



Object Model

Introduction

Cisco PTC provides access to these types of objects:

- Physical elements (shelf, card, slot, port, etc.)
- Logical configuration elements (Ethernet, Interface, Voice Port, Fax Application, etc.)
- Virtual entities (region, zone, virtual gateway, gatekeeper group, etc.)

Naming, Classes Diagrams, and Attributes

Regarding the difference between the scoping and the naming relationships, please note that the relationship between objects that defines their naming is different and separate from the scoping relationship that determines the result of a scoped query-contained operation.

The naming relationship determines the fully qualified name of an object, naming it relative to other objects. An example is a gateway that is named relative to a network. The fully qualified name is unambiguous within the system. The naming relationship is fixed and does not change for the entire lifetime of an object, as otherwise, its name would have to change. This poses issues in the case where the name is no longer unambiguous, and would make it extremely hard for northbound applications to establish a notion of object identity.

The scoping relationship is a relationship that is traversed for scoped management operations. It has nothing to do with naming (although in some instances, both scoping and naming relationships may exist between the same objects). An example is the gateways contained in a virtual zone. Over the lifetime of the object, an object's scope may change, for instance a gateway being assigned to a zone, or being migrated from one zone to another.

Formal Specification

This section provides the formal specification of the following:

- External object model, which includes the CIM/CX model and the Cisco PTC external object model
- Java API definition
- XML DTD specification (see [Chapter 3, “XML and DTD.”](#))

Name Binding

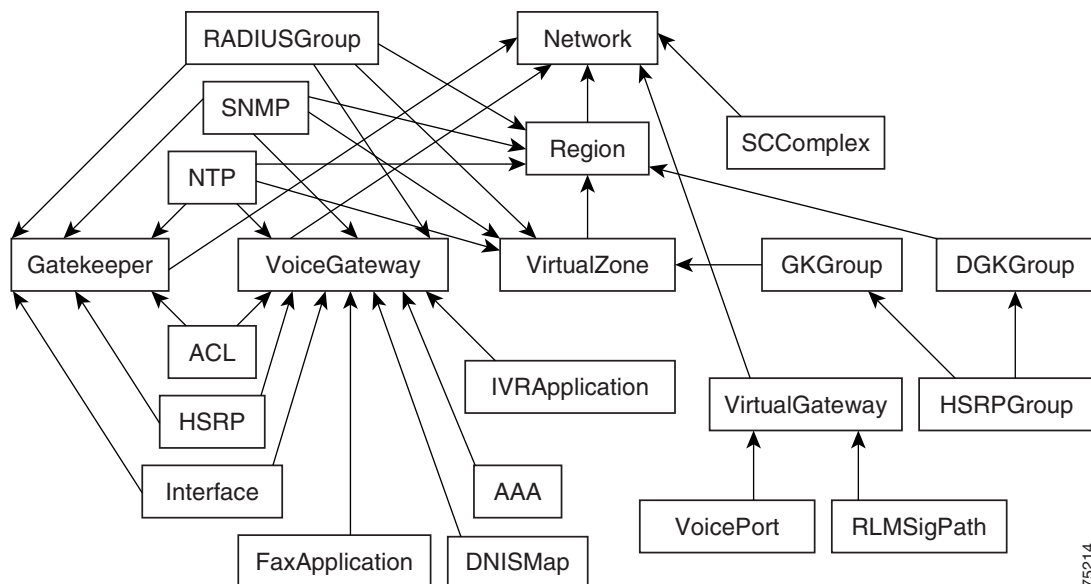
The naming hierarchy of the model is presented in [Figure 2-1](#). The arrows are used to point from the subordinate object classes to the superior object classes. Each arrow represents a name binding defined in the following session.



Note

Four additional service objects (**TrunkGroup**, **VoiceClass**, **VoiceParameter**, and **CallAcctTemplate**) that connect to **VoiceGateway** object have been added as new features. The fifth, **GTD**, connects to an **SCComplex**.

Figure 2-1 Object Model Naming Hierarchy



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Network

NetworkId is the name attribute. For example, the name /NetworkId=1 refers to a Network object.

Region

Network/Region NAME BINDING

SUBORDINATE OBJECT CLASS — Region;

SUPERIOR OBJECT CLASS — Network;

RegionId is the name attribute. For example, the name /NetworkId=1/RegionId=SanJose refers to a Region object in the context of /NetworkId=1.

VirtualZone

Region/VirtualZone NAME BINDING

SUBORDINATE OBJECT CLASS — VirtualZone;

SUPERIOR OBJECT CLASS — Region;

VirtualZoneId is the name attribute. For example, the name /NetworkId=1/RegionId=SanJose/zoneId=VirtualZone_1 refers to a **VirtualZone** object in the context of /NetworkId=1/RegionId=SanJose.

Gatekeeper

Network/Gatekeeper NAME BINDING

SUBORDINATE OBJECT CLASS — Gatekeeper;

SUPERIOR OBJECT CLASS — Network;

GateKeeperId is the name attribute. For example, the name /NetworkId=1 /GatekeeperId=tv-5300-1 refers to a Gatekeeper object in the context of /NetworkId=1.

VoiceGateway

Network/VoiceGateway NAME BINDING

SUBORDINATE OBJECT CLASS — VoiceGateway;

SUPERIOR OBJECT CLASS — Network;

VoiceGatewayId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2 refers to a **VoiceGateway** object in the context of /NetworkId=1.

VirtualGateway

Network/VirtualGateway NAME BINDING

SUBORDINATE OBJECT CLASS — VirtualGateway;

SUPERIOR OBJECT CLASS — Network;

VirtualGatewayId is the name attribute. For example, the name /NetworkId=1/VirtualGatewayId=tv-5300-2 refers to a **VirtualGateway** object in the context of /NetworkId=1.

GKGroup

VirtualZone/GKGroup NAME BINDING

SUBORDINATE OBJECT CLASS — GKGroup;

SUPERIOR OBJECT CLASS — VirtualZone;

GKGroupId is the name attribute. For example, the name /NetworkId=1/RegionId=SanJose/zoneId=VirtualZone_1/GKGroupId=gkg-1 refers to a **GKGroup** object in the context of /NetworkId=1/RegionId=SanJose/zoneId=VirtualZone_1.

DGKGroup

Region/DGKGroup NAME BINDING

SUBORDINATE OBJECT CLASS — DGKGroup;

SUPERIOR OBJECT CLASS — Region;

DGKGroupId is the name attribute. For example, the name /NetworkId=1/RegionId=SanJose/zoneId=VirtualZone_1/DGKGroupId=dgkg-1 refers to a **DGKGroup** object in the context of /NetworkId=1/RegionId=SanJose.

AAA

Region, VirtualZone, VoiceGateway, Gatekeeper/AAA NAME BINDING

SUBORDINATE OBJECT CLASS — AAA;

SUPERIOR OBJECT CLASS — Region, VirtualZone, VoiceGateway, Gatekeeper;

AAAIId is the name attribute. For example, the name /NetworkId=1/RegionId=SanJose/VoiceGatewayId=tv-5300-1/AAAIId=aaa-1 refers to a **AAA** object in the context of /NetworkId=1/RegionId=SanJose/VoiceGatewayId=tv-5300-1.

SCComplex

Network/SCComplex NAME BINDING

SUBORDINATE OBJECT CLASS — SCComplex;

SUPERIOR OBJECT CLASS — Network;

SCComplexId is the name attribute. For example, the name /NetworkId=1/SCComplexId=scc-1 refers to an **SCComplex** object in the context of /NetworkId=1.

NTP

Region, VirtualZone, VoiceGateway, Gatekeeper/NTP NAME BINDING

SUBORDINATE OBJECT CLASS — NTP;

SUPERIOR OBJECT CLASS — Region, VirtualZone, VoiceGateway, Gatekeeper;

NTPId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/NTPId=ntp-1 refers to an **NTP** object in the context of /NetworkId=1/VoiceGatewayId=tv-5300-2.

SNMP

Region, VirtualZone, VoiceGateway, Gatekeeper/SNMP NAME BINDING

SUBORDINATE OBJECT CLASS — SNMP;

SUPERIOR OBJECT CLASS — Region, VirtualZone, VoiceGateway, Gatekeeper;

SNMPId is the name attribute. For example, the name /NetworkId=1/GatekeeperId=tv-5300-2/SNMPId=snmp-1 refers to an **SNMP** object in the context of /NetworkId=1/GatekeeperId=tv-5300-2.

Security Server Group

VoiceGateway, VirtualZone, VoiceGateway, Gatekeeper/RADIUS Group NAME BINDING

SUBORDINATE OBJECT CLASS — RADIUS Group;

SUPERIOR OBJECT CLASS — Region, VirtualZone, VoiceGateway, Gatekeeper;

RADIUSGroupId is the name attribute. For example, the name /NetworkId=1/RegionId=SanJose/zoneId=VirtualZone_1/RADIUSGroupId=radius-1 refers to a **RADIUS Group** object in the context of /NetworkId=1/RegionId=SanJose/zoneId=VirtualZone_1.

ACL

VoiceGateway, Gatekeeper/ACL NAME BINDING

SUBORDINATE OBJECT CLASS — ACL;

SUPERIOR OBJECT CLASS — VoiceGateway, Gatekeeper;

ACLId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/ACLId=acl-1 refers to an **ACL** object in the context of /NetworkId=1/VoiceGatewayId=tv-5300-2.

Interface

VoiceGateway, Gatekeeper/Interface NAME BINDING

SUBORDINATE OBJECT CLASS — Interface;

SUPERIOR OBJECT CLASS — VoiceGateway, Gatekeeper;

InterfaceId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/InterfaceId=interface-1 refers to an **Interface** object in the context of /NetworkId=1/VoiceGatewayId=tv-5300-2.

DNISMap

VoiceGateway/DNISMap NAME BINDING

SUBORDINATE OBJECT CLASS — DNISMap;

SUPERIOR OBJECT CLASS — VoiceGateway;

DNISMapId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/DNISMapId=dnismap-1 refers to a **DNISMap** object in the context of /NetworkId=1/VoiceGatewayId=tv-5300-2.

IVRApplication

VoiceGateway/IVRApplication NAME BINDING

SUBORDINATE OBJECT CLASS — IVRApplication;

SUPERIOR OBJECT CLASS — VoiceGateway;

IVRApplicationId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/IVRApplicationId=ivr-1 refers to an **IVRApplication** object in the context of /NetworkId=1/VoiceGatewayId=tv-5300-2.

FaxApplication

VoiceGateway/FaxApplication NAME BINDING

SUBORDINATE OBJECT CLASS — FaxApplication;

SUPERIOR OBJECT CLASS — VoiceGateway;

FaxId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/FaxId=fax-1 refers to a **Fax** object in the context of /NetworkId=1/VoiceGatewayId=tv-5300-2.

RLMSigPath

VirtualGateway/RLMSigPath NAME BINDING

SUBORDINATE OBJECT CLASS — RLMSigPath;

SUPERIOR OBJECT CLASS — VirtualGateway;

RLMSigPathId is the name attribute. For example, the name /NetworkId=1/VirtualGatewayId=tv-5300-2/RLMSigPathId=rlm-1 refers to a **RLMSigPath** object in the context of /NetworkId=1/VirtualGatewayId=tv-5300-2.

TrunkGroup

VoiceGateway/TrunkGroup NAME BINDING

SUBORDINATE OBJECT CLASS — TrunkGroup;

SUPERIOR OBJECT CLASS — VoiceGateway;

TrunkGroupId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/TrunkGroupId=25 refers to a TrunkGroup object in the context of /NetworkId=1/VoiceGatewayId=tv-5400-1

VoiceClass

VoiceGateway/VoiceClass NAME BINDING

SUBORDINATE OBJECT CLASS — VoiceClass;

SUPERIOR OBJECT CLASS — VoiceGateway;

VoiceClassId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/VoiceClassId=25 refers to a VoiceClass object in the context of /NetworkId=1/VoiceGatewayId=tv-5400-1

VoiceParameter

VoiceGateway/VoiceParameter NAME BINDING

SUBORDINATE OBJECT CLASS — VoiceParameter;

SUPERIOR OBJECT CLASS — VoiceGateway;

VoiceParameterId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/VoiceParameterId=25 refers to a VoiceParameter object in the context of /NetworkId=1/VoiceGatewayId=tv-5400-1

CallAcctTemplate

VoiceGateway/CallAcctTemplate NAME BINDING

SUBORDINATE OBJECT CLASS — VoiceParameter;

SUPERIOR OBJECT CLASS — CallAcctTemplate;

CallAcctTemplateId is the name attribute. For example, the name /NetworkId=1/VoiceGatewayId=tv-5300-2/CallAcctTemplateId=25 refers to a CallAcctTemplate object in the context of /NetworkId=1/VoiceGatewayId=tv-5400-1

GTD

SCComplex/GTD NAME BINDING

SUBORDINATE OBJECT CLASS — SCComplex;

SUPERIOR OBJECT CLASS — GTD;

GTD is the name attribute. For example, the name /NetworkId=1/ManagedElementComplexId=MGC-Node-2/GTDParamId=gtd250 refers to a GTD object in the context of /NetworkId=1/ManagedElementComplexId=MGC-Node-2

Object Scoping & Association

The object scoping and association relationships are presented in [Figure 2-2](#), [Figure 2-3](#), and [Figure 2-4](#).

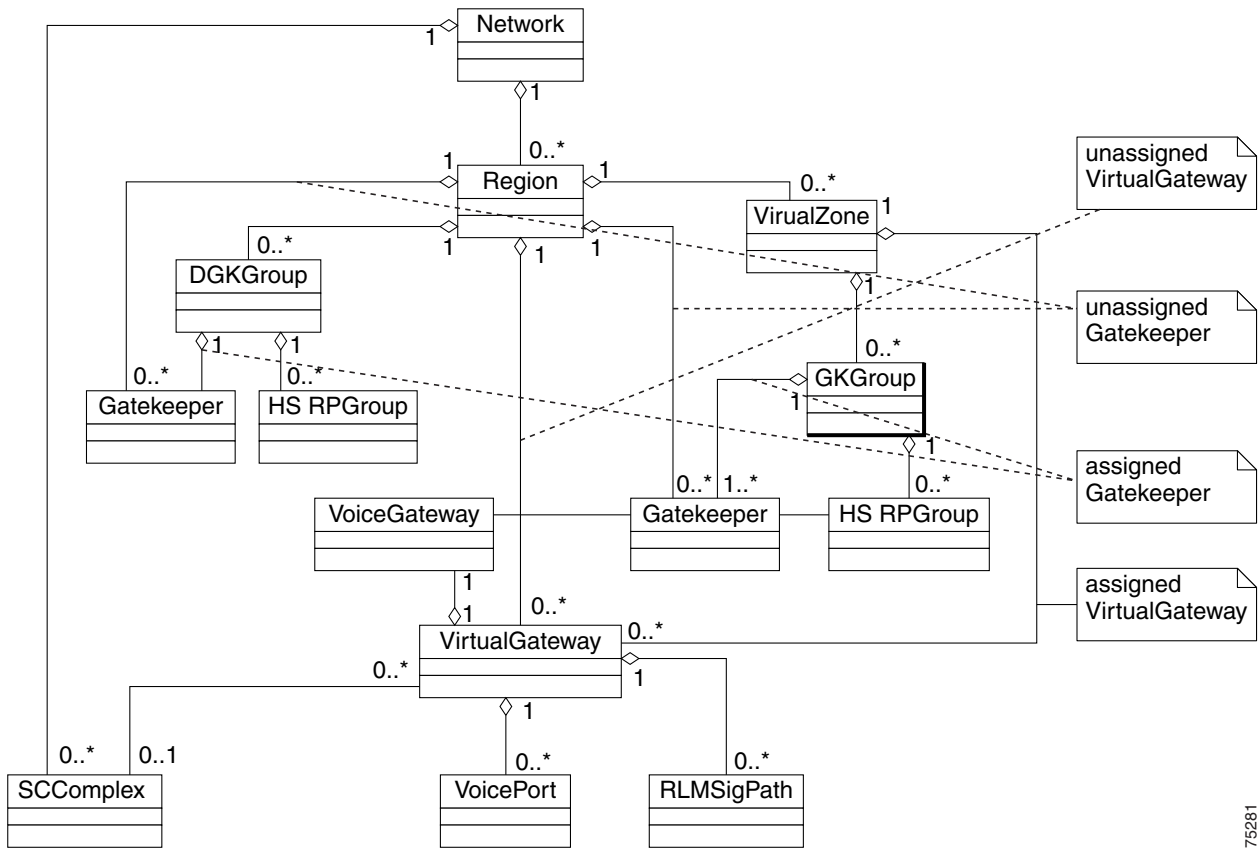
The line with a diamond symbol on one end represents a parent-child containment (or scoping) relationship, with the object towards the diamond end being the containing parent and the objects on the other end being the contained children.

Take, for example, the Region object. A Region contains (0..n) Gatekeepers, (0..n) Directory Gatekeepers, (0..n) Voice Gateways, one DGK Group, (0..n) Virtual Zones, and (0..n) Virtual Gateways. For a given Region object instance, an API client can retrieve these types of objects contained under that region.

A plain line (with no symbol on either end) represents an association relationship between the two objects linked by the line.

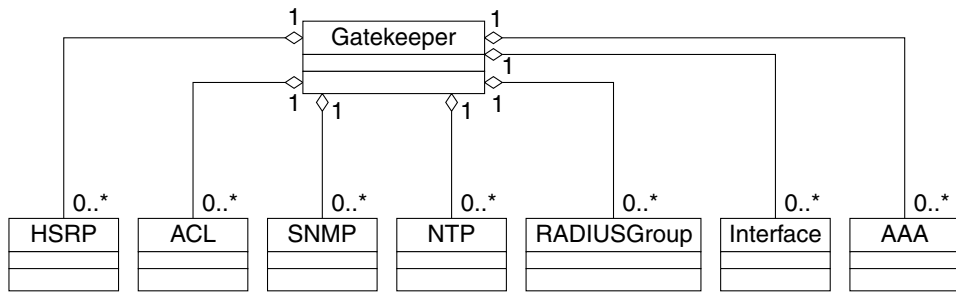
Take, for example, the association between the SCComplex and Virtual Gateway: an SC can manage (0..n) Virtual Gateways, while a Virtual Gateway is controlled by (0..1) SCs.

Figure 2-2 Virtual Gateway



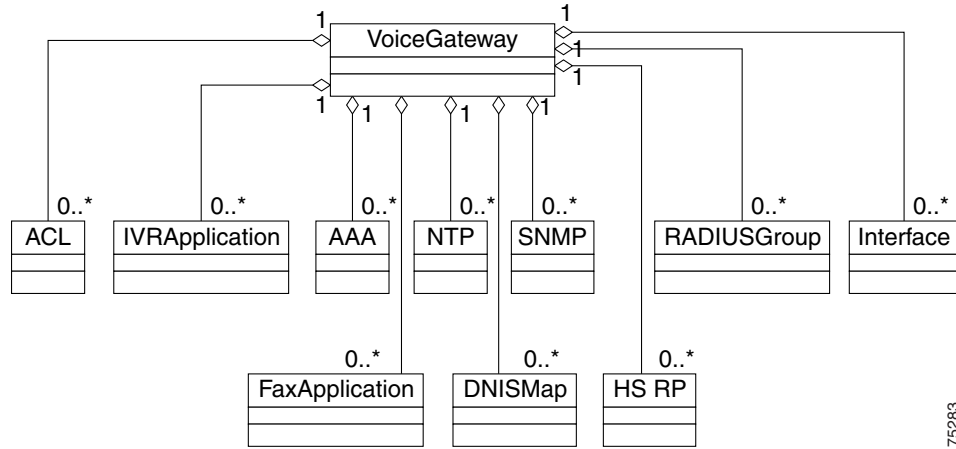
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Figure 2-3 The Gatekeeper



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Figure 2-4 As part of new features, Voice Gateway has acquired four new service objects: TrunkGroup, VoiceClass, VoiceParameter, and CallAcctTemplate



75283

Region

Table 2-1 Region Parameter

Parameter			Modifiable on Router?
RegionId	String	Name of the Region. This is the class naming attribute.	No

Virtual Zone

Table 2-2 Virtual Zone Parameters

Parameter			Modifiable on Router?
ZoneId	String	Name of the Virtual Zone. This is the class naming attribute.	No
VirtualGWs	SeqOf	Associated Virtual Gateways.	No

Virtual Gateway

Table 2-3 Virtual Gateway Parameters

Parameter			Modifiable on Router?
VirtualGatewayId	String	Name of the Virtual Gateway. This is the class naming attribute.	No
VirtualZone	String	Associated Virtual Zone.	No
VoiceGWs	SeqOf String	Associated Voice Gateways.	No
SCComplexes	SeqOf String	Associated SC Complexes.	No

DGK Group

Table 2-4 Directory Gatekeeper Group Parameters

Parameter			Modifiable on Router?
DGKGroupId	String	Name of the Directory Gatekeeper Group. This is the class naming attribute.	No
DGKs	SeqOf String	Associated Directory Gatekeepers.	No

GK Group

Table 2-5 Gatekeeper Group Parameters

Parameter			Modifiable on Router?
GKGroupId	String	Name of the Gatekeeper Group. This is the class naming attribute.	No
Gatekeepers	SeqOf String	Associated Gatekeepers.	No

SC2200 Complex

Table 2-6 SC2200 Complex Parameters

Parameter			Modifiable on Router?
SC2200ComplexId	String	Name of the SC2200 Complex. This is the class naming attribute.	No
VirtualGWs	SeqOf String	Associated Virtual Gateways.	No

Network

Table 2-7 Network Parameter

Parameter			Modifiable on Router?
NetworkId	String	Name of the Network. This is the class naming attribute.	No

Gatekeeper

Table 2-8 Gatekeeper Parameters

Parameter			Modifiable on Router?
GatekeeperId	String	Name of the Gatekeeper This is the class naming attribute.	No
HSRPGroup	SeqOf String	Associated HSRP Group.	No
GKGroup	SeqOf String	Associated Gatekeeper Group.	No

Voice-Gateway

Table 2-9 Voice Gateway Parameters

Parameter			Modifiable on Router?
VoiceGatewayId	String	Name of the Voice Gateway. This is the class naming attribute.	No
GK	SeqOf String	Associated Gatekeeper.	No
AltGK	SeqOf String	Associated Alternative Gatekeeper.	No
VirtualGW	SeqOf String	Associated Virtual Gateway.	No

RLMSig-Path Parameters

Table 2-10 Q931/RLM Signaling Path Parameters

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
RLM SigPath Number	Basic & GW	GW	int (0-255)	RLM Group number on the gateway.	No
SC Primary Ethernet Interface	Basic & General	GW	enum (consisting of all of the interfaces currently configured on the SC)	Primary Ethernet interface on the PGW2200/SC2200 for the IP link.	No
SC Secondary Ethernet Interface	Basic & General	GW	enum (consisting of all of the interfaces currently configured on the SC)	Secondary Ethernet interface on the PGW2200/SC2200 for the IP link.	No
GW Primary Interface	Basic & General	GW	enum (consisting of all of the interfaces currently configured on the SC)	Primary interface on the gateway for the RLM link to the PGW2200/SC2200.	No
GW Secondary Interface	Basic & General	GW	enum (consisting of all of the interfaces currently configured on the SC)	Secondary interface on the gateway for the RLM link to the PGW2200/SC2200.	No
RLM UDP Port	Basic & General	GW	int (even number between 3000-65533)	The UDP port on the gateway and PGW2200/SC2200 upon which the gateway and PGW2200/SC2200 communicate RLM messages. The Q931 messages are communicated on the UDP port that numbers one more than this port number.	No

Table 2-10 Q931/RLM Signaling Path Parameters (continued)

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
MDO	Basic & General	SC: NASPath - mdo	enum {unset, ANSISS7 CLEAR, ANSISS7 MCI, ANSISS7 SPRINT, ANSISS7 STANDARD, ATT 41459, ATT 41459 C2, BELL 1268, BELL 1268 C3, BTNUP BTNR167, BTNUP NRC, DPNSS BTNR188, EISUP, ETS 300 102, ETS 300 102 C1, ETS 300 121, ETX 300 172, ETS 300 356, FINLAND 5779, HKTA 2202, ISUPV1 POLI, ISUPV2 FRENCH, ISUPV2 GERMAN, ISUPV2 JAPAN, ISUPV2 KPNPB, ISUPV2 NTT, ISUPV2 SWISS, ISUPV2 UK, NORTEL IBN7, NTT INS 1500, Q721 BASE, Q721 CHINA, Q721 FRENCH, Q721 AUSTRAL, Q761 BASE, Q761 BELG MOB1, Q761 KOREAN, Q767 BASE, Q767 ITAL, Q767 ITAL INTERCONNECT, Q767 MEXICAN, Q767 RUSS, Q767 SPAN, Q767 SWED, T113 BEL}	Message Definition Object file.	No
Description	Basic & General			Description of the RLM group and NAS path.	Yes
RLM Link1 Priority	Detail & General		int (1-100,000)	Priority of the RLM link between the gateway and PGW2200/SC2200.	No
RLM Link2 Priority	Detail & General		int (1-100,000)	Priority of the RLM link between the gateway and PGW2200/SC2200.	No
RLM Link3 Priority	Detail & General		int (1-100,000)	Priority of the RLM link between the gateway and PGW2200/SC2200.	No
RLM Link4 Priority	Detail & General		int (1-100,000)	Priority of the RLM link between the gateway and PGW2200/SC2200.	No

Table 2-10 Q931/RLM Signaling Path Parameters (continued)

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
B Originating Start Node	Detail & Call processing	SC: NASPath - sigsvccprop	enum {no dialplan, first node in originating digit tree} Default: no dialplan	B Originating Start Node.	Yes
B Terminating Start Node	Detail & Call processing	SC: NASPath - sigsvccprop	enum {no dialplan, first node in originating digit tree} Default: no dialplan	B Terminating Start Node.	Yes
BC Initial State	Detail & Call processing	SC: NASPath - sigsvccprop	enum {In Service, Out of Service} Default: In Service	Initial status the SC places its nailed up bearer channels following an application restart. The gateway can override this status with the GSM messages.	Yes
Bothway Working	Detail & Call processing	SC: NASPath - sigsvccprop	int (0 or 1) Default: 1	Specifies if bothway release/circuit-free handling for BTNUP protocol is enabled. Set to 0 to disable.	Yes
CGBA2	Detail & Call processing	SC: NASPath - sigsvccprop	int (0 or 1) Default: 0	Determines if paired (0) or single (1) Circuit Group Blocking Acknowledgements (CGBAs) are required before the blocking is considered successful. Only applicable to ANSI SS7, IBN7, and CTUP protocols.	Yes
CLIPess	Detail & Call processing	SC: NASPath - sigsvccprop	int (0 or 1) Default: 0	Set to 1 to force request of Calling Line Identity (CLI) if not automatically provided.	Yes
COT In Tone	Detail & Call processing	SC: NASPath - sigsvccprop	int (1780 or 2010) Default: 2010	Receive tone (in Hz) for Continuity Test (COT) hardware. The tone to listen for when doing a COT.	Yes
COT Out Tone	Detail & Call processing	SC: NASPath - sigsvccprop	int (1780 or 2010) Default: 2010	Transmit tone (in Hz) for COT hardware. The tone that is produced.	Yes
COT Percentage	Detail & Call processing	SC: NASPath - sigsvccprop	int {0-100} Default: 0	Statistical COT.	Yes

Table 2-10 Q931/RLM Signaling Path Parameters (continued)

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
External COT	Detail & Call processing	SC: NASPath - sigsvccprop	enum {Zero, Loop, Transponder} Default: Loop	Determines the type of COT handling for the specified destination.	Yes
Fast Connect	Detail & Call processing	SC: NASPath - sigsvccprop	int (0 or 3) Default: 0	Allows you to set this property for NI2+ only (PRI BELL 1268 customer 3, Cisco MGW). The purpose of this property is to allow/disallow the signal being sent to LCM when a CALL PROCEEDING, a PROGRESS and an ALERTING message is received from the gateway. 0 —Normal behavior, enabled all signals to LCM. 1 —Disable signals to LCM when a Call Proceeding message is received from the gateway. 2 —Disable signals to LCM when a Call Proceeding or Progress message is received from the gateway. 3 —Disable signals to LCM when a Call Proceeding, or a Progress, or an Alerting message is received from the gateway.	Yes
Forward CLI in IAM	Detail & Call processing	SC: NASPath - sigsvccprop	int (0 or 1) Default: 0	Set to 1 if outgoing IAM should contain the Calling Line Identity (CLI), if available. Only applicable for BTNUP when interworking from other protocols.	Yes
Forward Segmented NEED	Detail & Call processing	SC: NASPath - sigsvccprop	int (0 or 1) Default: 1	Set to 0 to disable the forwarding of segmented NEED messages within the BTNUP_NRC protocol. If segmenting is disabled, all mandatory DPNSS information elements are packed into a single BTNUP NEED message.	Yes

Table 2-10 Q931/RLM Signaling Path Parameters (continued)

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
Glare	Detail & Call processing	SC: NASPath - sigsvccprop	enum {no glare handling, always, even/odd, no control} Default: even/odd	Call Collision Handling. no glare handling —call collision results in a REL sent to both calls. Also known as yield to all double seizures. always —the SC has control of all circuits and the SC handles any call collisions. It ignores incoming IAMs and proceeds with its own calls as normal. even/odd —highest point code controls the even circuits. Depending on the OPC of the SC, the side that has the higher point code controls the even circuits, while the side with the lower point code controls the odd circuits. no control —The SC specified with this option does not control any circuits. The SC accepts incoming IAMs from the side with control.	Yes
GRA2	Detail & Call processing	SC: NASPath - sigsvccprop	int (0 or 1) Default: 0	Determines if paired (0) or single (1) Group Reset Acknowledgements (GRAs) are required before the reset is considered successful. Only applicable to ANSI SS7, IBN7, and CTUP protocols.	Yes
International Prefix	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:0	International prefix string to be added to the international dialed number when normalization is enabled.	Yes
National Prefix	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:0	National prefix string to be added to the national dialed number when normalization is enabled.	Yes

Table 2-10 Q931/RLM Signaling Path Parameters (continued)

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
Normalization	Detail & Call processing	SC: NASPath - sigsvprop	int (0 or 1) Default:0	Normalization of dialed number to unknown. Set to 0 for disabled or 1 for enabled.	Yes
O Maximum digits	Detail & Call processing	SC: NASPath - sigsvprop	int Default:24	Specifies the maximum number of digits to receive for overlap digit processing for call origination from this traffic path.	Yes
O Minimum digits	Detail & Call processing	SC: NASPath - sigsvprop	int Default:0	Specifies the minimum number of digits to receive for overlap digit processing for call origination from this traffic path.	Yes
O Overlap	Detail & Call processing	SC: NASPath - sigsvprop	int Default:0	Set to 1 to enable overlap signaling for call origination from this traffic path.	Yes
Overlap Digit Time	Detail & Call processing	SC: NASPath - sigsvprop	int (0-60) Default:6	Overlap inter-digit timer. The time to wait for the rest of the digits.	Yes
Propagate Service Message Block	Detail & Call processing	SC: NASPath - sigsvprop	enum {Enable, Disable} Default: Disable	Enable —the protocols supporting group blocking send individual blocking messages. Disable —protocols supporting group blocking continue to send group messages.	Yes
Maximum Redir	Detail & Call processing	SC: NASPath - sigsvprop	int Default:3	Specifies the maximum allowable value of the redirection counter parameter available in some C7 signaling systems before the call is force-released. Used to prevent routing loops in certain applications.	Yes

Table 2-10 Q931/RLM Signaling Path Parameters (continued)

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
Release Mode	Detail & Call processing	SC: NASPath - sigsvccprop	enum {Asynchronous, Synchronous} Default: Synchronous	Defines the type of releasing. Asynchronous clearing allows both OCC and TCC sides to clear independently; circuits are freed earlier in the release sequence. Synchronous clearing requires that the clearing at the two sides is synchronized. Normally, nailed-up configurations use synchronous clearing and VSC configurations use asynchronous clearing.	Yes
Route Preference	Detail & Call processing	SC: NASPath - sigsvccprop	int (0-9) Default:0	Determines the preferred route.	Yes
Suppress CLI Digits	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:0	Suppress the calling party number.	Yes
T309Time	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:90,000	For timer NT309 (in milliseconds).	Yes
T310Time	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:10,000	For timer NT310 (in milliseconds).	Yes
T Maximum Digits	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:24	Specifies the maximum number of digits to receive for overlap digit processing for call termination to this traffic path.	Yes
T Minimum Digits	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:0	Specifies minimum number of digits to receive for overlap digit processing for call termination to this traffic path.	Yes
T Overlap	Detail & Call processing	SC: NASPath - sigsvccprop	int (0 or 1) Default:0	Set to 1 to enable overlap signaling for call termination to this traffic path.	Yes
VoIP Prefix	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:0	A numeric string.	Yes

Table 2-10 Q931/RLM Signaling Path Parameters (continued)

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
LAPD Drop Error	Detail & LAPD	SC: NASPath - sigsvccprop	enum {Enable, Disable} Default: Disable	Boolean to determine if some LAPD sequence errors are discarded. Used in large IP networks where latency may cause LAPD sequence errors. According to Q.921, this causes the link layer to reset. This parameter allows sequence errors to be discarded without setting the link.	Yes
LAPD K Value	Detail & LAPD	SC: NASPath - sigsvccprop	int (1-127) Default:7	Number of outstanding frames in the Q.921 transmission window.	Yes
LAPD N200	Detail & LAPD	SC: NASPath - sigsvccprop	int (0-10) Default:6	Maximum number of retransmissions of a Q.921 frame.	Yes
LAPD N201	Detail & LAPD	SC: NASPath - sigsvccprop	int Default:260	Maximum number of octets in a Q.921 frame.	Yes
LAPD T200	Detail & LAPD	SC: NASPath - sigsvccprop	int (10-60) Default:10	Maximum wait time (in 1/10 seconds) for a LAPD frame acknowledgement before retransmission.	Yes
LAPD T203	Detail & LAPD	SC: NASPath - sigsvccprop	int (50-600) Default:100	Maximum time (in 1/10 seconds) the Q.921 link is idle before sending a frame.	Yes
Resume Ack Timer	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:1		Yes
RUDP Ack	Detail & RUDP	SC: NASPath - sigsvccprop	enum {Enable, Disable} Default: Enable		Yes
RUDP Keep Alives	Detail & RUDP	SC: NASPath - sigsvccprop	enum {Enable, Disable} Default: Enable		Yes
RUDP Number of Retx	Detail & RUDP	SC: NASPath - sigsvccprop	int (1-100) Default:2	Maximum number of retransmissions count.	Yes
RUDP Retx Timer	Detail & RUDP	SC: NASPath - sigsvccprop	int (2-100) Default:6	The retransmission timeout value.	Yes

Table 2-10 Q931/RLM Signaling Path Parameters (continued)

Parameter	Category/Parameter Tab	Type	Value	Description	Modifiable on Router?
RUDP Sdm	Detail & RUDP	SC: NASPath - sigsvccprop	enum {Enable, Disable} Default: Enable		Yes
RUDP Window Size	Detail & RUDP	SC: NASPath - sigsvccprop	int (2-64) Default:32	Maximum number of Unacknowledged Segments in the RUDP window.	Yes
Session Pause Timer	Detail & RUDP	SC: NASPath - sigsvccprop	int Default:8		Yes
Span ID	Detail & Call processing	SC: NASPath - sigsvccprop	int Default:65535	E1/T1 ID for FAS and DPNSS, ffff for SS7.	Yes
Force-down Timer	Detail & GW RLM	GW: rlm group - timer force-down	int {1-600} Default:30	Timeout value (in seconds) to force staying in the down state.	Yes
Keep-alive Timer	Detail & GW RLM	GW: rlm group - timer keepalive	int {1-600} Default:1	Keepalive timeout value, in seconds.	Yes
Minimum Up Link Timer	Detail & GW RLM	GW: rlm group - timer minimum-up	int {1-600} Default:60	Minimum time (in seconds) to wait for the up link to stabilize.	Yes
Open-wait Timer	Detail & GW RLM	GW: rlm group - timer open-wait	int {1-600} Default:3	Open connection timeout value, in seconds.	Yes
Recovery Timer	Detail & GW RLM	GW: rlm group - timer recovery	int {1-600} Default:12	Recovery timeout value, in seconds.	Yes
Retransmit Timer	Detail & GW RLM	GW: rlm group - timer retransmit	int {2-100} Default:6	RLM command retransmission timeout value, in seconds.	Yes
Switch-link Timer	Detail & GW RLM	GW: rlm group - timer switch-link	int {1-600} Default:5	Switch to newly recovered link with higher weighting timeout value, in seconds.	Yes

Generic Transparency Descriptor (GTD) Parameters

Table 2-11 *GTD Parameters*

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
GTD Name	Basic & Common	string	Name of the GTD.	No
GTD Parameters	Basic & Common	string	The parameters in this GTD.	Yes
GTD Override Parameters	Basic & Common	list {CGN.noa, CPN.noa}	The override parameters in this GTD.	Yes
Description	Basic & Common	string	Description of this GTD.	Yes

Carrier Parameters

Table 2-12 *Carrier Parameters*

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Carrier Name	Basic & Common	string	Name of the Carrier.	No
Description	Basic & Common	string	Description of this Carrier.	Yes

Trunk Group Parameters

Table 2-13 Trunk Group Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Carrier Id	Basic & General	string	The carrier that owns the trunk group.	Yes
Hunt Scheme	Basic & General	enum {Least Idle Both, Least Idle Even, Least Idle Odd, Least Used Both Up, Least Used Both Down, Least Used Even Up, Least Used Even Down, Least Used Odd Up, Least Used Odd Down, Longest Idle Both, Longest Idle Even, Longest Idle Odd, Round Robin Both Up, Round Robin Both Down, Round Robin Even Up, Round Robin Even Down, Round Robin Odd Up, Round Robin Odd Down, Sequential Both Up, Sequential Both Down, Sequential Even Up, Sequential Even Down, Sequential Odd Up, Sequential Odd Down, Random}	The search method for finding an available voice channel in the trunk group.	Yes
Max Calls Any InOut	Detail & MaxCalls	integer (0-1000)	Specifies the number of allowed incoming and outgoing calls (both data and voice).	Yes
Max Calls Any In	Detail & MaxCalls	integer (0-1000)	Specifies the number of allowed incoming calls (both data and voice).	Yes
Max Calls Any Out	Detail & MaxCalls	integer (0-1000)	Specifies the number of allowed outgoing calls (both data and voice).	Yes
Max Calls Data InOut	Detail & MaxCalls	integer (0-1000)	Specifies the number of allowed incoming and outgoing data calls.	Yes
Max Calls Data In	Detail & MaxCalls	integer (0-1000)	Specifies the number of allowed incoming data calls.	Yes
Max Calls Data Out	Detail & MaxCalls	integer (0-1000)	Specifies the number of allowed outgoing data calls.	Yes
Max Calls Voice InOut	Detail & MaxCalls	integer (0-1000)	Specifies the number of allowed incoming and outgoing voice calls.	Yes

Table 2-13 Trunk Group Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Max Calls Voice In	Detail & MaxCalls	integer	Specifies the number of allowed incoming voice calls.	Yes
Max Calls Voice Out	Detail & MaxCalls	integer	Specifies the number of allowed outgoing voice calls.	Yes

Voice Port Parameters

Voice Port - Common Parameters

Table 2-14 Common Voice Port Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
DS0 Channels	Basic & GW	int (1-24 for T1, 1-30 for E1)		No
Controller Framing	Basic & Controller	enum for T1 {SF, ESF} for E1 {CRC4, NO CRC4}	Type of framing on a DS1 link.	Yes
Controller Line Coding	Basic & Controller	enum for T1 {ami, b8zs} for E1 {ami, hdb3}	Line encoding method for a DS1 link.	Yes
Controller Clock Source	Basic & Controller	enum {Free Running Clock, Internal Clock, Line(Recovered) Clock - Primary, Line(Recovered) Clock - Secondary}	Clock source for a DS1 link.	Yes
Controller Cable Length	Basic & Controller	enum {Long Gain26 -15dB pulse, Long Gain26 -22.5dBpulse, Long Gain26 -7.5dBpulse, Long Gain26 0dBpulse, Long Gain36 -15dB pulse, Long Gain36 -22.5dBpulse, Long Gain36 -7.5dBpulse, Long Gain36 0dBpulse, Short 0-133ft, Short 134-266ft, Short 267-399ft, Short 400-533ft, Short 534-655ft}	Cable length for a DS1 link.	Yes

Table 2-14 Common Voice Port Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Call Progress Tone	Basic & Controller	enum { Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Columbia, Cyprus, Czech Republic, Denmark, Egypt, Finland, France, Germany, Ghana, Greece, Hong Kong, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Jordan, Kenya, Korea Republic, Lebanon, Luxembourg, Malaysia, Mexico, Nepal, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Panama, Peru, Philippines, Poland, Portugal, Russian Federation, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, United States, Venezuela, Zimbabwe } Default: United States		Yes
Companding Type	Basic & General	enum {u-law, a-law }		Yes
Description	Basic & General	string		Yes
Call Disconnect Timeout	Detail & Timeouts	int (0-120) Default: 60	Call disconnect time out value, in seconds.	Yes
Initial Digit Timeout	Detail & Timeouts	int (0-120) Default: 10	Number of seconds the system waits between the caller input of the initial digit and the subsequent digit of the dialed string.	Yes
Inter Digit Timeout	Detail & Timeouts		Number of seconds the system waits after the caller input of the initial digit or a subsequent digit of the dialed strings.	Yes
Ringing Timeout	Detail & Timeouts	int (5-60000), infinity) Default: 180	Duration, in seconds, the voice port allows ringing to continue if a call is not answered.	Yes
Wait Release Timeout	Detail & Timeouts	int (5-3600, infinity) Default: 30	Duration, in seconds, the voice port stays in the call failure state.	Yes
Clear Wait Timing	Detail & Timing	int (200-2000) Default:400	Minimum amount of time, in seconds.	Yes
Delay Duration Timing	Detail & Timing	int (100-5000) Default: 2000	Delay duration, in milliseconds, for delay dial signaling.	Yes

Table 2-14 Common Voice Port Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Delay Start Timing	Detail & Timing	int (20-2000) Default: 300	Minimum delay, in milliseconds, from outgoing seizure to out-dial address.	Yes
Digit Timing	Detail & Timing	int (50-100) Default: 100	DTMF digit signal duration, in milliseconds.	Yes
Guard OutTiming	Detail & Timing	int (300-3000) Default: 2000	Duration of the guard out period that prevents this port from seizing a remote FXS port before the remote port detects a disconnected signal.	Yes
Hookflash Out Timing	Detail & Timing	int (50-500) Default: 300	Hookflash duration, in milliseconds.	Yes
Inter Digit Timing	Detail & Timing	int (50-500) Default: 100	DTMF inter-digit duration, in milliseconds.	Yes
Pulse Timing	Detail & Timing	int (10-20) Default: 20	Pulse dialing rate, in pulses per second.	Yes
Pulse Digit Timing	Detail & Timing	int (10-20) Default: 20	Pulse digit signal duration, in milliseconds.	Yes
Pulse Inter-digit Timing	Detail & Timing	int (10-1000) Default: 500	Pulse dialing inter-digit duration, in milliseconds.	Yes
Wink Duration Timing	Detail & Timing	int (100-400) Default: 200	Maximum wink signal duration, in milliseconds, for a wink-start signal.	Yes
Wink Wait Timing	Detail & Timing	int (100-5000) Default: 200	Maximum wink wait duration, in milliseconds, for a wink-start signal.	Yes
Music Threshold	Detail & VAD	int (-70 to -30) Default: -38	Minimum decibel level of music played when calls are put on hold.	Yes
Comfort Noise	Detail & VAD	enum {enable, disable} Default: enable	Enable comfort noise creates background noise to fill silent gaps during the calls when VAD is enabled on voice dial peers.	Yes
Playout Delay Mode	Detail & Voice Quality	enum {adaptive, fixed} Default: adaptive	Mode in which the jitter buffer will operate for calls on this voice port.	Yes
Playout Nominal Delay	Detail & Voice Quality	int (0-250) Default: 10	Amount of playout delay, in milliseconds, applied at the beginning of a call by the jitter buffer in the gateway.	Yes

Table 2-14 Common Voice Port Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Playout Maximum Delay	Detail & Voice Quality	int (0-250) Default: 80	The jitter buffer upper limit or highest value to which the adaptive delay is set.	Yes
Playout Minimum Delay	Detail & Voice Quality	enum {default, low, high} Default: default	The jitter buffer lower limit or lowest value to which the adaptive delay is set.	Yes
Echo Cancellation	Detail & Voice Quality	enum {enable, disable} Default: enable	The cancellation of voice that is sent and received on the same interface.	Yes
Echo Cancellation Coverage	Detail & Voice Quality	enum {8, 16, 24, 32} Default: 16	Adjust the echo cancellation by this number.	Yes
Nonlinear Processing	Detail & Voice Quality	enum {enable, disable} Default: enable	Enable nonlinear processing in the echo canceller which shuts off any signal if no near-end speech is detected.	Yes
Input Gain	Detail & Voice Quality	int (-6 to 14) Default:0	The amount of gain, in decibels, to be inserted at the receiver side of the interface, increasing or decreasing the signal.	Yes
Output Attenuation	Detail & Voice Quality	int (-6 to 14) Default:0	The amount of attenuation, in decibels, at the transmit side of the interface, decreasing the signal.	Yes
Impedance	Detail & Voice Quality	enum {600c, 600r, 900c, complex1, complex2} Default: 600r	The terminating impedance of a voice port interface, which must match the specifications from the specific telephony system to which it is connected.	Yes

Voice Port - E1 R2 Parameters

Table 2-15 E1 R2 Voice Port Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Signaling Type	Basic & General	enum {E&M FGB, E&M FGD, E&M Immediate Start, FXS Ground Start, FXS Loop Start, R2 Analog, R2 Digital, and R2 Pulse} Default: E&M FGB	The type of CAS signaling.	No
DNIS Address Info	Basic & General	enum {enable, disable} Default: enable	DNIS address information.	No
Minimum ANI Digits	Detail & CAS Custom	int (0-64) Default: 0	Minimum number of collected ANI digits.	Yes
Maximum ANI Digits	Detail & CAS Custom	int (0-64) Default: 0	Maximum number of collected ANI digits.	Yes
Answer Signal Group	Detail & CAS Custom	enum {Group A, Group B} Default: Group B	Answer Signal Group.	Yes
Answer Signal Number	Detail & CAS Custom	int (1-15) Default: 6	Answer Signal number.	Yes
Caller Digits	Detail & CAS Custom	int (1-10) Default: 1	Number of digits the gateway needs to collect before it requests ANI or CallerID information.	Yes
CAS Custom Category	Detail & CAS Custom	int (1-15) Default: 1	Type of incoming call, which is mapped to a group signal number.	Yes
Country	Detail & CAS Custom	enum {Argentina, Australia, Brazil, Columbia, CostaRica, East Europe, Ecuador ITU, Ecuador LME, Greece, Guatemala, Honkkong China, Indonesia, Israel, ITU, Korea, Malaysia, New Zealand, Paraguay, Peru, Philippines, Saudi Arabia, Singapore, South Africa - PanAfTel, Telmex, Telnor, Thailand, Uruguay, Venezuela, Vietnam} Default: ITU	The local country settings to use with R2 signaling.	Yes
Minimum DNIS Digits	Detail & CAS Custom	int (0-64) Default: 0	Maximum number of collected DNIS digits.	Yes
Maximum DNIS Digits	Detail & CAS Custom	int (0-64) Default: 0	Maximum number of collected DNIS digits.	Yes
Group A Caller-id End	Detail & CAS Custom	enum {enable, disable} Default: disable	Send Group-A Caller ID End.	Yes
KA Signal Code	Detail & CAS Custom	int (0-15) Default: 0	KA signal code.	Yes

Table 2-15 E1 R2 Voice Port Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
KD Signal Code	Detail & CAS Custom	int (0-15) Default: 0	KD signal code.	Yes
Metering	Detail & CAS Custom	enum {Enable, Disable} Default: Disable	Specifies sending a metering pulse when the gateway is making an outgoing call.	Yes
Non Compelled Congestion	Detail & CAS Custom	enum {B4} Default: B4	The noncompelled congestion signal which is sent to the central office when the gateway is congested and cannot accept the call.	Yes
ANI Timeout	Detail & CAS Custom	int (1-15)		Yes
Answer Guard Time	Detail & CAS Custom	int (1-1000)	Answer Guard Timer, in milliseconds.	Yes
Requested DNIS Digits	Detail & CAS Custom	int (1-65) Default: 1	The DNIS Digits to be collected before requesting category.	Yes
Caller Digits	Detail & CAS Custom	int (1-64) Default: 1	Specifies the number of digits the gateway needs to collect before it requests ANI or CallerID information.	Yes
DNIS Complete	Detail & CAS Custom	enum {default, enable, disable}		Yes
Call Guard Timer	Detail & CAS Custom	int (1000-2000) Default: 1000	Guard Timer value, in milliseconds.	Yes
Action on Guard Timer Expiry	Detail & CAS Custom	enum {Accept, Reject} Default: Reject	Action upon expiration of Guard Timer.	Yes
Debounce Time	Detail & CAS Custom	int (10-40) Default: 10	Debounce time, in milliseconds.	Yes
Double Answer	Detail & CAS Custom	enum {Enable, Disable} Default: Disable	Send Double Answer to block connect calls.	Yes
Invert ABCD A Bit	Detail & CAS Custom	enum {default, 0, 1}	Invert the A bits before transmit and after receive.	Yes
Invert ABCD B Bit	Detail & CAS Custom	enum {default, 0, 1}	Invert the B bits before transmit and after receive.	Yes
Invert ABCD C Bit	Detail & CAS Custom	enum {default, 0, 1}	Invert the C bits before transmit and after receive.	Yes
Invert ABCD D Bit	Detail & CAS Custom	enum {default, 0, 1}	Invert the D bits before transmit and after receive.	Yes
Suppress Proceed to Send Signal	Detail & CAS Custom	enum {Enable, Disable} Default: Disable	Suppress proceed-to-send signal for pulse line signaling.	Yes
Reanswer Time	Detail & CAS Custom	int (1000-120000) Default: 1000	Reanswer time, in milliseconds.	Yes

Table 2-15 E1 R2 Voice Port Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Release ACK to Clear Forward	Detail & CAS Custom	enum {Enable, Disable} Default: Disable	Send Release Acknowledgement to Clear Forward.	Yes
Release Guard Time	Detail & CAS Custom	int (1-2000) Default: 1	Released Guard timer, in milliseconds.	Yes
Seizure ACK Time	Detail & CAS Custom	int (2-100) Default: 2	Seizure to acknowledge time, in milliseconds.	Yes
Unused ABCD A Bit	Detail & CAS Custom	enum {default, 0, 1}	Specifies unused ABCD A bit values which can have a 0 or 1 value.	Yes
Unused ABCD B Bit	Detail & CAS Custom	enum {default, 0, 1}	Specifies unused ABCD B bit values which can have a 0 or 1 value.	Yes
Unused ABCD C Bit	Detail & CAS Custom	enum {default, 0, 1}	Specifies unused ABCD C bit values which can have a 0 or 1 value.	Yes
Unused ABCD D Bit	Detail & CAS Custom	enum {default, 0, 1}	Specifies unused ABCD D bit values which can have a 0 or 1 value.	Yes

Voice Port - CAS-E&M Parameters

Table 2-16 CAS-E&M Voice Port Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Signaling Type	Basic & General	enum {E&M FGB, E&M FGD, E&M Immediate Start, EnM FGB DTMF, EnM FGB DTMF DNIS, EnM FGB MF, EnM FGB MF DNIS} Default: E&M FGB	The type of E&M signaling.	No
Auto Cut Through	Basic & EnM	enum {enable, disable} Default: enable	Enables call completion when a PBX does not provide an M-lead response.	Yes
Signal Operation	Basic & EnM	enum {2-wire, 4-wire} Default: 2-wire	Selects a specific cabling scheme for EnM ports.	Yes
Interface Type	Basic & EnM	enum {Type I, Type II, Type III, Type V} Default: Type I	Specifies the EnM interface for a particular voice port.	Yes
ANI Type	Basic & EnM		Specifies ANI to be sent out when the T1-CAS signaling type is E&M-FGD.	Yes

Table 2-16 CAS-E&M Voice Port Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Rx A Bit Condition	Basic & EnM	enum {Invert, Off, On}	Specifies the condition of the Receive A Bit.	Yes
Rx B Bit Condition	Basic & EnM	enum {Invert, Off, On}	Specifies the condition of the Receive B Bit.	Yes
Rx C Bit Condition	Basic & EnM	enum {Invert, Off, On}	Specifies the condition of the Receive C Bit.	Yes
Rx D Bit Condition	Basic & EnM	enum {Invert, Off, On}	Specifies the condition of the Receive D Bit.	Yes
Tx A Bit Condition	Basic & EnM	enum {Invert, Off, On}	Specifies the condition of the Transmit A Bit.	Yes
Tx B Bit Condition	Basic & EnM	enum {Invert, Off, On}	Specifies the condition of the Transmit B Bit.	Yes
Tx C Bit Condition	Basic & EnM	enum {Invert, Off, On}	Specifies the condition of the Transmit C Bit.	Yes
Tx D Bit Condition	Basic & EnM	enum {Invert, Off, On}	Specifies the condition of the Transmit D Bit.	Yes
Transmit Idle Bit Pattern	Basic & EnM	enum {0000, 0001, 0010, 0011, 0100, 0101, 0111, 1000, 1001, 1010, 1011, 1100, 1101, 1111} Default:T1 - 0000, E1 - 0001	Specifies the bit pattern applies to the transmit signaling bits for the idle state.	Yes
Transmit Seize Bit Pattern	Basic & EnM	enum {0000, 0001, 0010, 0011, 0100, 0101, 0111, 1000, 1001, 1010, 1011, 1100, 1101, 1111} Default:1111	Specifies the bit pattern applies to the transmit signaling bits for the seized state.	Yes
Receive Idle Bit Pattern	Basic & EnM	enum {0000, 0001, 0010, 0011, 0100, 0101, 0111, 1000, 1001, 1010, 1011, 1100, 1101, 1111} Default:0000	Specifies the bit pattern applies to the receive signaling bits for the idle state.	Yes
Receive Seize Bit Pattern	Basic & EnM	enum {0000, 0001, 0010, 0011, 0100, 0101, 0111, 1000, 1001, 1010, 1011, 1100, 1101, 1111} Default:1111	Specifies the bit pattern applies to the receive signaling bits for the seized state.	Yes
Ignore Rx A Bit	Basic & EnM	enum {YES, NO} Default: NO		Yes
Ignore Rx B Bit	Basic & EnM	enum {YES, NO} Default: NO		Yes

Voice Port - ISDN Parameters

Table 2-17 ISDN Voice Port Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
NFAS D-Channel Role	Basic & ISDN	enum {none, primary, backup}	The operation of the D-Channel timeslot.	No
NFAS Interface Id	Basic & ISDN	int (0-8)	Provisioned NFAS interface value.	No
NFAS Group Id	Basic & ISDN	int (0-31)	Provisioned NFAS group value.	No
ISDN Switch Type	Basic & ISDN	enum {Primary 4ESS switch, Primary 5ESS switch, NorTel DMS-100, NETS, National ISDN, NTT, QSIG} Default: National ISDN	ISDN Interface switch type.	No
ISDN Protocol Emulation	Basic & ISDN	enum {Network, User} Default: User	Protocol (L2/L3) emulation network/user side.	No
ISDN Incoming Voice	Basic & ISDN	enum {data, modem} Default: data	Options for incoming calls.	No
ISDN Outgoing Voice	Basic & ISDN	enum {3.1 KHz-audio, speech}	Information transfer capability for voice calls.	No
ISDN BChannel Negotiate	Basic & ISDN	enum {disable, enable, enable-resend-setup} Default: disable	Enables the router to accept a B channel that is different from the B channel requested in the outgoing call setup message.	No
ISDN Send Alerting	Basic & ISDN	enum {disable, enable} Default: disable	Specifies that an Alerting message be sent before a Connect message when making ISDN calls.	No
ISDN Sending Complete	Basic & ISDN	enum {disable, enable} Default: disable	Specifies that the Sending Complete information element (IE) is included in the outgoing Setup message.	No
ISDN BChan Number Order	Basic & ISDN	enum {Ascending, Descending} Default: Descending		No
ISDN T310 Timer	Basic & ISDN	int (1-400000)	Number of milliseconds the router waits before disconnecting a call after receiving a Call Proceeding message.	No
ISDN TEI Negotiation	Basic & ISDN	enum {default, first-call, powerup}		No
ISDN Address Map: Address	Basic & ISDN	string	ISDN address to map.	No

Table 2-17 ISDN Voice Port Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
ISDN Address Map: Plan	Basic & ISDN	enum {Data, ISDN, National, Reserved extension, Reserved value 10, Reserved value 11, Reserved value 12, Reserved value 13, Reserved value 14, Reserved value 2, Reserved value 5, Reserved value 6, Reserved value, TELEX, Unknown}		No
ISDN Address Map: Type	Basic & ISDN	enum {Abbreviated, International, National, Network, Reserved, Reserved value 5, Subscriber, Unknown}		No

Voice Port - SS7 Parameters

Table 2-18 SS7 Voice Port Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
RLM Group Number	Basic & ISDN	int	RLM Group Number for this PRI.	No
SS7Path on SC2200	Basic & General	enum {consisting of the SS7 paths currently configured}	Specifies the SS7Path to be used as the source service for this PRI.	No
CIC Range	Basic & General	string	Specifies the range of CICs to be used for this PRI. The range is separated by ";" or "-".	No
Trunk Number Range	Basic & General	string	Specifies the range of trunk numbers to be used for this PRI. The range is separated by ";" or "-".	No

NTP Parameters

NTP - Client Poll or Peer Poll Parameters

Table 2-19 NTP Client Poll or Peer Poll Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Server IPAddress	Basic & GW	string (IPAddress)	The IP address of the server providing the clock synchronization.	No
NTP Version	Basic & General	enum {1-3} Default: 3	NTP protocol version number.	No
Authentication Key	Basic & General	int	Authentication key.	No
Source Interface	Basic & General	enum {all interfaces on router} For Operations on Zone and Region: enum {Any Ethernet, Any FastEthernet, Any Ethernet or FastEthernet}	Interface from which to pick up the IP source address.	No
Prefer	Basic & General	enum {enabled, disabled}	Prefer this peer when possible.	Yes
Access Group Table - Access Group Mode	Detail & General	enum {queryOnly, serverOnly, server, peer}	Access control to the NTP services.	Yes
Access Group Table - Access List	Detail & General	int (1- 99)	Number of a standard IP access list.	Yes
Authentication Table - Authentication Key	Detail & General	int (0-4294967295000)	Authentication key number.	Yes
Authentication Table - MD5 Key	Detail & General	integer	MD5 key value.	Yes
Authentication Table - Authentication Type	Detail & General	integer	Authentication type.	Yes
Trust Key	Detail & General	list of integers	Key number of the authentication key to be trusted.	Yes
Update Calendar	Basic & General	enum {enable, disable}	Update the software calendar or not.	Yes

NTP - Client Broadcast Parameters

Table 2-20 NTP Client Broadcast Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Source Interface	Basic & General	enum {all interfaces on router}	The interface from which to pick up the IP source address.	No
Broadcast Delay	Basic & General	int (0-999999) Default: 3000	Round-trip time for NTP broadcasts.	Yes
Access Group Table - Access Group Mode	Detail & General	enum {queryOnly, serverOnly, server, peer}	Access control to the NTP services.	Yes
Access Group Table - Access List	Detail & General	int (1- 99)	Number of a standard IP access list.	Yes
Authentication Table - Authentication Key	Detail & General	int (0-4294967295000)	Authentication key number.	Yes
Authentication Table - MD5 Key	Detail & General	integer	MD5 key value.	Yes
Authentication Table - Authentication Type	Detail & General	integer	Authentication type.	Yes
Trust Key	Detail & General	list of integers	Key number of the authentication key to be trusted.	Yes
Update Calendar	Basic & General	enum {enable, disable}	Update the software calendar or not.	Yes

NTP - Server Broadcast Parameters

Table 2-21 NTP Server Broadcast Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Server Broadcast Table - NTP Version	Basic & General	enum {1-3} Default: 3	NTP protocol version number.	Yes
Server Broadcast Table - Server Broadcast Key	Basic & General	integer	Broadcast authentication key.	Yes
Server Broadcast Table - Destination IP Address	Basic & General	string (IPAddress)	Destination broadcast IP address.	Yes
Source Interface	Basic & General	enum {all interfaces on router} For Operations on Zone and region: enum {Any Ethernet, Any FastEthernet, Any Ethernet or FastEthernet}	Interface from which to pick up the IP source address.	No

Table 2-21 NTP Server Broadcast Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Broadcast Delay	Basic & General	int (0-999999) Default: 3000	Round-trip time for NTP broadcasts.	Yes
Access Group Table - Access Group Mode	Detail & General	enum {queryOnly, serverOnly, server, peer}	Access control to the NTP services.	Yes
Access Group Table - Access List	Detail & General	int (1- 99)	Number of a standard IP access list.	Yes
Authentication Table - Authentication Key	Detail & General	int (0-4294967295000)	Authentication key number.	Yes
Authentication Table - MD5 Key	Detail & General	integer	MD5 key value.	Yes
Authentication Table - Authentication Type	Detail & General	integer	Authentication type.	Yes
Trust Key	Basic & General	list of integers	Key number of the authentication key to be trusted.	Yes
Update Calendar	Basic & General	enum {enable, disable} Default: disable	Update the software calendar or not.	Yes

NTP - Server Parameters

Table 2-22 NTP Server Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Access Group Table - Access Group Mode	Detail & General	enum {queryOnly, serverOnly, server, peer}	Access control to the NTP services.	Yes
Access Group Table - Access List	Detail & General	int (1- 99)	Number of a standard IP access list.	Yes
Authentication Table - Authentication Key	Detail & General	int (0-4294967295000)	Authentication key number.	Yes
Authentication Table - MD5 Key	Detail & General	integer	MD5 key value.	Yes
Authentication Table - Authentication Type	Detail & General	integer	Authentication type.	Yes
Trust Key	Basic & General	int	Key number of the authentication key to be trusted.	Yes
NTP Stratum	Basic & General	int (0-15)	NTP stratum number.	Yes
Update Calendar	Basic & General	enum {enable, disable} Default: disable	Update the software calendar or not.	Yes

Security Server Group Parameters

Security Server Group - RADIUS Parameters

Table 2-23 Security Server Group - RADIUS Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
RADIUS Hosts - HostName	Basic & General	string	Hostid/IP address of the remote RADIUS server host.	No
RADIUS Hosts - Authentication Port	Basic & General	integer	UDP port on the RADIUS server to be used solely for authentication.	No
RADIUS Hosts - Accounting Port	Basic & General	integer	UDP port on the RADIUS server to be used solely for accounting.	No
RADIUS Hosts - Timeout	Basic & General	int (1-1000)	The number of seconds a router waits for a reply to a RADIUS request before retransmitting the request.	No
RADIUS Hosts - RetransmitRetries	Basic & General	int (1-1000) Default: 3	The number of times the router transmits each RADIUS request to the server before giving up.	No
RADIUS Hosts - KeyType	Basic & General	enum {unencrypted, encrypted, none}	Use the unencrypted option to configure an unencrypted shared secret. Use the encrypted option to configure an encrypted shared secret.	No
RADIUS Hosts - Key	Basic & General	string	The shared secret text string used between the router and a RADIUS server.	No
RADIUS Server Group Deadtime	Basic & General	integer	The deadtime value, in minutes.	Yes

Security Server Group - TACACS+ Parameters

Table 2-24 Security Server Group - TACACS+ Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
TACACS+ Hosts - HostName	Basic & General	string	Hostid/IP address of the remote RADIUS server host.	No
TACACS+ Hosts - Timeout	Basic & General	int (1-1000)	The number of seconds a router waits for a reply to a RADIUS request before retransmitting the request.	No
TACACS+ Hosts - Key	Basic & General	string	The shared secret text string used between the router and a RADIUS server.	No

Security Server End Point Parameters

Security Server End Point - RADIUS Parameters

Table 2-25 Security Server End Point - RADIUS Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
RADIUS Hosts - HostName	Basic & General	string	Hostid/IP address of the remote RADIUS server host.	No
RADIUS Hosts - Authentication Port	Basic & General	integer	UDP port on the RADIUS server to be used solely for authentication.	No
RADIUS Hosts - Accounting Port	Basic & General	integer	UDP port on the RADIUS server to be used solely for accounting.	No
RADIUS Hosts - Timeout	Basic & General	int (1-1000)	The number of seconds a router waits for a reply to a RADIUS request before retransmitting the request.	No
RADIUS Hosts - RetransmitRetries	Basic & General	int (1-1000) Default: 3	The number of times the router transmits each RADIUS request to the server before giving up.	No
RADIUS Hosts - KeyType	Basic & General	enum {unencrypted, encrypted, none }	Use the unencrypted option to configure an unencrypted shared secret. Use the encrypted option to configure an encrypted shared secret.	No
RADIUS Hosts - Key	Basic & General	string	The shared secret text string used between the router and a RADIUS server.	No
RADIUS Server Group Deadtime	Basic & General	integer	The deadtime value, in minutes.	Yes

Security Server End Point - TACACS+ Parameters

Table 2-26 Security Server End Point - TACACS+ Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
TACACS+ Hosts - HostName	Basic & General	string	Hostid/IP address of the remote RADIUS server host.	No
TACACS+ Hosts - Timeout	Basic & General	int (1-1000)	The number of seconds a router waits for a reply to a RADIUS request before retransmitting the request.	No
TACACS+ Hosts - Key	Basic & General	string	The shared secret text string used between the router and a RADIUS server.	No

AAA Parameters

AAA - Login Authentication Parameters

Table 2-27 AAA - Login Authentication Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Login Authentication Method List Name	Basic & Authentication	string	A local authentication list.	No
Login Authentication Methods	Basic & Authentication	list {all RADIUS Server Groups configured on the router, RADIUS, enable, line, local, local-case, none}		No
Login Authentication Password Prompt	Basic & Authentication	string	The default text displayed when a user is prompted to enter a password.	Yes
Authentication Banner	Basic & Authentication	string	Personalized login banner.	Yes
Authentication Fail Banner	Basic & Authentication	string	Personalized authentication fail message.	Yes

AAA - Authorization Parameters

Table 2-28 AAA - Authorization Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Authorization Method List Name	Basic & Authorization	string		No
Authorization Type	Basic & Authorization	enum {Network, Auth-proxy, Commands, EXEC, Network, Reverse Access, Configuration, IP Mobile} Default: Network		No
Command Level	Basic & Authorization	int (1-12)	If the Authorization Type is Commands , a Command Level value must be specified.	No
Authorization Methods	Basic & Authorization	list {all RADIUS Server Groups configured on the router, RADIUS, enable, line, local, local-case, none}		No

AAA - Accounting Parameters

Table 2-29 AAA - Accounting Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Accounting Method List Name	Basic & Accounting	string		No
Accounting Type	Basic & Accounting	seqof {Network, Commands, Connection, EXEC, Resource, System} Default: Network		No
Accounting Methods	Basic & Accounting	list {all RADIUS Server Groups configured on the router, RADIUS}		No
Accounting Record Type	Basic & Accounting	enum {start-stop, stop-only, none} Default: stop-only	For minimal accounting, use stop-only , which instructs the specified method (RADIUS or TACACS+) to send a stop record accounting notice at the end of the requested user process. For more accounting information, use start-stop to send a start accounting notice at the beginning of the requested event and a stop accounting notice at the end of the event. To stop all accounting activities on this line or interface, use none .	No
Broadcast Mode	Basic & Accounting	enum {enable, disable} Default: disable		No

Interface Parameters

Interface - Ethernet Parameters

Table 2-30 Ethernet Interface Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Interface Id	Basic & Common	integer	Interface ID.	No
In Hold Q Length	Basic & Common	int (0-4096)	Maximum number of packets allowed in the In Hold queue.	Yes
Out Hold Q Length	Basic & Common	int (0-4096)	Maximum number of packets allowed in the Out Hold queue.	Yes

Table 2-30 Ethernet Interface Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Bandwidth	Basic & Common	int (1-10000000)	Bandwidth value, in kilobytes.	Yes
Delay	Basic & Common	int (1-16777215)	Delay value for the interface.	Yes
Keepalive Timer	Basic & Common	int (0-32767)	Adjusts the frequency that Cisco IOS sends messages to itself (Ethernet and Token Ring) or to the other end (HDLC-serial and PPP-serial links) to ensure that a network interface is alive for a specified interface.	Yes
IP Address	Basic & LAN	string	IP address for this interface.	Yes
Subnet Mask	Basic & LAN	string	Subnet mask for this interface.	Yes
Media Type	Basic & LAN	enum {AUI, 10baseT} Default: AUI	Physical connection on the interface.	Yes
Squelch	Basic & LAN	enum {Normal, Reduced} Default: Normal	Specifies whether to extend the Ethernet twisted-pair 10BASE-T capability beyond the standard 100 meters.	Yes

Interface - Fast-Ethernet Parameters

Table 2-31 Fast Ethernet Interface Parameters

Parameter	Category	Values	Description	Modifiable on Router?
Interface ID	Basic & Common	integer	Interface ID.	No
In Hold Q Length	Basic & Common	int (0-4096)	Maximum number of packets allowed in the in hold queue.	Yes
Out Hold Q Length	Basic & Common	int (0-4096)	Maximum number of packets allowed in the out hold queue.	Yes
Bandwidth	Basic & Common	int (1-10000000)	Bandwidth value, in kilobytes.	Yes
Delay	Basic & Common	int (1-16777215)	Delay value for the interface.	Yes
Keepalive Timer	Basic & Common	int (0-32767)	Adjusts the frequency that Cisco IOS sends messages to itself (Ethernet and Token Ring) or to the other end (HDLC-serial and PPP-serial links) to ensure that a network interface is alive for a specified interface.	Yes
MTU	Basic & Common	integer	Adjusts the maximum packet size or MTU size, in bytes.	Yes

Table 2-31 Fast Ethernet Interface Parameters (continued)

Parameter	Category	Values	Description	Modifiable on Router?
IP Address	Basic & LAN	string (IPAddress)	IP address for this interface.	No
Subnet Mask	Basic & LAN	string (IPAddress)	Subnet mask for this interface.	No
Media Type	Basic & LAN	enum {100baseX, MII (Media Independent Interface) 5800: enum {MII} Default: MII}	Physical connection on the interface.	Yes
Duplex	Basic & LAN	enum {auto, full, half} Default: half	Duplex operation on the interface.	Yes
Speed	Basic & LAN	enum {10, 100, auto} Default: 100	Speed of a Fast Ethernet interface.	Yes

Interface - Gigabit-Ethernet Parameters

Table 2-32 Gigabit Ethernet Interface Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Interface Id	Basic & Common	integer	Interface ID.	No
In Hold Q Length	Basic & Common	int (0-4096)	Maximum number of packets allowed in the In Hold queue.	Yes
Out Hold Q Length	Basic & Common	int (0-4096)	Maximum number of packets allowed in the Out Hold queue.	Yes
Bandwidth	Basic & Common	int (1-10000000)	Bandwidth value, in kilobytes.	Yes
Delay	Basic & Common	int (1-16777215)	Delay value for the interface.	Yes
Keepalive Timer	Basic & Common	int (0-32767)	Adjusts the frequency that Cisco IOS sends messages to itself (Ethernet and Token Ring) or to the other end (HDLC-serial and PPP-serial links) to ensure that a network interface is alive for a specified interface.	Yes
MTU	Basic & Common	integer	Adjusts the maximum packet size or MTU size, in bytes.	No
IP Address	Basic & LAN	string	IP address for this interface.	No
Subnet Mask	Basic & LAN	string	Subnet mask for this interface.	No

Table 2-32 Gigabit Ethernet Interface Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Media Type	Basic & LAN	enum {AUI, 10baset, 100baset, and Media Independent Interface (MII)} Default: AUI	Physical connection on the interface.	Yes
Duplex	Basic & LAN	enum {auto, full, half} Default: half	Duplex operation on the interface.	Yes

Interface - Loopback Parameters

Table 2-33 Loopback Interface Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Interface Id	Basic & Common	integer	Interface ID.	No
In Hold Q Length	Basic & Common	int (0-4096)	Maximum number of packets allowed in the In Hold queue.	Yes
Out Hold Q Length	Basic & Common	int (0-4096)	Maximum number of packets allowed in the Out Hold queue.	Yes
Bandwidth	Basic & Common	int (1-10000000)	Bandwidth value, in kilobytes.	Yes
Delay	Basic & Common	int (1-16777215)	Delay value for the interface.	Yes
Keepalive Timer	Basic & Common	int (0-32767)	Adjusts the frequency that Cisco IOS sends messages to itself (Ethernet and Token Ring) or to the other end (HDLC-serial and PPP-serial links) to ensure that a network interface is alive for a specified interface.	Yes
IP Address	Basic & LAN	string	IP address for this interface.	No
Subnet Mask	Basic & LAN	string	Subnet mask for this interface.	No

H.323 Voice Class Parameters

Table 2-34 H.323 Voice Class

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
H323 Voice Class ID	Basic & Common	int (1-10000)	H.323 Voice Class ID.	No
H225 Setup Timeout	Basic & Common	int (0-30)	H225 SETUP timeout value, in seconds.	Yes
H225 TCP Establish Timeout	Basic & Common	int (0-30)	H225 TCP connection timeout value, in seconds.	Yes
H323 Call Start	Basic & Common	enum {Fast-Start, Slow-Start} Default: Fast-Start	Global setting for H.323 Call Start procedures.	Yes
Gateway Accounting	Basic & Common	enum {H323, H323-VSA, VoIP, Syslog}	Type of VoIP gateway accounting.	Yes

IVR/Voice XML Application Parameters

Table 2-35 IVR/Voice XML Application Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
IVR Application Name	Basic & Common	string	Name of the application.	No
Location	Basic & Common	string (valid prefix - tftp:// and http://)	Location of the TCL file, in URL format.	Yes
Pin Length	Basic & Common	int (0-10)	Number of characters in the PIN for the designated application.	Yes
Retry Count	Basic & Common	int (1-5)	Number of times a caller is permitted to reenter the PIN for a designated application.	Yes
UID Length	Basic & Common	int (1-20)	Number of characters in the UID for the designated application and passes this information to the application.	Yes
Redirect Number	Basic & Common	string	Telephone number to which a call will be redirected (for example, the operator telephone number of the service provider) for the designated application.	Yes
Warning Time	Basic & Common	int (10-600)	Length of the warning period, in seconds, before the allowed calling time runs out.	Yes
IVR Application - tag	Basic & Common	int (0-9)		Yes

Table 2-35 IVR/Voice XML Application Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
IVR Application - Language	Basic & Common	enum {English, Spanish, Mandarin, All}	Language of the audio file for the designated application and passes this information to the application.	Yes
IVR Application - Category	Basic & Common	int (0-4)	Category for the audio files for this location.	Yes
IVR Application - Location	Basic & Common	string (prefix - tftp:// or http:// and postfix - /)	Location of the TCL file in URL format. Valid storage locations are TFTP, FTP, and Flash.	Yes

DNIS Map Parameters

DNIS MAP - Internal Mode Parameters

Table 2-36 DNIS Map Parameters - Internal Mode

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
DNIS Map Name	Basic & Common	string	Name of the DNIS Map.	No
DNIS Name URL - DNIS	Basic & Common	string	DNIS name.	Yes
DNIS Name URL - URL	Basic & Common	string (valid prefix: http:// or tftp:// or ftp:// valid postfix: .xml or .vxml)	URL.	Yes

DNIS MAP - External Mode Parameters

Table 2-37 DNIS Map Parameters - External Mode

Parameter	Category	Values	Description	Modifiable on Router?
DNIS Map Name	Basic & Common	string	Name of the DNIS Map.	No
Subcommands File Location	Basic & Common	string (valid prefix: http:// or tftp:// or ftp://)	URL to a file containing subcommands.	Yes

Fax Application Parameters

Fax - On Ramp Parameters

Table 2-38 Fax On Ramp Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Fax Interface	Basic & General	enum {Fax-Mail} For AS5300: enum {Modem, Fax-Mail} Default: Fax-Mail	Interface type.	Yes
Fax Protocol	Basic & General	enum {T.38} For AS5300: enum {Cisco, T.38} Default: T.38	Global default Fax protocol.	Yes
High Speed Redundancy	Basic & General	For AS5300: int (0-2) For AS5350 and 5400: int (0-3) Default: 0	The redundancy for sending redundant T.38 Fax packets in the high-speed V.17, V.27, V.29 T.4, or T.6 Fax machine image data.	Yes
Low Speed Redundancy	Basic & General	For AS5300: int (0-5) For AS5350 and 5400: int (0-7) Default: 0	The redundancy for sending redundant T.38 Fax packets in the low-speed V.21-based T.30 Fax machine protocol.	Yes
Called Subscriber Id	Basic & MTA	string Default: \$d\$	Number (called subscriber ID) that is displayed in the LCD of the sending Fax machine.	Yes
Host Name Sent	Basic & MTA	string	Originator host name of the E-mail Fax message.	Yes
User Name Sent	Basic & MTA	string Default: \$\$	Originator username of the E-mail Fax message.	Yes
Destination Server	Basic & MTA	string	Destination server.	Yes
E-Mail Subject Sent	Basic & MTA	string	Text that appears in the Subject field of the E-mail Fax message.	Yes
Post Master	Basic & MTA	string	The sending address if the evaluated string is blank.	Yes
originPrefix	Basic & MTA	string	Additional identifying information to be prepended to the E-mail header.	Yes
Return Receipt Host Name	Basic & MTA	string	Address where MDNs are sent, if MDNs are requested.	Yes
Return Receipt User Name	Basic & MTA	string	User name where MDNs are sent, if MDNs are requested.	Yes

Fax - Off Ramp Parameters

Table 2-39 Fax Off Ramp Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Fax Interface	Basic & General	For AS5300: enum {Modem, Fax-Mail} For AS5350 and 5400: enum {Fax-Mail} Default: Fax-Mail	Interface type.	Yes
Fax Protocol	Basic & General	For AS5300: enum {Cisco, T.38} For AS5350 and 5400: enum {T.38} Default: T.38	Global default Fax protocol.	Yes
High Speed Redundancy	Basic & General	For AS5300: int (0-2) For AS5350 and 5400: int (0-3) Default: 0	The redundancy for sending redundant T.38 Fax packets in the high-speed V.17, V.27, V.29 T.4, or T.6 Fax machine image data.	Yes
Low Speed Redundancy	Basic & General	For AS5300: int (0-5) For AS5350 and 5400: int (0-7) Default: 0	The redundancy for sending redundant T.38 Fax packets in the low-speed V.21-based T.30 Fax machine protocol.	Yes
Transmitting Subscriber Id	Basic & General	string Default: \$d\$	Number (transmitting subscriber ID) that is displayed in the LCD of the receiving Fax machine.	Yes
Fax Transmission Speed	Basic & General	enum {2400, 4800, 7200, 7600, 12000, 14400}	Maximum Fax speed.	Yes
Receive Aliases	Basic & MTA	Sequence of Aliases	Host name to be used as an alias for the off-ramp Cisco AS5300 universal access server device. Up to ten different aliases can be specified.	Yes
Generate MDN	Basic & MTA	enum {disable, enable} Default: disable	Configures the Cisco AS5300 universal access server to generate an MDN message when requested to do so.	Yes
Maximum Recipients	Basic & MTA	integer	Number of simultaneous SMTP recipients handled by this device. This is intended to limit the number of resources (modems) allocated for Fax transmissions.	Yes
Host Name Sent	Basic & MTA	string	Originator host name of the E-mail Fax message.	Yes
User Name Sent	Basic & MTA	string Default: \$\$s\$	Originator username of the E-mail Fax message.	Yes
Return Receipt Host Name	Basic & MTA	string	Address where MDNs are sent, if MDNs are requested.	Yes

Table 2-39 Fax Off Ramp Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Return Receipt User Name	Basic & MTA	string	User name where MDNs are sent, if MDNs are requested.	Yes
Center Header	Basic & FaxHeader	string	Defines the header information to be displayed in the center position. The keywords and arguments are: \$d\$—destination address. \$s\$—sender address \$p\$—page count. \$t\$—transmission time. string—inserts a personalized text string.	Yes
Right Header	Basic & FaxHeader	string	Defines the header information to be displayed in the right position. The keywords and arguments are: \$d\$—destination address. \$s\$—sender address. \$p\$—page count. \$t\$—transmission time. string—inserts a personalized text string.	Yes
Left Header	Basic & FaxHeader	string	Defines the header information to be displayed in the left position. The keywords and arguments are: \$d\$—destination address. \$s\$—sender address. \$p\$—page count. \$t\$—transmission time. string—inserts a personalized text string.	Yes
Cover Page Comment	Basic & CoverPage	string	Adds personalized text in the title field of the Fax cover sheet.	Yes
Show Detail	Basic & CoverPage	enum {Disable, Enable} Default: Disable	Prints all of the E-mail header information as part of the Fax cover sheet.	Yes
E-Mail Control	Basic & CoverPage	string	Configures the router to defer to the cover page setting in the E-mail header. For example, if the address has a parameter set to “cover=no” or “cover=yes”, it will override the setting for the Fax send coverpage enable command.	Yes

SNMP Parameters

Table 2-40 SNMP Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Server Hosts	Basic & Common	List of IP addresses	IP addresses of the hosts to receive SNMP notifications.	Yes
Notifications Mode	Basic & Common	enum {Default, Informs, Traps}	Mode of notifications.	Yes
SNMP Version	Basic & Common	enum {Default, v1, v2c, v3}	SNMP version number.	Yes
Community String	Basic & Common	string	SNMPv1/v2c community string or SNMPv3 user name.	Yes
Notification Type	Basic & Common	Selection of {Default, AAA, BGP State Change, Call Tracker, Config, DLSW, DNIS, DS0-Busyout, DS1-Loopback, DSP, DSPU Event, Entity, Environmental Monitor, Frame Relay, HSRP, IP Multicast, ISDN, Modem, MSDP, RSRB Event, RSVP Flow Change, RTR, SDLC Event, SDLLC Event, Stun Event, Syslog, TCP Connection, Voice, x25 Event, XGCP}	Types of traps that trigger a notification.	Yes
Server Host UDP Port	Basic & Common	string	Notification host's UDP port number.	Yes
Server Host Trap Source	Basic & Common	enum {Async, Bridge-Group Virtual, CTunnel, Dialer, Ethernet - IEEE 802.3, FastEthernet - IEEE 802.3, Lex, Loopback, Multilink-group, Null, Tunnel, PGM Multicast Host, Virtual Template, and Virtual TokenRing}	Interface for the source address of all traps.	Yes
Trap Source Interface Id	Basic & Common	integer	Interface for the source address of all traps.	Yes
Message Queue Length	Basic & Common	int (1-1000) Default: 10	Message queue length for each notification.	Yes
Server Timeout	Basic & Common	int (1-1000) Default: 30	How often to resend notifications on the retransmission queue.	Yes

HSRP Parameters

Table 2-41 HSRP Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Primary Router's Interface	Basic & General	enum {all interfaces configured on the router}	Primary router's interface to be used for HSRP.	No
Secondary Router's Interface	Basic & General	enum {all interfaces configured on the router}	Secondary router's interface to be used for HSRP.	No
Primary Router Priority	Basic & General	int (1-255)	Sets the Hot Standby priority used in choosing the active router, where 1 denotes the lowest priority and 255 denotes the highest priority.	No
Secondary Router Priority	Basic & General	int (1-255)	Sets the Hot Standby priority used in choosing the active router, where 1 denotes the lowest priority and 255 denotes the highest priority.	No
Primary Authentication String	Detail & Primary	string	Authentication string to be carried in all HSRP messages.	Yes
Secondary Authentication String	Detail & Secondary	string	Authentication string to be carried in all HSRP messages.	Yes
HSRP Preempt Delay	Detail	int (0-3600)	Preemption delay time value after which the Hot Standby router preempts and becomes the active router.	Yes
HSRP Min Preempt Delay	Detail	int (0-3600) Default: 0	Minimum time to wait before preempting.	Yes
HSRP Preempt Sync Delay	Detail	int (0-3600) Default: 0	Minimum time to wait for a synchronization to complete.	Yes
Interface Tracked	Detail	enum {all interfaces configured on the router}	Configures the interface to track other interfaces so that if one of the other interfaces goes down, the Hot Standby priority of the device is lowered.	Yes
Tracked Interface Priority	Basic & General	int (1-255) Default: 10	Configures the priority.	Yes
HSRP Hello Time	Basic & General	int (20-255000) Default: 3000	Time (in msec) between hello packets.	Yes
HSRP Hold Time	Basic & General	int (20-255000) Default: 3000	Hold time (in msec) before other routers declare the active router to be down.	Yes

Access Control List Parameters

ACL - Standard Parameters

Table 2-42 Standard Access Control List Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
ACL Number	Basic & General	int (1-99)	IP Access Control List number.	No
ACL Entries - Mode	Basic & General	enum (deny, permit)	deny —specifies to reject packets. permit —specifies to forward packets.	Yes
ACL Entries - Source Host Id	Basic & General	string	IP address or hostname or keyword any .	Yes
ACL Entries - Source Wildcard	Basic & General	string	Source wild card such as A.B.C.D	Yes
ACL Entries - Protocol	Basic & General	enum {IPv4, IPv6, IP, Authentication Header Protocol (ahp), EIGRP, Encapsulation Security Payload (esp), GRE tunneling, ICMP, IGMP, ipinip, KA9Q NOS compatible IP over IP tunneling (nos), ospf, Payload Compression Protocol (pcp), Protocol Independent Multicast (pim), TCP, UDP}		Yes
ACL Entries - Destination Host ID	Basic & General	string	IP address or hostname or keyword any .	Yes
ACL Entries - Destination Wildcard	Basic & General	string	Destination wild card such as A.B.C.D	Yes
ACL Entries - Precedence	Basic & General	enum {0 - Routine, 1 - Priority, 2 - Immediate, 3 - Flash, 4 - Flash Override, 5 - Critical, 6 - Internet, 7 - Network}		Yes
ACL Entries - TOS	Basic & General	enum {0 - Normal, 1 - Min Monetary Cost, 2 - Max Reliability, 3, 4 - Max Throughput, 5, 6, 7, 8 - Min Delay, 9, 10, 11, 12, 13, 14, 15}	Match packets with specified TOS value.	Yes

Table 2-42 Standard Access Control List Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
ACL Entries - Time Range	Basic & General	string	Time range.	Yes
ACL Entries - Logging	Basic & General	enum (None, Log, Log-input)	Log matches against this entry.	Yes
ACL Entries - Remark	Basic & General	string	Access Control List entry comment.	Yes

ACL - Extended Parameters

Table 2-43 Extended Access Control List Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
ACL Number	Basic & General	int (1-99)	IP Access Control List number.	No
Dynamic List Name	Basic & General	string	Name of a dynamic list.	No
ACL Entries - Timeout	Basic & General	int	Maximum time for the dynamic ACL to exist.	Yes
ACL Entries - Mode	Basic & General	enum (deny, permit)	deny —specifies to reject packets. permit —specifies to forward packets.	Yes
ACL Entries - Source Host ID	Basic & General	string	IP address or hostname or keyword any .	Yes
ACL Entries - Source Wildcard	Basic & General	string	Source wild card such as A.B.C.D	Yes
ACL Entries - Protocol	Basic & General	enum {IPv4, IPv6, IP, Authentication Header Protocol (ahp), EIGRP, Encapsulation Security Payload (esp), GRE tunneling, ICMP, IGMP, ipinip, KA9Q NOS compatible IP over IP tunneling (nos), ospf, Payload Compression Protocol (pcp), Protocol Independent Multicast (pim), TCP, UDP}		Yes
ACL Entries - Destination Host ID	Basic & General	string	IP address or hostname or keyword any .	Yes
ACL Entries - Destination Wildcard	Basic & General	string	Destination wild card such as A.B.C.D	Yes

Table 2-43 Extended Access Control List Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
ACL Entries - Precedence	Basic & General	enum {0 - Routine, 1 - Priority, 2 - Immediate, 3 - Flash, 4 - Flash Override, 5 - Critical, 6 - Internet, 7 - Network }		Yes
ACL Entries - TOS	Basic & General	enum {0 - Normal, 1 - Min Monetary Cost, 2 - Max Reliability, 3, 4 - Max Throughput, 5, 6, 7, 8 - Min Delay, 9, 10, 11, 12, 13, 14, 15 }	Match packets with specified TOS value.	Yes
ACL Entries - Time Range	Basic & General	string	Time range.	Yes
ACL Entries - Logging	Basic & General	enum {None, Log, Log-input }	Log matches against this entry.	Yes
ACL Entries - Remark	Basic & General	string	Access Control List entry comment.	Yes

ACL - Dynamic Parameters

Table 2-44 Dynamic Access Control List Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
ACL Number	Basic & General	int (1-99)	IP Access Control List number.	No
Dynamic List Name	Basic & General		Name of a dynamic list.	No
ACL Entries - Timeout	Basic & General		Maximum time for a dynamic Access Control List to live.	No
ACL Entries - Mode	Basic & General	enum (deny, permit)	deny —specifies to reject packets. permit —specifies to forward packets.	No
ACL Entries - Source Host ID	Basic & General	string	IP address or hostname or keyword any .	No
ACL Entries - Source Wildcard	Basic & General	string	Source wild card such as A.B.C.D	No

Table 2-44 Dynamic Access Control List Parameters (continued)

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
ACL Entries - Protocol	Basic & General	enum {IPv4, IPv6, IP, Authentication Header Protocol (ahp), EIGRP, Encapsulation Security Payload (esp), GRE tunneling, ICMP, IGMP, ipinip, KA9Q NOS compatible IP over IP tunneling (nos), ospf, Payload Compression Protocol (pcp), Protocol Independent Multicast (pim), TCP, UDP}		No
ACL Entries - Destination Host ID	Basic & General	string	IP address or hostname or keyword any .	No
ACL Entries - Destination Wildcard	Basic & General	string	Destination wild card such as A.B.C.D	No
ACL Entries - Precedence	Basic & General	enum {0 - Routine, 1 - Priority, 2 - Immediate, 3 - Flash, 4 - Flash Override, 5 - Critical, 6 - Internet, 7 - Network}		No
ACL Entries - TOS	Basic & General	enum {0 - Normal, 1 - Min Monetary Cost, 2 - Max Reliability, 3, 4 - Max Throughput, 5, 6, 7, 8 - Min Delay, 9, 10, 11, 12, 13, 14, 15}	Match packets with specified TOS value.	No
ACL Entries - Time Range	Basic & General	string	Time range.	No
ACL Entries - Logging	Basic & General	enum {None, Log, Log-input}	Log matches against this entry.	No
ACL Entries - Remark	Basic & General	string	Access Control List entry comment.	No

AAA Voice Class Parameters

Table 2-45 AAA Voice Class Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Voice Class Id	Basic & Common	integer	The Voice Class ID.	No
Authentication Method	Basic & Common	enum of all AAA Authentication Methods configured	Authentication method list name to be used for this voice class.	Yes
Authorization Method	Basic & Common	enum of all AAA Authorization Methods configured	Authorization method list name to be used for this voice class.	Yes
Accounting Method	Basic & Common	enum of all AAA Accounting Methods configured	Accounting method list name to be used for this voice class.	Yes
Accounting Template	Basic & Common	enum of all Call Accounting Templates configured	Accounting template list name to be used for this voice class.	Yes
Suppress Accounting	Basic & Common	enum {disable-inbound, disable-outbound, disable-both, enable}	Enables or disables accounting suppression for inbound, outbound, or both directions.	Yes

Call Accounting Template Parameters

Table 2-46 Call Accounting Template Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Call Accounting Template: Name	Basic & Common	string	The name of the call accounting template.	No
Call Accounting Template: URL	Basic & Common	string	The location of this accounting template. Should start with ftp:// , tftp:// or http:// and end with cdr .	Yes

Voice Parameters Parameters

Table 2-47 Voice Parameters Parameters

Parameter	Category/Parameter Tab	Value	Description	Modifiable on Router?
Signaling Forward	Basic & Common	enum {None, Unconditional}	Global setting for signal forwarding.	Yes
H323 Call Start	Basic & Common	enum {Fast-Start, Slow-Start} Default: Fast-Start	Global setting for H.323 Call Start procedures.	Yes
Gateway Accounting	Basic & Common	list {H323, H3232-VSA, VoIP, Syslog}	Type of VoIP gateway accounting.	Yes
Accounting Method	Basic & Common	enum of all AAA Accounting Methods configured Default: h323	Accounting method used for gateway accounting.	Yes
Call Accounting Template	Basic & Common	enum of all Call Accounting Templates configured	Accounting template used for gateway accounting. Use callhistory-detail to send all voice attributes for accounting.	Yes
Accounting Session Id	Basic & Common	enum {enable, disable}	Overload acct-session-id attribute with voice VSAs.	Yes
H323 Remote Id Resolved	Basic & Common	enum {enable, disable}	Resolve H323-remote-id attribute and send.	Yes
Suppress Accounting	Basic & Common	enum {POTS, VoIP, Both}	Enables or disables accounting for a call leg on POTs or VoIP dial peer.	Yes

