveGeneratedTone Toneld, ElementId		
Field Name	Values	Description
Toneld	Integer (0–63)	The unique Id for this tone. A maximum of 64 tones are supported.
ElementId	-1, 1–8	Unique identifier of the element to remove within the specified Toneld. If –1 is entered, all Elements of that Toneld are removed except for the first element (ElementID 1) of a Read_Only Toneld.

2.19.4 ConfigurePublicIE

This command enables or disables the transfer of public information elements to the application. Refer to the Managed API Reference document for information on Public Information Elements.

ConfigurePublicIE ProvidePublicIE		
Field Name	Values	Description
ProvidePublicIE	True or false	Enable or Disable the transfer of Public IEs to the application.

2.19.5 ConfigureSysParm and DisplaySysParm

The command includes system and customer site information fields. To view the current configuration, use the [DisplaySysParm](#) command as shown below:

```
displaysysparm
```

ParameterName	ParameterValue
CITY	N/A
CONFIG_VERSION	70000
CONTACT	N/A
COUNTRY	N/A
ENABLE_PUBLICIE	0
ENBL_CLTLG_FL	1
ENBL_VRSTLG_FL	1
FLOOR	N/A
FORBIDDENLOCK	1
H110MASTER	0
LATITUDE	N/A
LICENSENUMBER	12345678
LONGITUDE	N/A
MAX_CLTLG_DAYS	30
MAX_CLTLG_SIZE	4096
MAX_VRSTLG_DAYS	30
MAX_VRSTLG_SIZE	100000
PATH_860	C:\Versatel\Mesoware\
PATH_DSP	C:\Versatel\Mesoware\
PATH_LOG_FILE	C:\Versatel\Mesoware\Logs\
PATH_MEZZANINE	C:\Versatel\Mesoware\
RACK_ID	N/A
SEQ_NUMBER	21
STATE	N/A
STREET_NAME	N/A
STREET_NUMBER	N/A
SYSTEM_ID	N/A
SYSTEM_NAME	N/A
ZIP_CODE	N/A
DIALING_GAINID	0
DIALLING_PAUSE	500

Warning: Changing the values of some of these fields may cause your system to not function properly.

Sample customer information fields set with the [ConfigureSysParm](#) CLI command:

```
ConfigureSysParm System_Name, "Gatineau VAC1"
ConfigureSysParm Floor, 2nd
ConfigureSysParm Rack_ID, Shelf_31_Rack_1
ConfigureSysParm Contact, "Pierre"
ConfigureSysParm Street_number, 84
ConfigureSysParm Street_NAME, Jean-Proulx
ConfigureSysParm City, Gatineau
ConfigureSysParm Zip_Code, J8Z1W1
ConfigureSysParm State, Quebec
ConfigureSysParm Country, Canada
ConfigureSysParm Latitude, "45°28 N"
ConfigureSysParm Longitude, "75°44 W"
```

Field names are not case sensitive and must contain 1 to 15 characters.

When using spaces and special characters, enclose them in double quotes. For example: "Pierre Bouchard" "45°29 N". Field values can contain 1 to 150 characters.

Do not use single quotes within the double-quotes (" ' ").

To change your configuration, copy the above to a text editor, edit the fields and paste the results at the CLI prompt. Use the [displaysysparm](#) command to check the configuration.

To add a new field, simply enter the field and a value, for example:

```
ConfigureSysParm Other_Contact, "Jacqueline"
```

Once a new field is defined, it cannot be deleted and its field must contain at least one character.

Sample output for the above examples is shown below:

```
displaysysparm
```

ParameterName	ParameterValue
CITY	Gatineau
CONFIG_VERSION	70000
CONTACT	Pierre
COUNTRY	Canada
ENABLE_PUBLICIE	0
ENBL_CLTLG_FL	1
ENBL_VRSTLG_FL	1
FLOOR	2nd
FORBIDDENCLOCK	1
H110MASTER	0
LATITUDE	45°28 N
LICENSENUMBER	12345678
LONGITUDE	75°44 W
MAX_CLTLG_DAYS	30
MAX_CLTLG_SIZE	4096
MAX_VRSTLG_DAYS	30
MAX_VRSTLG_SIZE	100000
PATH_860	C:\Versatel\Mesoware\
PATH_DSP	C:\Versatel\Mesoware\
PATH_LOG_FILE	C:\Versatel\Mesoware\Logs\
PATH_MEZZANINE	C:\Versatel\Mesoware\
RACK_ID	Shelf_31_Rack_1
SEQ_NUMBER	21
STATE	Quebec
STREET_NAME	Jean-Proulx
STREET_NUMBER	84
SYSTEM_ID	N/A
SYSTEM_NAME	Gatineau VAC1
ZIP_CODE	J8Z1W1
DIALING_GAINID	0
DIALLING_PAUSE	500

3 Display Reference

This section describes the display commands used to view the system configuration as defined by the configuration and control commands.

[DisplayAppLinkMode](#)
[DisplayBearerCapabilityIE](#)
[DisplayBearerRouteSet](#)
[DisplayBearerRouteSetTrunkGroups](#)
[DisplayBusH110](#)
[DisplayBW](#)
[DisplayBWSpan](#)
[DisplayCalledPartyIE](#)
[DisplayCalledPartySubaddressIE](#)
[DisplayCallingPartyIE](#)
[DisplayCallingPartySubaddressIE](#)
[DisplayCard](#)
[DisplayCASProfile](#)
[DisplayCASSignallingProfile](#)
[DisplayCASSpill](#)
[DisplayCASStage](#)
[DisplayCauseIE](#)
[DisplayChannel](#)
[DisplayChannelGain](#)
[DisplayChannelIDIE](#)
[DisplayChannelStateProfile](#)
[DisplayClientLog](#)
[DisplayClock](#)
[DisplayDChannelProtocol](#)
[DisplayDChannelsWithIEId](#)
[DisplayGain](#)
[DisplayGeneratedTone](#)
[DisplayH110Control](#)
[DisplayHelp](#)
[DisplayHighLayerCompatibilityIE](#)
[DisplayLogPath](#)
[DisplayLowLayerCompatibilityIE](#)
[DisplayPRITimer](#)
[DisplayProgressIndicatorIE](#)
[DisplayPublicIE](#)

[DisplayRTPDestinationParameters](#)
[DisplayRTPSourceParameters](#)
[DisplaySignalIE](#)
[DisplaySpan](#)
[DisplaySpansWithCASProfile*](#)
[DisplaySS7BackwardCallIndicatorIE](#)
[DisplaySS7CalledPartyNumberIE](#)
[DisplaySS7CallingPartyCategoryIE](#)
[DisplaySS7CallingPartyNumberIE](#)
[DisplaySS7CauseIE](#)
[DisplaySS7EventInformationIE](#)
[DisplaySS7ForwardCallIndicatorIE](#)
[DisplaySS7NatureOfConnectionIE](#)
[DisplaySS7UserServiceInfoIE](#)
[DisplayTrunkGroup](#)
[DisplayTrunkGroupChannels](#)
[DisplaySolaComLog](#)
[DisplayVOIPBW](#)
[DisplayVOIPBWFaxModemPayload](#)
[DisplayVOIPBWH323](#)
[DisplayVOIPBWSIP](#)
[DisplayVOIPCause](#)
[DisplayVOIPChannelProfileIds](#)
[DisplayVOIPDNS](#)
[DisplayVOIPECANCFg](#)
[DisplayVOIPFAXModemPacketsIE](#)
[DisplayVOIPOutOfBandToneCfG](#)
[DisplayVOIPPrefix](#)
[DisplayVOIPProgress](#)
[DisplayVOIPRTCPacketsCfG](#)
[DisplayVOIPRTTPacketsCfG](#)
[DisplayVOIPRTTPacketsSizeInBytes*](#)
[DisplayVOIPRTTPayloadTypeMappingCfG](#)
[DisplayVOIPSilentSuppressionCfG](#)
[DisplayVOIPSpan](#)
[DisplayVOIPVoicePacketsCfG](#)

[HelpConvertSS7DestPointCodeToVersatelDPCValue](#)
[HelpConvertVersatelDPCValueToSS7DestPointCode](#)

[GetCardStatus](#)
[GetChannelStatistics](#)
[GetSpanStatistics](#)
[GetShelfStatus](#)

3.1 DisplayHelp

Typing *DisplayHelp help* or *? help* at the CLI prompt displays the full list of CLI commands.

To get help on a specific command such as *AddCard*, enter the following:

```
? AddCard
```

Sample output is shown below:

```
COMMANDNAME:
AddCard

DESCRIPTION:
Adds a card to the configuration data so that it can be recognized by the system.

ARGUMENTS:
CardType { T1,E1,VOIP512 } ; ShelfNumber { 0..31 } ; SlotNumber { 0..15 } ; Signaling {
CAS,ISDN,CLEARCHANNEL } ; BackPlaneEncodingType { mu_Law,a_Law } ; BackUpSlotNumber { -
1..15 } ; VirtualIpAddress T(15) { } ; Note: E1 CardType must be initialized with
SignalingStandard ISDN. T1 CardType must be initialized with SignalingStandard CAS or ISDN.
VOIP512 CardType must be initialized with SignalingStandard CLEARCHANNEL. The
BackPlaneEncodingType parameter applies to the type of PCM used on the H110 bus. If the
audio of the cards are interconnected, the same encoding type must be used. For a T1 card,
mu_Law should be used. For an E1 card, a_Law should be used. For a VoIP card, use the
enCoding type that matches the greater number of cards. Backup card is only available for
T1/E1 card, if no backup card exists set BackUpSlotNumber to -1

EXAMPLE:
AddCard T1,31,2,ISDN,mu_Law,3,172.17.31.12
```

The CLI also responds to keywords, so if you enter a string of one or more letters, the commands containing the specified string are displayed. For example, to display all commands containing the string *span*, enter the following:

```
span
```

Sample output is shown below:

```
COMMANDNAME
-----
ConfigureSpan
DisableBWspan
DisableSpan
DisplayBWspan
DisplaySpan
DisplaySpansWithCASProfile
EnableBWspan
EnableSpan
GetSpanStatistics
LoopbackSpan
MoveSpanToTrunkGroup
RemoveSpanFromTrunkGroup
```

DisplayHelp CommandName

? CommandName

Field Name	Values	Description
Command Name or Help	80 char	Command name or a part of the command name.

3.2 Hardware Display

3.2.1 DisplayCard

This command displays information about a card contained in the configuration data.

If you want to display all your trunk cards, you must enter -1 for the shelf and slot numbers.

DisplayCard ShelfNumber, SlotNumber		
Field Name	Values	Description
ShelfNumber	0–31, -1	The shelf number of the affected chassis.
SlotNumber	0–15, -1	The slot number of the affected card.

Sample output is shown below:

```
displaycard -1,-1
```

CardType	CardNumber	Shelf	Slot	SignallingStandard	EncodingStandard	BackUpSlot	VirtualIpAddress
T1	0	25	2	ISDN	mu_Law	-1	0.0.0.0
VoIP512	1	25	4	CLEARCHANNEL	mu_Law	-1	0.0.0.0

3.2.2 DisplayChannel

This command displays channel information. Applicable to VoIP channels only. The information includes Shelf Number, SlotNumber, SpanNumber, ChannelNumber, InterfaceId and ChannelState.

DisplayChannel ShelfNumber, SlotNumber, SpanNumber, ChannelNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The span number.
ChannelNumber	0–511, -1	The channel number within the span. Use -1 to select all channels in the span.

```
displaychannel 25,4,0,0
```

ShelfNumber	SlotNumber	SpanNumber	ChannelNumber	InterfaceId	ChannelState
25	4	0	0	-1	DISABLED

3.2.3 DisplayChannelGain

This command displays the gain setting for a channel.

DisplayChannelGain ShelfNumber, SlotNumber, SpanNumber, ChannelNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The span number.
ChannelNumber	0–511, -1	The channel number within the span. Use –1 to select all channels in the span.

Sample output is shown below:

```
displaychannelgain 25,4,0,0
```

```

ShelfNumber  SlotNumber  SpanNumber  Channel  Gain Value
-----
          25             4             0             0             47

```

3.2.4 DisplayClock

This command displays the network synchronization clock sources configured in the configuration data. Clock sources are used in order of priority specified in the priority field.

DisplayClock Priority, ShelfNumber		
Field Name	Values	Description
Priority	0–99, -1	The priority order of this configured clock. (Zero is the highest.) If -1 is entered, all configured clocks are displayed.
ShelfNumber	0–31, -1	The shelf number of the affected chassis. If –1 is entered, the configured clocks for all shelves are displayed.

Sample output is shown below:

```
displayclock -1,-1
```

```

Shelf  Priority  Slot  Ref
-----
    25         0     4  INTERNAL

```


3.2.5 DisplayBusH110

This command displays information about H.110 bus assignments and their associated shelf and slots.

DisplayBusH110 BusId, ShelfNumber		
Field Name	Values	Description
BusId	0–31, -1	The H.110 bus Id. Entering –1 displays all H.110 bus assignments.
ShelfNumber	0–31, -1	The shelf ID. Entering –1 displays all shelf identifiers.

Sample output is shown below:

```
displaybush110 -1, -1
```

BusId	ShelfNumber	SlotNumber
-----	-----	-----
0	-1	-1
1	-1	-1
2	-1	-1
3	-1	-1
4	-1	-1
5	-1	-1
6	-1	-1
7	-1	-1
8	25	4
9	25	4
10	25	4
11	25	4
12	-1	-1
13	-1	-1
14	-1	-1
15	-1	-1
16	-1	-1
17	-1	-1
18	-1	-1
19	-1	-1
20	-1	-1
21	-1	-1
22	-1	-1
23	-1	-1
24	-1	-1
25	-1	-1
26	-1	-1
27	-1	-1
28	-1	-1
29	-1	-1
30	-1	-1
31	-1	-1

3.2.6 DisplayGain

This command displays a value in the Gains table. If the GainId is not specified, all gains in the Gains table are displayed. Sample output is shown below:

DisplayGain GainId		
Field Name	Values	Description
GainId	0-47, -1	Gain Id. If -1 is entered, all gains are displayed

```
displaygain -1
```

```

GainID  Value (dB)
-----  -
0         0
1         18
2         17
3         -1
4        -255
5         0
6         12
7         11
8         10
9          9
10        8
11        7
12        6
13        5
14        4
15        3
16        2
17        1
18        0
19       -1
20       -2
21       -3
22       -4
23       -5
24       -6
25       -7
26       -8
27       -9
28      -10
29      -11
30      -12
31      -13
32      -14
33      -15
34      -16
35      -17
36      -18
37      -19
38      -20
39      -21
40      -22
41      -23
42      -24
43      -25
44      -26
45      -27
46      -28
47         0

```

3.2.7 DisplayH110Control

This command displays the H110 control status. The command has no parameters. Sample output is shown below:

```
displayh110control
  H110ControlShelf
  -----
  SLAVE
```

The values can be MASTER or SLAVE.

3.2.8 DisplaySpan

This command displays information about a span or all spans associated with a card.

DisplaySpan ShelfNumber, SlotNumber, SpanNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15, -1	The span number. Use -1 to display all spans.

Sample output for a VoIP card is shown below:

```
displayspan 25,4,-1

  CardNumber  CardType  SpanNumber  SpanType  State
  -----
           1   VoIP512           0  CLEARCHANNEL  DISABLED
```

Sample output for a T1 card is shown below:

```
displayspan 25,2,0

  CardNumber  CardType  SpanNumber  SpanType  Framing  Coding  LBO
  -----
           0         T1           0       ISDN     ESF      B8ZS   _0_133FT

  LocalLoop  RemoteLoop  State  IOLoopback
  -----
         OFF         OFF  DISABLED         OFF
```

3.3 Trunk Group Display

3.3.1 DisplayTrunkGroup

This command displays trunk group attributes for the specified trunk group. The parameters displayed depend on the type of trunk group being queried.

DisplayTrunkGroup TrunkGroup		
Field Name	Values	Description
TrunkGroup	CAS	All CAS trunk groups.
	PRI	All PRI (FAS) trunk groups.
	NFAS	All NFAS trunk groups.
	CLEARCHANNEL	All Clear Channel trunk groups.
	SS7	All SS7 trunk groups
	VOIPCC	All VoIP clear channel trunk groups
	VOIPBW	All VoIP bladeaware trunk groups
	0 – 4095	Displays information for that particular trunk group.
ALL	Displays output for all trunk groups.	

Sample output for a VoIP card is shown below:

```
displaytrunkgroup all
```

```

-----
      Name  Num  TrunkGroupType  HuntingAlgorithm  DS0s
-----
      PRI_TG1  0      ISDN             MOST_IDLE         0
      CAS_TG1  1      CAS               MOST_IDLE         0
      CC_TG1   2      CLEARCHANNEL     MOST_IDLE         0
      SS7_TG1  3      SS7               MOST_IDLE         0
      VOIP_CC_01  44  VOIPCLEARCHANNEL ROUND_ROBIN_FORWARD  0
      VOIP_CC_02  55  VOIPCLEARCHANNEL ROUND_ROBIN_FORWARD  0
      VOIPBW_SANITY 200  VOIPSILTG        FIRST_AVAILABLE  512
      VOIPBW_FIRSTSIP 500  VOIPSILTG        FIRST_AVAILABLE  0
      VOIP_H323 501  VOIPSILTG        FIRST_AVAILABLE  0

```

3.3.2 DisplayTrunkGroupChannels

This command displays all channels for a particular trunk group.

DisplayTrunkGroupChannels TrunkGroupNumber		
Field Name	Values	Description
TrunkGroupNumber	Integer	Trunk Group number used to uniquely

DisplayTrunkGroupChannels TrunkGroupNumber		
Field Name	Values	Description
	(0–134217727)	identify this trunk group.

Sample output is shown below:

DisplayTrunkGroupChannels 200

ShelfNumber	SlotNumber	SpanNumber	ChannelNumber	InterfaceId	SpanState
25	4	0	0	-1	DISABLED
25	4	0	1	-1	DISABLED
25	4	0	2	-1	DISABLED
25	4	0	3	-1	DISABLED
25	4	0	4	-1	DISABLED
25	4	0	5	-1	DISABLED
25	4	0	6	-1	DISABLED
25	4	0	7	-1	DISABLED
25	4	0	8	-1	DISABLED
25	4	0	9	-1	DISABLED
25	4	0	10	-1	DISABLED
25	4	0	11	-1	DISABLED
25	4	0	12	-1	DISABLED
25	4	0	13	-1	DISABLED
25	4	0	14	-1	DISABLED
25	4	0	15	-1	DISABLED
25	4	0	16	-1	DISABLED
25	4	0	17	-1	DISABLED
25	4	0	18	-1	DISABLED
25	4	0	19	-1	DISABLED
25	4	0	20	-1	DISABLED
25	4	0	21	-1	DISABLED
25	4	0	22	-1	DISABLED

3.4 Route Set Display

3.4.1 DisplayBearerRouteSet

This command displays the bearer route set and all of its members. If the specified route set number does not exist, an error code is returned.

DisplayBearerRouteSet rsSetNumber		
Field Name	Values	Description
rstNumber	Integer	The number assigned to the bearer route set. Use -1 to display all route sets.

Sample output is shown below:

```
DisplayBearerRouteSet 2
```

BearerRouteSetName	Number	LoadSharing	HuntingOrder	TrunkGroupNumber
Route2	2	ON	0	0
Route2	2	ON	1	1
Route2	2	ON	2	2

3.5 DisplayBearerRouteSetTrunkGroups

This command displays all the trunk groups for the specified bearer route set.

DisplayBearerRouteSetTrunkGroups BearerRouteSetNumber		
Field Name	Values	Description
rstNumber	Integer	The number assigned to the bearer route set. Use -1 to display all route sets.

Sample output is shown below:

```
DisplayBearerRouteSetTrunkGroups 5
```

HuntingOrder	TrunkGroupNumber
1	3
2	2

3.6 VoIP Display

3.6.1 DisplayRTPSourceParameters

This command displays the default source (local) IP address and UDP port from which RTP and RTCP packets are sent over a VoIP clear channel.

DisplayRTPSourceParameters ShelfNumber, SlotNumber, SpanNumber, ChannelNumber		
Field Name	Values	Description
ShelfNumber	0-31	The shelf number of the affected chassis.

DisplayRTPSourceParameters ShelfNumber, SlotNumber, SpanNumber, ChannelNumber		
Field Name	Values	Description
SlotNumber	0–15	The slot number where the card is installed.
SpanNumber	0	The number of the affected span.
ChannelNumber	0-511, -1	The channel to display. If –1 is entered then whole span is displayed.

Sample output is shown below:

```
DisplayRTPSourceParameters 25,4,0,0
```

```
Shelf Slot Span Channel VOIPSourceIpAddress TxUDPRTPSourcePort
  25   4   0     0         192.16.26.100           5000
```

```
RxUDPRTPDestinationPort TxUDPRTCPSourcePort RxUDPRTCPDestinationPort
                    5000                      5001                      5001
```

3.6.2 DisplayRTPDestinationParameters

This command displays the destination (far-end) IP address and UDP port for transmitting RTP and RTCP packets over a VoIP clear channel.

DisplayRTPDestinationParameters ShelfNumber, SlotNumber, SpanNumber, ChannelNumber		
Field Name	Values	Description
ShelfNumber	0-31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number where the card is installed.
SpanNumber	0	The number of the affected span.
ChannelNumber	0-511, -1	The channel to display. If –1 is entered then whole span is displayed.

Sample output is shown below:

```
DisplayRTPDestinationParameters 25,4,0,0
```

```
Shelf Slot Span Channel DestinationIPAddress FarEndAltIpAddressForRTCP
-----
  25   4   0     0                127.0.0.1                127.0.0.1
```

```
TxUDPRTPDestinationPort RxUDPRTPSourcePort TxUDPRTCPDestinationPort
-----
                    5000                      5000                      5001
```

```
RxUDPRTCPSourcePort
```

5001

3.6.3 DisplayVoIPFaxModemPacketsIE

This command displays the fax packet information elements for all VoIP bearer channels associated with the specified *VoIPChannelProfileId*.

DisplayVoIPFaxModemPacketsIE VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```

DisplayVOIPFaxModemPacketsIE 0

VOIPChannelProfileId  FaxMaxJitter      FaxMaxDelay  FaxCEDDuration
-----
0                    150          200          3000

FaxCNGDoneDelay      FaxCNGDuration  NumRedundantImagePkts
-----
3000                 500            3

NumRedundantControlPkts  ReorderDelay
-----
3                        200

```

3.6.4 DisplayVoIPCause

This command displays the Cause value for VoIP calls associated with the specified *VoIPChannelProfileId*.

DisplayVoIPCause VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile. See AQ.850 Release Cause Codes on page 148 for details.

Sample output is shown below:

```

displayvoipcause 0

VOIPChannelProfileId  CAUSE
-----
0                    0

```


3.6.5 DisplayVoIPChannelProfileIds

This command displays the values assigned to *VoIPChannelProfileIds*. It has no parameters and no checks or error codes. Sample output is shown below:

```
displayVoIPChannelProfileIds
  VoIPChannelProfileId
  -----
                0
                2
```

3.6.6 DisplayVoIPDNS

The following command displays the DNS associated to a specific *VoIPChannelProfileId*.

DisplayVoIPDNS VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```
DisplayVoIPDNS 0
  VoIPChannelProfileId      _____ DNS
                0  Versatelnetworks.com
```

3.6.7 DisplayVoIPECANCFg

This command displays the G.168 echo cancellation setting of VoIP bearer channels.

DisplayVoIPECANCFg VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	1–255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```
DisplayVoIPECANCFg 0
  VoIPChannelProfileId  ECAN168  ECANNonLinearProcessor  ECANTail
  -----
```

```

0          ON          ON          64Msec
-----
WorstCaseExpectedEchoReturnLoss
-----
6db

```

3.6.8 DisplayVoIPPrefix

The following command displays the Prefix associated to a specific *VoIPChannelProfileId*.

DisplayVoIPPrefix VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0-255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```

DisplayVoIPPrefix 0
-----
VoIPChannelProfileId  PREFIX
-----
0          555

```

3.6.9 DisplayVoIPProgress

This command displays the progress indicator for VoIP calls associated with the specified *VoIPChannelProfileId*.

DisplayVoIPProgress VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0-255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```

DisplayVoIPProgress 0
-----
VoIPChannelProfileId  PROGRESS
-----
0          0

```

3.6.10 DisplayVoIPOutOfBandToneCfg

This command displays information about how DTMF tones are sent over a VoIP clear channel.

DisplayVoIPOutOfBandToneCfg VoIPChannelProfileId		
Field Name	Values	Description

DisplayVoIPOutOfBandToneCfg VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```

DisplayVOIPOutOfBandToneCfg 0

VOIPChannelProfileId  Rfc2833          FaxRelay
-----
                        0             ON          T38FaxRelay

ModemPassThrough      UpSpeedCodec  UpSpeedPktSize
-----
                        OFF           Mu_Law      10

```

3.6.11 DisplayVoIPRTCPPacketsCfg

This command displays information about how RTCP packets are configured for transmission over a VoIP bearer channel.

DisplayVoIPRTCPPacketsCfg VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```

DisplayVoIPRTCPPacketsCfg 0

VOIPChannelProfileId  TxRTCPPackets  TxRTCPInterval  UseFarEndAltIpAddrForRTCP
-----
                        0             OFF             5000          OFF

RtcpCName
-----
127.0.0.1

```

3.6.12 DisplayVoIPRTTPacketsCfg

This command displays information about how voice samples are encoded and transmitted as RTP packets over a VoIP bearer channel.

DisplayVoIPRTTPacketsCfg VoIPChannelProfileId		
--	--	--

Parameter	Values	Description
VoIPChannelProfileId	0–255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```

DisplayVOIPRTTPacketsCfg 0

VoIPChannelProfileId  Codec1      Codec2      Codec3      Codec4
-----
                        0   G729a   G711_uLaw  G711_aLaw  G726_32K

PktPeriodCodec1  PktPeriodCodec2  PktPeriodCodec3  PktPeriodCodec4
-----
                        20                20                20                20

TxIpTypeOfService  TxIpTimeToLive  RxUdpChecksumCalculation
-----
                        184                255                                ON

TxUdpChecksumCalculation  RxRtpRedundant  TxRtpRedundant
-----
                        ON                OFF                OFF

NatTraversal      RTPMonitoring  RTPMonitoringTimer
-----
SecuredNatTraversal      ON                60000

```

3.6.13 DisplayVoIPRTTPacketsSizeInBytes

This command displays the packet size in bytes for a given codec and packet period. To obtain all available packet periods and packet sizes for a given codec, use -1 for the *PacketPeriodCodec* parameter.

DisplayVoIPRTTPacketsSizeInBytes Codec, PacketPeriodCodec		
Field Name	Values	Description
Codec	G711_uLaw G711_aLaw G726_32K G729a G729ab G723_1_53 G723_1_63	Type of CODEC used for encoding and transmitting voice samples into RTP packets.
PacketPeriodCodec	See ConfigureVoIPRTTPackets	RTP packet period in milliseconds.

Sample command outputs are shown below:

```

DisplayVOIPRTTPacketsSizeInBytes G711_uLaw,5

      Codec  PktPeriod_ms  PktPeriod_byte
-----
G711_ULAW      5              40

DisplayVOIPRTTPacketsSizeInBytes G711_uLaw,-1

```

Codec	PktPeriod_ms	PktPeriod_byte
G711_ULAW	5	40
G711_ULAW	10	80
G711_ULAW	15	120
G711_ULAW	20	160
G711_ULAW	25	200
G711_ULAW	30	240

3.6.14 DisplayVoIPRTTPayloadTypeMappingCfg

This command displays the RTP payload type that has been set for RTP packets.

DisplayVoIPRTTPayloadTypeMappingCfg VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0-255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```

DisplayVoIPRTTPayloadTypeMappingCfg 0

VoIPChannelProfileId  RedundantPT  G711uLawPT  G711aLawPT  G726_16KPT
-----
0                      102         0           8           96

G726_24KPT             G726_32KPT  G726_40KPT  G729a_PT
-----
97                     2           98         18

G723_1PT              Rfc2833PT
-----
4                     101

```

3.6.15 DisplayVoIPSilentSuppressionCfg

This command displays information about the algorithm that has been selected to deal with silence on VoIP bearer channels.

DisplayVoIPSilentSuppressionCfg VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0-255	The unique identifier of a VoIP clear channel profile.

Sample output is shown below:

```

DisplayVoIPSilentSuppressionCfg 0

```

```

VOIPChannelProfileId  CNGMode      VADType      GenericVADMode
-----
0 HOTH_NOISE      BUILT_IN_CODEC  CONSERVATIVE

```

3.6.16 DisplayVoIPSpan

This command displays the card number, Gateway IP address, and subnet mask of a VoIP span.

DisplayVoIPSpan ShelfNumber, SlotNumber, SpanNumber		
Parameter	Values	Description
ShelfNumber	0-31	The shelf number of the affected chassis.
SlotNumber	0-15	The slot number where the card is installed.
SpanNumber	0	The span number.

Sample command output is shown below:

```

displayvoipspan 31,7,0

CardNumber  SpanNumber  GatewayIp  SubnetMask
-----
7           0      127.17.0.1  255.255.0.0

```

3.6.17 DisplayVoIPVoicePacketsCfg

This command displays information about the adaptive jitter buffer service and packet gain selected for VoIP bearer channels.

DisplayVoIPVoicePacketsCfg VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0-255	The unique identifier of a VoIP clear channel profile.

Sample command output is shown below:

```

DisplayVoIPVoicePacketsCfg 0

VOIPChannelProfileId  JitterBufferLengthAdapt  JitterMin  JitterMax
-----
0                     ON              0          100

JitterTarget  RxPktGain  TxPktGain
-----
20            0            0

```

3.6.18 DisplayVoIPTnsIE

This command displays the Transit Network Selection (TNS) Information Element (IE) for VoIP calls. IEs are grouped using a *VoIPChannelProfileID*.

To display all *VoIPChannelProfileIDs*, use the *DisplayVoIPChannelProfileIDs* command.

DisplayVoIPTnsIE VoIPChannelProfileId		
Field Name	Values	Description
VoIPChannelProfileId	0-255	The unique identifier of a VoIP clear channel profile.

Sample command output is shown below:

```
DisplayVOIPTnsIE 0

VoIPChannelProfileId  NetworkId
-----
0                    0000
```

3.6.19 DisplayVoIPCallerIE

This command displays the caller Information Element (IE) for VoIP calls. IEs are grouped using a *VoIPChannelProfileID*.

To display all *VoIPChannelProfileIDs*, use the *DisplayVoIPChannelProfileIDs* command.

DisplayVoIPCallerIE VoIPChannelProfileId			
Field Name	Values	Description	
VoIPChannelProfileId	0-255	The unique identifier of a VoIP clear channel profile.	

Sample command output is shown below:

```
DisplayVOIPCallerIE

VoIPChannelProfileId  PresenceInd  ScreeningInd  IdTypeInd
-----
0  VOIP_PRIVACY_OFF  VOIP_SCREEN_NO  VOIP_ID_TYPE_SUBSCRIBER
```

3.7 VoIP and Media Bladeware Display

3.7.1 DisplayBW

This command displays the configuration of VoIP and Media SILs.

DisplayBW BWId		
Field Name	Values	Description
BWId	101–255, -1	Unique identifier of a VoIP SIL.

Sample output is shown below:

```
displaybw -1
```

CardType	CardNumber	BladeWareId	SignallingStandard	BWSshelf	BWSlot	EncodingType
VoIPSil	5	101	SIP	234	45	none
MediaSil	7	201	NONE	31	7	mu_Law

3.7.2 DisplayBWspan

This command displays information about the configuration of the span that connects to the VoIP SIL gateway controller's external Ethernet link.

DisplayBWspan BWId, SpanNumber		
Field Name	Values	Description
BWId	101–255	Unique identifier of a VoIP SIL.
SpanNumber	0	Number of the span that connects to the gateway controller's external Ethernet link. Must be 0.

Sample output is shown below:

```
Displaybwspan 101,0
```

CardNumber	BWId	CardType	SpanNumber	SpanType	GWExternalPort	GWExternalIP	State
2	101	VoIPSil	0	VOIPSIL	5060	127.0.0.1	DISABLED

```
Displaybwspan 201,0
```

CardNumber	BWId	CardType	SpanNumber	SpanType	GWExternalPort	GWExternalIP	State
3	201	VoIPSil	0	VOIPSIL	1720	77.88.243.101	ENABLED

3.7.3 DisplayVoIPBW

This command displays bladeaware parameters of a VoIP SIP or VoIP H.323 SIL. Use the *DisplayVoIPBWSIP* and *DisplayVoIPBWH323* commands to view the remaining bladeaware parameters.

DisplayVoIPBW BWId, SpanNumber		
Field Name	Values	Description
BWId	101–255	Unique identifier of a VoIP SIL.
SpanNumber	0	The span that connects to the gateway controller's external Ethernet link.

Sample display output is shown below:

```
DisplayVOIPBW 101,0
```

BWId	SpanNumber	GWExternalPort	GWExternalIp	RouteSet	EarlyMedia
101	0	5060	127.0.0.1	1	ON

3.7.4 DisplayVoIPBWFaxModemPayload

This command displays the bladeaware configuration of a gateway controller.

DisplayVoIPBWFaxModemPayload BWId, SpanNumber		
Field Name	Values	Description
BWId	101–255	Unique identifier of a VoIP SIL.
SpanNumber	0	Number of the span that connects to the gateway controller's external Ethernet link.

Sample output is shown below:

```
DisplayVOIPBWFaxModemPayload 101,0
```

BWId	SpanNumber	T38MaxBitRate
101	0	14400
T38FaxVersion	T38FaxMaxBuffer	T38FaxMaxDatagram
0	76	316
T38FaxFillBitRemoval	T38FaxTranscodingMMR	T38FaxTranscodingJBIG
0	0	
T38Mode	T38FaxRateManagement	T38FaxUdpEC
0	0	0
T38udp	TransferredTCF	T38UdpRedundancy

n/a-----
n/a-----
n/a

3.7.5 DisplayVoIPBWH323

This command displays bladeaware parameters of a VoIP H.323 SIL. Use the *DisplayVoIPBW* command to view the remaining bladeaware parameters.

DisplayVoIPBWH323 BWId, SpanNumber		
Field Name	Values	Description
BWId	101–255	Unique identifier of a VoIP H.323 SIL.
SpanNumber	0	The span that connects to the gateway controller's external Ethernet link.

Sample output is shown below:

```
DisplayVOIPBWH323 201, 0
```

BWId	SpanNumber	GWDebug
201	0	0
GWZone	GWAcceptNonFastStart	GWUseFastStart
H323Zone	1	1
GWGkEnabled	GWGkAddress	GWUseH245Tunneling
0	127.0.0.1	0
GWGId	GWUseT38Fax	GWH450Enabled
cml@Versatelnetworks.com	0	0
GWForwardNSD	GWUseSignalForTone	GWSignallingChannelCallTO
0	0	0
GWControlChannelStartTO	GWMasterSlaveDeterminTO	GWCapabilityExchangeTO
0	0	0
GWLogicalChannelTO	GWGatekeeperRequestTO	GWRasRequestTO
0	0	0
GWAliveTimer	GWGkRegisterRetries	GWGkRegisterPeriod
0	3	5
GWEnableLocalCallLogging	GWLocalCallLoggingFile	GWGkPrefixCount
0	n/a	0

GwTerminationEvent

test01

3.7.6 DisplayVoIPBWSIP

This command displays bladeaware parameters of a VoIP SIP SIL. Use the *DisplayVoIPBW* command to view the remaining bladeaware parameters.

DisplayVoIPBWSIP BWId, SpanNumber		
Field Name	Values	Description
BWId	101–255	Unique identifier of a VoIP SIP SIL.
SpanNumber	0	The span that connects to the gateway controller's external Ethernet link.

Sample output is shown below:

```
DisplayVOIPBWSIP 101, 0
```

BWId	SpanNumber	GWDebug
101	0	0
GWName	GWProxyAddress	GWProxyRealm
cm1@Versatelnetworks.com	127.0.0.1	cm1@Versatelnetworks.com
GWProxyUserName	GWProxyPassword	GWProxyRegExpire
cm1@Versatelnetworks.com	J8Z1W1	0
GWUseContactAsSrcDomain	GWProxyEnabled	GwForwardSDP
0	0	0
GwSendTelephoneEvent	GwProxyIsStrictRouter	GwTerminationEvent
1	0	test01

3.8 ISDN Display

3.8.1 DisplayDChannelProtocol

This command displays the DChannelProtocol parameters.

DisplayDChannelProtocol ShelfNumber, SlotNumber, SpanNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.

DisplayDChannelProtocol ShelfNumber, SlotNumber, SpanNumber		
Field Name	Values	Description
SlotNumber	0–15	The slot number of the affected span.
SpanNumber	0–15	The number of the span that is being disabled.

Sample output is shown below:

```

DisplayDChannelProtocol 31,2,-1

ShelfNumber  SlotNumber  CardNumber  SpanNumber  IEID  SwitchType  SideType
-----
          31             2             0             0      0          NI2        USER

SignallingChannel  RestartControl  MultipleInterface
-----
                23                1                1

```

3.8.2 DisplayDChannelsWithIEId

This command displays all D-channels assigned to the specified IE profile (IEId).

DisplayDChannelsWithIEId IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile to be displayed.

Sample output is shown below:

```

DisplayDChannelsWithIEId 0

ShelfNumber  SlotNumber  SpanNumber  ChanSignalling  SpanState
-----
          31             2             0             23      DISABLED
          31             2             1             23      DISABLED
          31             2             2             23      DISABLED
          31             2             3             23      DISABLED
          31             2             4             23      DISABLED
          31             2             5             23      DISABLED
          31             2             6             23      DISABLED
          31             2             7             23      DISABLED
          31             2             8             23      DISABLED
          31             2             9             23      DISABLED
          31             2            10             23      DISABLED
          31             2            11             23      DISABLED
          31             2            12             23      DISABLED
          31             2            13             23      DISABLED
          31             2            14             23      DISABLED
          31             2            15             23      DISABLED

```

3.8.3 DisplayPRITimer

This command displays timers for the specified D-Channel. The command fails if the span is not configured for PRI. If the TimerId parameter is not specified, all timers for the associated trunk group are displayed.

DisplayPRITimer ShelfNumber, SlotNumber, SpanNumber, TimerId		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected D-Channel.
SlotNumber	0–15	The slot number of the D-channel to be displayed.
SpanNumber	0–15	The span number of the D-channel to be displayed.
TimerId	T200 T202 T203 N200 T303 T304 T305 T308 T309 T310 T313 T316 T318 T319 T321 ALL	Identifier of a timer. Enter ALL to display all PRI Timers.

Sample output is shown below:

```
DisplayPRITimer 31,2,0,all
```

Shelf	Slot	Span	Timer	Value (100ms_Unit)
----	----	----	----	-----
31	2	0	T200	10
31	2	0	T202	0
31	2	0	T203	300
31	2	0	N200	3
31	2	0	T303	40
31	2	0	T304	40
31	2	0	T305	40
31	2	0	T308	40
31	2	0	T309	900
31	2	0	T310	100
31	2	0	T313	40
31	2	0	T316	400
31	2	0	T318	40
31	2	0	T319	40
31	2	0	T321	500

3.9 ISDN Information Elements Display

3.9.1 DisplayChannelIDIE

This command displays the ChannelID Information Element profile for the specified profile Id from the configuration data. All parameters are displayed using their ASCII format as described in the associated *ConfigureChannelIDIE* command.

DisplayChannelIDIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile to be displayed.

Sample output is shown below:

```
DisplayChannelIDIE 0
```

```

IEID  Ifc  Preference  SigType  PRIInfoSel  IfcId  CodingStd  ChanType
-----  ---  -
0  PRI  EXCLUSIVE  B_CHANNEL  NEXT_OCTET  0  CCITT  B_UNITS

```

3.9.2 DisplayBearerCapabilityIE

This command displays the Bearer Capability Information Element profile for the specified profile Id from the configuration data. All parameters are displayed using their ASCII format as described in the associated *ConfigureBearerCapabilityIE* command.

DisplayBearerCapabilityIE IEId			
Field Name	Values	Description	
IEId	Integer	The unique Id for the Information Element Profile to be displayed.	

Sample output is shown below:

```
DisplayBearerCapabilityIE 0
```

```

BearerCapabilityIEID  CodingStandard  TransferCapability  TransferMode
-----  -
0  CCITT  AUDIO_3KHZ  CIRCUIT

```

3.9.3 DisplayISDNtNsIE

This command displays the Transit Network Selection (TNS) Information Element (IE) for ISDN calls. IEs are grouped using an *IEId* and then associated to a D-Channel using the *ConfigureDChannelProtocol* command.

DisplayISDNtNsIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile to be displayed.

Sample command output is shown below:

```
DisplayISDNtNsIE 0
```

```

ISDNtNsIE  TypeOfNetwork           NetworkIdPlan  NetworkId
-----
          0      NATIONAL  CARRIER_IDENTIFICATION_CODE      0000

```

3.10 PRI IE Display

3.10.1 DisplayCalledPartyIE

This command displays the Called Party Information Element profile for the specified profile Id from the configuration data. All parameters are displayed using their ASCII format as described in the associated *ConfigureCalledPartyIE* command.

DisplayCalledPartyIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile to be displayed.

Sample output is shown below:

```
DisplayCalledPartyIE 0
```

```

CalledPartyIE  NumberType  NumberingPlan
-----
          0      UNKNOWN      UNKNOWN

```

3.10.2 DisplayCalledPartySubaddressIE

This command displays the Called Party Subaddress Information Element profile for the specified profile Id from the

configuration data. All parameters are displayed using their ASCII format as described in the associated *ConfigureCalledPartySubaddressIE* command.

DisplayCalledPartySubaddressIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile to be displayed.

Sample output is shown below:

```
DisplayCalledPartySubaddressIE 0
  CalledPartySubaddressIE  SubaddressType  OddEven
  -----
                        0  USER_SPECIFIED    EVEN
```

3.10.3 DisplayCallingPartyIE

This command displays the Calling Party Information Element profile for the specified profile Id from the configuration data. All parameters are displayed using their ASCII format as described in the associated *ConfigureCallingPartyIE* command.

DisplayCallingPartyIE IEId				
Field Name	Values	Description		
IEId	Integer	The unique Id for the Information Element Profile to be displayed.		

Sample output is shown below:

```
DisplayCallingPartyIE 0
  CallingPartyIE  NumberType  NumberingPlan  Presentation  Screening
  -----
                        0      UNKNOWN      UNKNOWN      ALLOWED      USER_NOT_SCREENED
```

3.10.4 DisplayCallingPartySubaddressIE

This command displays the Calling Party Subaddress Information Element profile for the specified profile Id from the configuration data. All parameters are displayed using their ASCII format as described in the associated *ConfigureCallingPartySubaddressIE* command.

DisplayCallingPartySubaddressIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile to be displayed.

Sample output is shown below:

```
DisplayCallingPartySubaddressIE 0
  CallingPartySubaddressIE  SubaddressType  OddEven
  -----
                0  USER_SPECIFIED          ODD
```

3.10.5 DisplayCauseIE

This command displays the Cause Information Element profile for the specified profile Id from the configuration data. All parameters are displayed using their ASCII format as described in the associated *ConfigureCauseIE* command.

DisplayCauseIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile to be displayed.

Sample output is shown below:

```
DisplayCauseIE 0
  CauseIE  Coding          Location  Recommendation  Cause
  -----
        0  CCITT  PUBLIC_NET_LOCAL_USER          Q931          16
```

3.10.6 DisplayHighLayerCompatibilityIE

This command displays the values of the High Layer Compatibility Information Element (IE) for outgoing ISDN calls. IEs are grouped using an IEId and then associated to a D-channel using *ConfigureDChannelProtocol*.

DisplayHighLayerCompatibilityIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile.

Sample output is shown below:

```

DisplayHighLayerCompatibilityIE 0
HighLayerCompatibilityIE  CodingStandard  Interpretation
-----
                          0              CCITT  FIRST_HIGH_LAYER_CHARACTERISTIC

                          Presentation
-----
HIGH_LAYER_PROTOCOL_PROFILE

```

3.10.7 DisplayLowLayerCompatibilityIE

This command displays the values of the Low Layer Compatibility Information Element (IE) for outgoing ISDN calls. IEs are grouped using an IEId and then associated to a D-channel using *ConfigureDChannelProtocol*.

DisplayLowLayerCompatibilityIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile.

Sample output is shown below:

```

DisplayLowLayerCompatibilityIE 0
LowLayerCompatibilityIEID  CodingStandard  TransferCapability
-----
                          0              CCITT  AUDIO_3KHZ

NegotiationIndicator      TransferMode  TransferRate
-----
OUT_BAND_NOT_POSSIBLE    CIRCUIT    64Kbits/S

```

3.10.8 DisplayProgressIndicatorIE

This command displays the Progress Indicator Information Element profile for the specified IEId from the configuration data. All parameters are displayed using their ASCII format as described in the associated *ConfigureProgressIndicatorIE* command.

DisplayProgressIndicatorIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile to be displayed.

Sample output is shown below:

```
DisplayProgressIndicatorIE 0
ProgressIndicatorIE  Coding      Location  Description
-----
                   0  CCITT     USER_SPECIFIED  NOT_ISDN
```

3.10.9 DisplaySignalIE

This command modifies the default values of the Signal Information Element profile for outgoing ISDN calls. IEs are grouped using an IEId and then associated to a D-channel using *ConfigureDChannelProtocol*.

DisplaySignalIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for the Information Element Profile.

Sample output is shown below:

```
DisplaySignalIE 0
SignalIE  SignalValue
-----
          0  DIAL_TONE_ON
```

3.11 CAS Display

3.11.1 DisplayCASProfile

This command displays the CAS profile specified by the CASProfileId. An error message is generated if the CAS profile does not exist.

DisplayCASProfile CASProfileId		
Field Name	Values	Description
CASProfileId	Integer	The unique Id for the CAS Protocol Profile to be displayed.

Sample output is shown below:

```
DisplayCASProfile 0
```

CASProfileId	Description	Delimiter	ToneType	LastWinkOffHook	DecoderTimeout	MinLengthOfRxWink
0	Feature GRP D	ST	MF	FALSE	20000	100
MaxLengthOfRxWink	LengthOfTxWink	LengthOfRxOffHook	LengthOfRxOnHook	WinkTimeout	GuardTimePeriod	
350	210	70	400	5000	2000	
MinLengthFlashDetect	MaxLengthFlashDetect	LengthFlashGeneration	CanGoDisable	NumberOfStages		
0	0	0	FALSE	2		
Signaling Type						
E&M						

Sample output is shown below for CAS profile 20 for a Ground Start Line:

```
DisplayCASProfile 20
```

CASProfileId	Description	Delimiter	ToneType	LastWinkOffHook	DecoderTimeout	MinLengthOfRxWink
20	GroundStartFXO	NUL	DTMF	FALSE	20000	0
MaxLengthOfRxWink	LengthOfTxWink	LengthOfRxOffHook	LengthOfRxOnHook	WinkTimeout	GuardTimePeriod	
0	0	70	1100	5000	2000	
MinLengthFlashDetect	MaxLengthFlashDetect	LengthFlashGeneration	CanGoDisable	NumberOfStages		
300	1100	500	FALSE	1		
Signaling Type						
GroundStart_FXO						

Note: Since Ground Start does not use wink signals, error messages are logged to indicate that the far end did not receive the call. To confirm that the far end has acknowledged the incoming call, a delay must be configured for the WinkTimeout parameter.

Typical error messages include:

- a CAS signaling error occurred
- a wink time out occurred
- the network did not send a wink
- verify the channel signaling configuration and network operation.
- ANI or dialed digits may be missing
- the call may not have been completed.

3.11.2 DisplayCASSignalingProfile

This command lists all existing preconfigured CAS Signalling Profiles. The command has no parameters.

Sample output is shown below:

```
displayCASSignalingProfile
```

```

CASProfileTypeId      Description
-----
0          Feature GRP D
1          CAMA-ANI
2          Feature GRP B
3          Feature GRP B ANI
4          ERKSN
5          MF/ANI/DN
6          DTMF/FGD1
7          DTMF/FGD2
8          MF/DN
9          Cell/Tandem
10         TOPS
11         INTL FTR GRP D
12         LastWinkIsOffHook MF
13         Immediate MF
14         unknow dtmf
15         unknow mf
16         lastwinkisoffhook DT
17         immediate DTMF
20         Ground Start Line

```

3.11.3 DisplayCASStage

This command displays the number of spills in the stage.

DisplayCASStage CASProfileId, CASStageId		
Field Name	Values	Description
CASProfileId	Integer	The unique Id for the CAS Protocol Profile to be displayed.
CASStageId	Integer	The stage number to be configured.

Sample output is shown below:

```

DisplayCASStage 0,0

StageId  NumberOfSpills
-----  -
0          2

```

3.11.4 DisplayCASSpill

This command displays the configuration data for all of the CAS Spills of the specified *CASProfileId* and *CASStageId*.

DisplayCASSpill ProfileArrayId, Stageld		
Field Name	Values	Description
ProfileArrayId	Integer	The unique Id for the CAS Protocol to be displayed.
Stageld	Integer	The unique stage number Id.

Sample output is shown below:

```
DisplayCASSpill 0,0
```

```

ProfileArrayId  StageId  SpillId  SpillType  StartOfMiddleDigit
-----
                0         0         0         ANI              0
                0         0         1         DIAL             0

LengthOfMiddleDigit  NumOfDigitInFront  NumOfDigitInBack  NumOfDigits
-----
                    0                0                0                0
                    0                0                0                0

```

3.11.5 DisplaySpansWithCASProfile

This command displays all spans that have been assigned the specified CAS Profile Id. Use *DisplayCASSignalingProfile* to obtain values for *CASProfileIds*.

DisplaySpansWithCASProfile CASProfileId		
Field Name	Values	Description
CASProfileId	Integer	The unique Id for the CAS Protocol Profile to be displayed.

Sample output is shown below:

```
DisplaySpansWithCASProfile 0
```

```

ShelfNumber  SlotNumber  SpanNumber  SpanState
-----
            25             3             0  DISABLED
            25             3             1  DISABLED
            25             3             2  DISABLED
            25             3             3  DISABLED
            25             3             4  DISABLED
            25             3             5  DISABLED
            25             3             6  DISABLED
            25             3             7  DISABLED
            25             3             8  DISABLED
            25             3             9  DISABLED
            25             3            10  DISABLED
            25             3            11  DISABLED

```

25	3	12	DISABLED
25	3	13	DISABLED
25	3	14	DISABLED
25	3	15	DISABLED

3.12 SS7 Information Elements Display

3.12.1 DisplaySS7BackwardCallIndicatorIE

This command displays the backward call indicator information element profile for the specified IE Id from the configuration data.

DisplaySS7BackwardCallIndicatorIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

Sample output is shown below:

```

DisplaySS7BackwardCallIndicatorIE 0

SS7BackwardCallIndicatorIE      charge  calledPartyStatus
-----
                                0  NO_INDICATION      NO_INDICATION

calledPartyCategory  endToEndMethod  interworking  iamSegmentation
-----
NO_INDICATION      NO_END_TO_END  NO_INTERWORKING  NO_INDICATION

isdnUserPart      holding  isdnAccess  echoControlDevice  sccpMethod
-----
NOT_ISDN  NOT_REQUIRED  NOT_ISDN  NO_ECHO_DEVICE  NO_INDICATION

```

3.12.2 DisplaySS7CalledPartyNumberIE

This command displays the called party information element profile for the specified IE Id from the configuration data.

DisplaySS7CalledPartyNumberIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

Sample output is shown below:

```

DisplaySS7CalledPartyNumberIE 0
-----
SS7CalledPartyNumberIE  natureOfAddress  numberingPlan
-----
                        0      NATIONAL      ISDN

```

3.12.3 DisplaySS7CallingPartyCategoryIE

This command displays the calling party category information element profile for the specified IE Id from the configuration data.

DisplaySS7CallingPartyCategoryIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

Sample output is shown below:

```

DisplaySS7CallingPartyCategoryIE 0
-----
SS7CallingPartyCategoryIE  callingPartyCategory
-----
                        0  ORDINARY_SUBSCRIBER

```


3.12.4 DisplaySS7CallingPartyNumberIE

This command displays the calling party number information element profile for the specified IE Id from the configuration data.

DisplaySS7CallingPartyNumberIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

Sample output is shown below:

```

DisplaySS7CallingPartyNumberIE 0
  SS7CallingPartyNumberIE  natureOfAddress  numberingPlan  presentation
  -----
                        0          NATIONAL          ISDN          ALLOWED
  screening
  -----
  USER_PROVIDED

```

3.12.5 DisplaySS7CauseIE

This command displays the cause information element profile for the specified IE Id from the configuration data.

DisplaySS7CauseIE IEId			
Field Name	Values	Description	
IEId	Integer	The unique Id for this group of Information Element Profiles.	

Sample output is shown below:

```

DisplaySS7CauseIE 0
  SS7CauseIE  codingStandard  location  cause
  -----
                0          CCITT  LOCAL_LOCAL  16

```

3.12.6 DisplaySS7EventInformationIE

This command displays the SS7 Event Information Element profile. For information on events, refer to ANSI recommendation T1.113, Signalling System No. 7 (SS7) Integrated Services Digital Network (ISDN) User Part (92).

DisplaySS7EventInformationIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.
EventInformation	ALERTING FWR_BUSY FWR_NOREPLY FWR_UNCONDITIONAL INBAND_INFO PROGRESS SERVICE_INCLUDED SUPPL_SERVICE	See ANSI Recommendation T1.113 (92).

Sample output is shown below:

```
DisplaySS7EventInformationIE 0
  SS7EventInformationIE  EventInformation
  -----
                        0          PROGRESS
```

3.12.7 DisplaySS7ForwardCallIndicatorIE

This command displays the forward call indicator information element profile for the specified IE Id from the configuration data.

DisplaySS7ForwardCallIndicatorIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

Sample output is shown below:

```
DisplaySS7ForwardCallIndicatorIE 0
```

```

SS7ForwardCallIndicatorIE  incomingInternationalCall  endToEndMethod
-----
                                0                    NOT_INTERNATIONAL  NO_END_TO_END

interworking      isdnUserPart  isdnUserPartPreference  isdnAccess
-----
NO_INTERWORKING      NOT_ISDN                    ISDN_PREFERRED      NOT_ISDN

sccpMethod      portedNumberTranslation  queryOnReleaseAttempt
-----
NO_INDICATION      NOT_TRANSLATED                    NO_QOR

```

3.12.8 DisplaySS7NatureOfConnectionIE

This command displays the nature of connection information element profile for the specified IE Id from the configuration data.

DisplaySS7NatureOfConnectionIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

Sample output is shown below:

```

DisplaySS7NatureOfConnectionIE 0

SS7NatureOfConnectionIE  satelliteIndicator  continuityIndicator
-----
                                0                    NO_SATELLITE      NOT_REQUIRED

echoControlDeviceIndicator
-----
NO_ECHO_DEVICE

```

3.12.9 DisplaySS7UserServiceInfoIE

This command displays the user service info information element profile for the specified IE Id from the configuration data.

The following table describes the parameters of this command:

DisplaySS7UserServiceInfoIE IEId		
Field Name	Values	Description
IEId	Integer	The unique Id for this group of Information Element Profiles.

Sample output is shown below:

```

DisplaySS7UserServiceInfoIE 0
  SS7UserServiceInfoIE  codingStandard  infoTransferCapability
  -----
                        0                CCITT                SPEECH

  userInfoLayer1Protocol
  -----
                        G.711

```

3.12.10 DisplaySS7XnsIE

This command displays the Transit Network Selection (TNS) Information Element (IE) for SS7 calls.

DisplaySS7XnsIE IEId		
Field Name	Values	Description
IEId	Integer	The unique identifier of an SS7 IE identifier.

Sample command output is shown below:

```

DisplaySS7XNSIE 0
  SS7XNSIE  TypeOfNetwork  NetworkIdPlan  NetworkId  CircuitCode
  -----
            0              CCITT            UNKNOWN    0000    14

```

3.12.11 HelpConvertSS7DestPointCodeToVersatelDPCValue

This command converts a decimal SS7 destination point code to the Versatel DPC value required for the CreateSS7TrunkGroup command.

HelpConvertSS7DestPointCodeToVersatelDPCValue SS7PointCode		
Field Name	Values	Description
SS7PointCode	String	The SS7 point code to convert.

3.12.12 HelpConvertVersatelDPCValueToSS7DestPointCode

This command converts a Versatel DPC value as stored in DPC field of a SS7 trunk group to a decimal SS7 destination point code.

HelpConvertVersatelDPCValueToSS7DestPointCode DPC		
Field Name	Values	Description

HelpConvertVersatelDPCValueToSS7DestPointCode DPC		
Field Name	Values	Description
DPC	Integer	The DCP integer to convert.

3.13 Log File Display

3.13.1 DisplayClientLog

You can display the parameters of Client log files. Client logs are used by the customer for debugging problems. The command has no parameters.

Note this command refers to the log files that are created by the VSOS, and are located in the directory as specified by the *ConfigureLogPath* command (as opposed to the log files created by the CLI). These parameters are modified using the *ConfigureClientLog* command. Sample output for the default configuration is shown below:

```
DisplayClientLog
      Variable  Value
-----
ENBL_CLTLG_FL      1
MAX_CLTLG_SIZE    4096
MAX_CLTLG_DAYS     5
```

3.13.2 DisplayLogPath

This command displays the Log Path name. This command has no parameters.

Note this command refers to the log files that are created by the VSOS, and are located in the directory as specified by the *ConfigureLogPath* command (as opposed to the log files created by the CLI). Sample output for the default configuration is shown below:

```
DisplayLogPath
      Variable  Value
-----
PATH_LOG_FILE  C:\Versatel\Mesoware\Logs\
```

3.13.3 DisplayVersatelLog

This command displays the configuration parameters of Versatel log files. Versatel logs are used for enhanced debugging. The command has no parameters.

Note this command refers to the log files that are created by the VSOS, and are located in the directory as specified by the *ConfigureLogPath* command (as opposed to the log files created by the CLI).

These parameters are modified using the *ConfigureVersatelLog* command. Sample output for the default configuration is shown below:

```
DisplayVersatelLog
```

```

      Variable  Value
-----
ENBL_VRSTLG_FL      1
MAX_VRSTLG_SIZE  100000
MAX_VRSTLG_DAYS    30

```

3.14 Miscellaneous Display

3.14.1 DisplayApplLinkMode

This command displays information about the application link mode.

DisplayApplLinkMode ApplicationLinkMode		
Field Name	Values	Description
Application Link Mode	SIMPLEX REDUNDANT	Up to 8 applications can be simultaneously connected to the VSOS. However, only 1 application is active at a time, all the others are in standby mode. Simplex mode is only used for test purposes.

Sample output is shown below:

```

DisplayApplLinkMode
Application Link Mode
-----
REDUNDANT

```

3.14.2 DisplayChannelStateProfile

This command displays the Channel State Profile status. The command has no parameters.

Sample output is shown below:

```

displayChannelStateProfile
ChannelProfileType  ProfileDescription
-----
1 ISDN_DMS100_OR_NI2
2 USERISDN
3 CAS
4 CLEARCHANNEL
5 SS7BEARER
7 VOIPCLEARCHANNEL
8 VOIPSILBEARER

```

3.14.3 DisplayGeneratedTone

A user can display an existing tone from the configuration data. All elements of the specified tone are displayed. If no ToneId is specified, all configured tones are displayed.

DisplayGeneratedTone ToneId		
Field Name	Values	Description
ToneId	0–63, -1	The unique Id for this tone. A maximum of 64 tones are supported. If -1 is entered for Tone ID, all tones are displayed.

Sample output is shown below:

```
DisplayGeneratedTone -1
```

ToneID	ElementId	Name	Freq	Amplitude	On (ms)	Off (ms)	GainId
0	1	DTMF-0	940	0	0	0	47
0	2	DTMF-0	1335	-1	0	0	47
1	1	DTMF-1	700	0	0	0	47
1	2	DTMF-1	1210	-1	0	0	47
2	1	DTMF-2	700	0	0	0	47
2	2	DTMF-2	1335	-1	0	0	47
3	1	DTMF-3	700	0	0	0	47
3	2	DTMF-3	1475	-1	0	0	47
4	1	DTMF-4	770	0	0	0	47
4	2	DTMF-4	1210	-1	0	0	47
5	1	DTMF-5	770	0	0	0	47
5	2	DTMF-5	1335	-1	0	0	47
6	1	DTMF-6	770	0	0	0	47
6	2	DTMF-6	1475	-1	0	0	47
7	1	DTMF-7	850	0	0	0	47
7	2	DTMF-7	1210	-1	0	0	47
8	1	DTMF-8	850	0	0	0	47
8	2	DTMF-8	1335	-1	0	0	47
9	1	DTMF-9	850	0	0	0	47
9	2	DTMF-9	1475	-1	0	0	47
10	1	DTMF-*	940	0	0	0	47
10	2	DTMF-*	1210	-1	0	0	47
11	1	DTMF-#	940	0	0	0	47
11	2	DTMF-#	1475	-1	0	0	47
12	1	DTMF-A	695	0	0	0	47
12	2	DTMF-A	1635	-1	0	0	47
13	1	DTMF-B	770	0	0	0	47
13	2	DTMF-B	1630	-1	0	0	47
14	1	DTMF-C	850	0	0	0	47
14	2	DTMF-C	1635	-1	0	0	47
15	1	DTMF-D	940	0	0	0	47
15	2	DTMF-D	1635	-1	0	0	47
16	1	DialTone	350	0	0	0	47
16	2	DialTone	440	0	0	0	47
17	1	RingBack	440	0	2000	4000	47
17	2	RingBack	480	0	2000	4000	47

18	1	Busy	480	0	500	500	47
18	2	Busy	620	0	500	500	47
19	1	Reorder	480	0	250	250	47
19	2	Reorder	620	0	250	250	47
20	1	RxOffHook	1400	0	100	100	47
20	2	RxOffHook	2060	0	100	100	47
20	3	RxOffHook	2450	0	100	100	47
20	4	RxOffHook	2600	0	100	100	47
21	1	MF-0	1300	0	0	0	47
21	2	MF-0	1500	0	0	0	47
22	1	MF-1	700	0	0	0	47
22	2	MF-1	900	0	0	0	47
23	1	MF-2	700	0	0	0	47
23	2	MF-2	1100	0	0	0	47
24	1	MF-3	900	0	0	0	47
24	2	MF-3	1100	0	0	0	47
25	1	MF-4	700	0	0	0	47
25	2	MF-4	1300	0	0	0	47
26	1	MF-5	900	0	0	0	47
26	2	MF-5	1300	0	0	0	47
27	1	MF-6	1100	0	0	0	47
27	2	MF-6	1300	0	0	0	47
28	1	MF-7	700	0	0	0	47
28	2	MF-7	1500	0	0	0	47
29	1	MF-8	900	0	0	0	47
29	2	MF-8	1500	0	0	0	47
30	1	MF-9	1100	0	0	0	47
30	2	MF-9	1500	0	0	0	47
31	1	MF-KP	1100	0	0	0	47
31	2	MF-KP	1700	0	0	0	47
32	1	MF-ST	1500	0	0	0	47
32	2	MF-ST	1700	0	0	0	47
33	1	MF-ST'	900	0	0	0	47
33	2	MF-ST'	1700	0	0	0	47
34	1	MF-ST''	1300	0	0	0	47
34	2	MF-ST''	1700	0	0	0	47
35	1	MF-ST'''	700	0	0	0	47
35	2	MF-ST'''	1700	0	0	0	47
36	1	DTMF-E	695	-1	0	0	47
36	2	DTMF-E	1635	0	0	0	47
37	1	DTMF-F	770	-1	0	0	47
37	2	DTMF-F	1635	0	0	0	47
38	1	DTMF-G	850	-1	0	0	47
38	2	DTMF-G	1635	0	0	0	47
39	1	DTMF-H	940	-1	0	0	47
39	2	DTMF-H	1635	0	0	0	47

3.14.4 DisplayPublicIE

This command allows you to view the configuration state of the PublicIEs. True indicates that the PublicIEs are available to the application. False, indicates that the PublicIEs are not available to the application. Refer to the Managed API Reference document for information on Public Information Elements.

There are no parameters for this command.

Sample output is shown below:

```
displaypublicie
```

```
Enable Public IE = false
```


4 Status and Statistics

The commands that provide system status and statistics are described in this section.

4.1 GetCardStatus

This command provides a confirmation on the status of a card.

GetCardStatus ShelfNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the chassis.
SlotNumber	0–31	The slot number where the card is installed.

Sample output from a *GetCardStatus* command shown below:

```
GetCardStatus 31, 2
getcardstatus 31, 2 CONFIRMED
```

4.2 GetShelfStatus

This command provides information of the Primary Bus Master, the Secondary Bus Master, and the H110 bus clocking sources.

GetShelfStatus ShelfNumber		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the chassis.

Sample output from a *GetShelfStatus* command for shelf identifier 20 is shown below:

```
getshelfstatus 20
```

```
Shelf 20 Status :
  Primary Bus Master Slot Id      : 4
  Primary Bus Master Clock Gen.   : CLOCK A
  Primary Bus Master Sync Source  : CT_NETREF1
  Secondary Bus Master Slot id    : 3
  Secondary Bus Master Clock Gen. : CLOCK B
  CT_NETREF1 Generated By Slot Id : 4
  CT_NETREF1 Source               : INTERNAL OSCILLATOR
  CT_NETREF2 Generated By Slot Id : 5
  CT_NETREF2 Source               : INTERNAL OSCILLATOR
```

4.3 GetChannelStatistics

This command displays the RTP and RTCP statistics for VoIP channels. The displayed values represent the values for the current call. Once the call is terminated the statistics are automatically reset to zero.

GetChannelStatistics ShelfNumber, SlotNumber, SpanNumber, ChannelNumber, ResetCount		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the chassis.
SlotNumber	0–15	The slot number where the card is installed.
SpanNumber	0	The number of the span.
ChannelNumber	0-511	The channel number within the span.
ResetCount	N/A	Not used.

Sample output of a statistics request for Shelf 20, Slot 3, Span 0, Channel 0 is shown below:

```
GetChannelStatistics 20,3,0,0,0
OAMPMaintenanceEvent
Channel Statistics
= GENERIC =====
Shelf/Slot      : 20 - 05
span/Channel    : 00 - 0
sigType        : 3

= RTP =====
rxUdpRtpSourcePort : 05060      rxUdpRtpDestPort   : 05060
txUdpRtpSourcePort : 05060      txUdpRtpDestPort   : 05060
numOfPktRxed      : 00000000    numOfPktTxed       : 00000000
numOfRtpPktRxed   : 00000000    numOfRtpPktTxed    : 00000000
numOfRtpBytesRxed : 00000000    numOfRtpBytesTxed  : 00000000
numOfRtpPktLost   : 00000000
numOfRtpPktDiscarded : 00000000
numOfErroredPktRxed : 00000000

= RTCP =====
numOfRtcpPktRxed   : 00000000    numOfRtcpPktTxed   : 00000000

= OTHERS =====
rtpJitter          : 00000000
```

```

rtpLatency          : 00000000
Source IP           : 1.2.3.4
Destination IP      : 1.2.3.4

= FAX RELAY reception=====
nrOfPacketsReceived : 00000000
nrOfPacketsDropped  : 00000000
spooofCount         : 00000000
reorderCount        : 00000000
failtoReorderCount  : 00000000
retrainCount        : 00000000
partialPageRequest  : 00000000
badframeCount       : 00000000
alignmentPad        : 00000000

= FAX RELAY transmission=====
nrOfPacketsSent     : 00000000
overrunCount        : 00000000
retrainCount        : 00000000
partialPageRequest  : 00000000
badframeCount       : 00000000

= T38 reception=====
frameCountHigh      : 00000000
frameCountLow       : 00000000
reorderCount        : 00000000
failtoReorderCount  : 00000000
invalidIFPCount     : 00000000
bufferPoolDry       : 00000000

= T38 transmission=====
frameCountHigh      : 00000000
frameCountLow       : 00000000
unknownPkt          : 00000000
bufferPoolDry       : 00000000

= Fax calls status=====
numberOfT38Calls    : 00000026
numberOfFaxPassthroughCalls : 00000003
numberOfT38CallsFailed : 00000000
numberOfFaxPassthroughCallsFailed : 00000000

= Rtcp statistics=====
fraction lost()     : 00000000
cumulative number of packet lost : 00000000
interarrivalJitter  : 00000000

```

The *fraction lost ()* field of the RTCP Statistics displays the percentage of packets sent to the far end that were not received by the far end. The *cumulative number of packet lost* field displays the number of packets sent to the far end that were not received by the far end. The *interarrivalJitter* field is an estimate of the statistical variance of RTP data packet interarrival times based on the difference between the sending interval at the source and the interarrival time at the receiver.

4.4 GetSpanStatistics

This command displays span statistics for a single T1 or E1 span. The displayed values represent cumulative totals since the statistics were last reset.

GetSpanStatistics ShelfNumber, SlotNumber, SpanNumber, ResetCount		
Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number where the card is installed.
SpanNumber	0–15	The number of the span.
ResetCount	0,1	Set to 0 to obtain cumulative totals. Set to 1 to reset counts to zero once the command is issued.

Sample output of a statistics request for Shelf 14, Slot 4, Span 0 is shown below:

```
GetSpanStatistics 14,4,0,0

OAMPMaintenanceEvent
Span Statistics
  Shelf/Slot           : 14 - 04
  span                 : 0
  sigType              : 1
  TotalNumOfSec        : 55
  ChangeOfFrameAlignment : 2
  EighthZero           : 0
  SixteenZero          : 0
  RxOverrunSlip        : 1
  RxUnderrunSlip       : 1
  SeverelyErroredFraming : 3
  B8ZSDetected         : 0
  FrameBitError         : 0
  TxOverrunSlip        : 0
  RxUnderrunSlip       : 1
  RxPulseDensityViolation : 0
  TxPulseDensityViolation : 0
  FrameRxCARRIERLoss  : 1
  CRCCodeError         : 1
  receiveLevelIndicator : 4
  JitterAttenuatorTrip : 0
  LossOfRxClock         : 0
```

4.5 LoopbackSpan

This command enables the loopback of a specified T1 or E1 span or all spans of the specified card. Onboard relays are used to disconnect the span's TX and RX links from the network interfaces and connect them together. The result of the loopback test is shown on the cards front panel Span LEDs. Green indicates success and red indicates a failure.

The loopback test can be used to isolate a span problem to either the EdgeIQ or the network. If the result of the loopback test indicates success, the problem resides with the network components. If the result indicates a failure, check the card and its associated rear transition board.

The associated span(s) must be disabled before a LoopbackSpan command is executed.

LoopbackSpan ShelfNumber, SlotNumber, SpanNumber, I/OLoopback
--

Field Name	Values	Description
ShelfNumber	0–31	The shelf number of the affected chassis.
SlotNumber	0–15	The slot number where the card is installed.
SpanNumber	0–15, -1	The number of the span. Use –1 to loopback all spans
I/OLoopback	ON, OFF	ON: Sets the span(s) in loopback OFF: Connects the span(s) to the network

A sample command sequence to Loopback Shelf 2, Slot 0, Span 4 is shown below:

```
DisableSpan 2,0,4
LoopbackSpan 2,0,4,ON
EnableSpan 2,0,4

/*Observe the span's LED for the result*/

DisableSpan 2,0,4
LoopbackSpan 2,0,4,OFF
EnableSpan 2,0,4
```

The loopback state of a span is shown in the *IO Loopback* field of the *DisplaySpan* command.

4.6 Trace Tool

This command traces the operation of T1 and E1 trunk cards by gathering either low-level AB signalling bits on a CAS signalling channel or actual Layer 3 ISDN messages. The transmit and receive data is buffered on the T1 and E1 cards.

Trace Shelf, Slot, Span, Channel, EnableOrDisable		
Field Name	Values	Description
Shelf	0–31	The shelf number of the chassis to trace.
Slot	0–15	The slot number of the span to trace.
Span	0–15	The number of the span to trace.
Channel	0–31	The channel number of the timeslot to trace.
EnableTrace	0 or 1	1 enables tracing and 0 disables tracing.

The data that is saved by the network trace feature is either in CAS or ISDN format. For additional information, refer to the Trace function in the OAM&P Reference document.

4.7 PerformSS7COT / OAMPSS7COTResultEvent

This command performs a continuity test (also known as COT) on the specified SS7 circuit.

CAUTION: User intervention is required if a manual COT fails. The user must disable the channel, route traffic to another channel until the failed channel is repaired or replaced.

PerformSS7COT Shelf, Slot, Span, Channel		
Field Name	Values	Description
Shelf	0–31	The shelf number of the chassis to test.
Slot	0–15	The slot number of the span to test.
Span	0–15	The number of the span to test.
Channel	0–31	The channel number to test.

The result of the SS7 COT test is provided in a OAMPSS7COTResultEvent.

OAMPSS7COTResultEvent Shelf, Slot, Span, Channel, Status		
Field Name	Values	Description
Shelf	0–31	The shelf number of the chassis to test.
Slot	0–15	The slot number of the span to test.
Span	0–15	The number of the span to test.
Channel	0–31	The channel number to test.
Status	Success, Failure	Success: COT test pass Failure: COT test fails

EXAMPLE:

```
PerformSS7COT 17,12,8,0
```

...

```
OAMPSS7COTResultEvent 17, 12, 8, 0, success
```

A Q.850 Release Cause Codes

This section presents a list of Q.850 release cause.

Code	Description
1	Unallocated (unassigned) number
2	No route to specified transit network (national use)
3	No route to destination
4	Send special information tone
5	Misdialed trunk prefix (national use)
6	Channel unacceptable
7	Call awarded and being delivered in an established channel
8	Preemption
9	Preemption - circuit reserved for reuse
16	Normal call clearing
17	User busy
18	No user responding
19	No answer from user (user alerted)
20	Subscriber absent
21	Call rejected
22	Number changed
26	Non-selected user clearing
27	Destination out of order
28	Invalid number format (address incomplete)
29	Facility rejected
30	Response to STATUS ENQUIRY
31	Normal, unspecified

Code	Description
34	No circuit/channel available
38	Network out of order
39	Permanent frame mode connection out-of-service
40	Permanent frame mode connection operational
41	Temporary failure
42	Switching equipment congestion
43	Access information discarded
44	Requested circuit/channel not available
46	Precedence call blocked
47	Resource unavailable, unspecified
49	Quality of Service not available
50	Requested facility not subscribed
53	Service operation violated
54	Incoming calls barred
55	Incoming calls barred within CUG
57	Bearer capability not authorized
58	Bearer capability not presently available
62	Inconsistency in designated outgoing access information and subscriber class
63	Service or option not available, unspecified
65	Bearer capability not implemented
66	Channel type not implemented
69	Requested facility not implemented
70	Only restricted digital information bearer capability is available (national use)
79	Service or option not implemented, unspecified
81	Invalid call reference value
82	Identified channel does not exist
83	A suspended call exists, but this call identity does not
84	Call identity in use
85	No call suspended
86	Call having the requested call identity has been cleared
87	User not member of CUG
88	Incompatible destination
90	Non-existent CUG
91	Invalid transit network selection (national use)
95	Invalid message, unspecified
96	Mandatory information element is missing

Code	Description
97	Message type non-existent or not implemented
98	Message not compatible with call state or message type non-existent or not implemented
99	Information element/parameter non-existent or not implemented
100	Invalid information element contents
101	Message not compatible with call state
102	Recovery on timer expiry
103	Parameter non-existent or not implemented - passed on (national use)
110	Message with unrecognized parameter discarded
111	Protocol error, unspecified
126	Call Split
127	Interworking, unspecified

B Q.850 Release Causes to SIP Responses Mapping

This section describes how Q.850 release cause codes are converted into SIP response codes and vice-versa.

This information is useful to application developers since the managed API only uses Q.850 release cause codes. Since SIP unlike ISDN, SS7, SIGTRAN and H323 does not use Q.850 release causes, a translation is done by the system.

The first table, Q.850 release codes to SIP responses mapping, describes what happens when the application releases a call (`ctiClearCall` or `ctiClearConnection`) with a Q.850 cause code.

The second table, SIP responses to Q.850 release codes mapping, describes what is presented to the application when a SIP response is received from the network.

B.1 Q.850 Release codes to SIP Responses mapping

Q.850 Release Code	Q.850 Release Description	SIP Response Code	SIP Response Description
0	CDR_No_Error	404	NOT_FOUND
1	CDR_Unallocated	404	NOT_FOUND
2	CDR_No_net_route	404	NOT_FOUND
3	CDR_No_dest_route	404	NOT_FOUND
4	CDR_Send_special_tone	404	NOT_FOUND
5	CDR_Misdialed_trunk_prefix	404	NOT_FOUND
6	CDR_Channel_unacceptable	415	UNSUPPORTED_MEDIA_TYPE
7	CDR_Call_awarded	480	TEMPORARILY_UNAVAILABLE
8	CDR_Preemption	480	TEMPORARILY_UNAVAILABLE
9	CDR_Preemption_circuit_reserved	480	TEMPORARILY_UNAVAILABLE
16	CDR_Normal_call_clearing	200	OK
17	CDR_User_busy	486	BUSY_HERE
18	CDR_No_user	410	GONE
19	CDR_No_answer	410	GONE
20	CDR_Subscriber_absent	410	GONE
21	CDR_Call_rejected	603	DECLINE
22	CDR_Number_changed	404	NOT_FOUND
26	CDR_Non_selected_user	404	NOT_FOUND
27	CDR_Destination_out_of_order	404	NOT_FOUND
28	CDR_Invalid_number_format	485	AMBIGUOUS
29	CDR_Facility_rejected	480	TEMPORARILY_UNAVAILABLE
30	CDR_Status_enquiry_response	480	TEMPORARILY_UNAVAILABLE
31	CDR_Normal	200	OK
34	CDR_No_channel	480	TEMPORARILY_UNAVAILABLE
38	CDR_Network_out_of_order	503	SERVICE_UNAVAILABLE
39	CDR_Connection_out_of_service	503	SERVICE_UNAVAILABLE
40	CDR_Connection_operational	503	SERVICE_UNAVAILABLE
41	CDR_Temporary_failure	480	TEMPORARILY_UNAVAILABLE
42	CDR_Switch_congestion	480	TEMPORARILY_UNAVAILABLE
43	CDR_Access_info_discarded	480	TEMPORARILY_UNAVAILABLE
44	CDR_Channel_not_available	480	TEMPORARILY_UNAVAILABLE
46	CDR_Precedence_call_blocked	480	TEMPORARILY_UNAVAILABLE
47	CDR_Resource_unavailable	488	NOT_ACCEPTABLE_HERE
49	CDR_QOS_not_available	488	NOT_ACCEPTABLE_HERE

50	CDR_Facility_not_subscribed	403	FORBIDDEN
53	CDR_Service_operation_violated	403	FORBIDDEN
54	CDR_Incoming_calls_barred	403	FORBIDDEN
55	CDR_Incoming_calls_barred_CUG	403	FORBIDDEN
57	CDR_Bearer_cap_not_authorized	403	FORBIDDEN
62	CDR_Outgoing_inconsistency	403	FORBIDDEN
63	CDR_Service_not_available	503	SERVICE_UNAVAILABLE
65	CDR_Bearer_cap_not_implemented	415	UNSUPPORTED_MEDIA_TYPE
66	CDR_Channel_type_not_implemented	415	UNSUPPORTED_MEDIA_TYPE
69	CDR_Facility_not_implemented	415	UNSUPPORTED_MEDIA_TYPE
70	CDR_Restricted_digital_info_only	415	UNSUPPORTED_MEDIA_TYPE
79	CDR_Service_not_implemented	503	SERVICE_UNAVAILABLE
81	CDR_Invalid_call_reference	400	BAD_REQUEST
82	CDR_Nonexisting_channel	480	TEMPORARILY_UNAVAILABLE
83	CDR_Suspended_call	480	TEMPORARILY_UNAVAILABLE
84	CDR_Call_identity_in_use	400	BAD_REQUEST
85	CDR_No_call_suspended	480	TEMPORARILY_UNAVAILABLE
86	CDR_Call_cleared	200	OK
87	CDR_User_not_member	404	NOT_FOUND
88	CDR_Incompatible_destination	400	BAD_REQUEST
90	CDR_Destination_missing	400	BAD_REQUEST
91	CDR_Invalid_network	400	BAD_REQUEST
95	CDR_Invalid_message	400	BAD_REQUEST
96	CDR_Mandatory_info_missing	400	BAD_REQUEST
97	CDR_Nonexisting_message_type	400	BAD_REQUEST
98	CDR_Message_not_compatible	400	BAD_REQUEST
99	CDR_Nonexisting_info_element	400	BAD_REQUEST
100	CDR_Invalid_info_contents	400	BAD_REQUEST
101	CDR_Message_not_call_state_ok	400	BAD_REQUEST
102	CDR_Timer_expired	400	BAD_REQUEST
103	CDR_Nonexisting_parameter	400	BAD_REQUEST
110	CDR_Message_unrecognized	400	BAD_REQUEST
111	CDR_Protocol_error	400	BAD_REQUEST
126	CDR_Call_split	400	BAD_REQUEST
127	CDR_Interworking	400	BAD_REQUEST

B.2 SIP Responses to Q.850 Release codes mapping

SIP Responses	SIP Response Description	Q.850 Release Code	Q.850 Release Description
200	OK	16	CDR_Normal_call_clearing
400	BAD REQUEST	111	CDR_Protocol_error
401	UNAUTHORISED	53	CDR_Service_operation_violated
402	PAYMENT REQUIRED	53	CDR_Service_operation_violated
403	FORBIDDEN	53	CDR_Service_operation_violated
404	NOT FOUND	3	CDR_No_dest_route
405	METHOD NOT LLOWED	53	CDR_Service_operation_violated
406	NOT ACCEPTABLE	53	CDR_Service_operation_violated
407	PROXY AUTHENTICATION REQUIRED	53	CDR_Service_operation_violated
408	REQUEST TIMEOUT	102	CDR_Timer_expired
409	CONFLICT	18	CDR_No_user
410	GONE	19	CDR_No_answer
411	LENGTH REQUIRED	95	CDR_Invalid_message
413	REQUEST ENTITY TOO LARGE	95	CDR_Invalid_message
414	REQUEST URI TOO LONG	95	CDR_Invalid_message
415	UNSUPPORTED MEDIA TYPE	6	CDR_Channel_unacceptable
416	UNSUPPORTED URI SCHEME	95	CDR_Invalid_message
420	BAD EXTENSION	95	CDR_Invalid_message
421	EXTENSION REQUIRED	95	CDR_Invalid_message
423	INTERVAL TOO BRIEF	95	CDR_Invalid_message
480	TEMPORARILY UNAVAILABLE	41	CDR_Temporary_failure
481	CALL LEG TRANSACTION DOES NOT EXIST	41	CDR_Temporary_failure
482	LOOP DETECTED	41	CDR_Temporary_failure
483	TOO MANY HOPS	41	CDR_Temporary_failure
484	ADDRESS INCOMPLETE	28	CDR_Invalid_number_format
485	AMBIGUOUS	28	CDR_Invalid_number_format
486	BUSY HERE	17	CDR_User_busy
487	REQUEST TERMINATED	19	CDR_No_answer

488	NOT ACCEPTABLE HERE	6	CDR_Channel_unacceptable
500	SERVER INTERNAL ERROR	41	CDR_Temporary_failure
501	NOT IMPLEMENTED	79	CDR_Service_not_implemented
502	BAD GATEWAY	63	CDR_Service_not_available
503	SERVICE UNAVAILABLE	63	CDR_Service_not_available
504	SERVER TIME OUT	41	CDR_Temporary_failure
505	VERSION NOT SUPPORTED	95	CDR_Invalid_message
513	MESSAGE TOO LARGE	95	CDR_Invalid_message
600	BUSY EVERYWHERE	17	CDR_User_busy
603	DECLINE	21	CDR_Call_rejected
604	DOES NOT EXIST ANYWHERE	1	CDR_Unallocated
606	GLOBAL NOT ACCEPTABLE	6	CDR_Channel_unacceptable
>300 not mapped above		41	CDR_Channel_unacceptable



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