

Connecting innovaphone IP-PBX with BroadCloud SIP Trunk using Mediant™ SBC

Version 7.2



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Notice

This document describes how to connect the innovaphone IP-PBX and BroadCloud SIP Trunk using AudioCodes Mediant E-SBC product series.

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Documentation Feedback

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1 Introduction

This Configuration Note describes how to set up AudioCodes Enterprise Session Border Controller (hereafter, referred to as *E-SBC*) for interworking between BroadCloud's SIP Trunk and the innovaphone IP-PBX environment.

1.1 Intended Audience

The document is intended for engineers, or AudioCodes and BroadCloud Partners who are responsible for installing and configuring BroadCloud's SIP Trunk and innovaphone IP-PBX for enabling VoIP calls using AudioCodes E-SBC.

1.2 About AudioCodes E-SBC Product Series

AudioCodes' family of E-SBC devices enables reliable connectivity and security between the Enterprise's and the service provider's VoIP networks.

The E-SBC provides perimeter defense as a way of protecting Enterprises from malicious VoIP attacks; mediation for allowing the connection of any PBX and/or IP-PBX to any service provider; and Service Assurance for service quality and manageability.

Designed as a cost-effective appliance, the E-SBC is based on field-proven VoIP and network services with a native host processor, allowing the creation of purpose-built multiservice appliances, providing smooth connectivity to cloud services, with integrated quality of service, SLA monitoring, security and manageability. The native implementation of SBC provides a host of additional capabilities that are not possible with standalone SBC appliances such as VoIP mediation, PSTN access survivability, and third-party value-added services applications. This enables Enterprises to utilize the advantages of converged networks and eliminate the need for standalone appliances.

AudioCodes E-SBC is available as an integrated solution running on top of its field-proven Mediant Media Gateway and Multi-Service Business Router platforms, or as a software-only solution for deployment with third-party hardware.

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2 Component Information

2.1 IP-PBX Version

Table 2-1: IP-PBX Version

Vendor	innovaphone
Model	IP411 v.11r2 sr10
Protocol	SIP/UDP
Additional Notes	

2.2 AudioCodes E-SBC Version

Table 2-2: AudioCodes E-SBC Version

SBC Vendor	AudioCodes
Models	▪ Mediant 500 E-SBC ▪ Mediant 800 Gateway & E-SBC ▪ Mediant 1000B Gateway & E-SBC ▪ Mediant 3000 Gateway & E-SBC ▪ Mediant 2600 E-SBC ▪ Mediant 4000 E-SBC ▪ Mediant SW-SBC
Software Version	SIP_F7.20A.001
Protocol	▪ SIP/UDP (to the both BroadCloud SIP Trunk and IP-PBX)
Additional Notes	None

2.3 BroadCloud SIP Trunking Version

Table 2-3: BroadCloud Version

Vendor/Service Provider	BroadCloud
SSW Model/Service	BroadWorks
Software Version	21
Protocol	SIP/UDP
Additional Notes	None

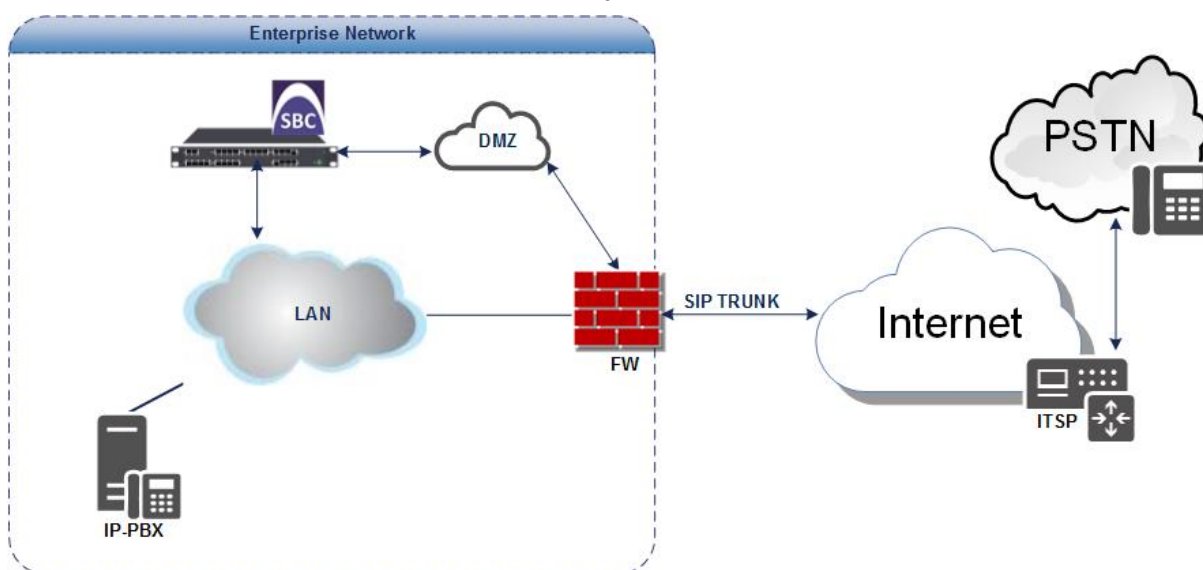
2.4 Interoperability Test Topology

The interoperability testing between AudioCodes E-SBC and BroadCloud SIP Trunk with IP-PBX was done using the following topology setup:

- Enterprise deployed with IP-PBX in its private network for enhanced communication within the Enterprise.
- Enterprise wishes to offer its employees enterprise-voice capabilities and to connect the Enterprise to the PSTN network using BroadCloud's SIP Trunking service.
- AudioCodes E-SBC is implemented to interconnect between the Enterprise LAN and the SIP Trunk.
 - **Session:** Real-time voice session using the IP-based Session Initiation Protocol (SIP).
 - **Border:** IP-to-IP network border between IP-PBX network in the Enterprise LAN and BroadCloud's SIP Trunk located in the public network.

The figure below illustrates this interoperability test topology:

Figure 2-1: Interoperability Test Topology between E-SBC and IP-PBX with BroadCloud SIP Trunk



2.4.1 Environment Setup

The interoperability test topology includes the following environment setup:

Table 2-4: Environment Setup

Area	Setup
Network	▪ IP-PBX is located on the Enterprise's LAN ▪ BroadCloud SIP Trunk is located on the WAN
Signaling Transcoding	▪ IP-PBX operates with SIP-over-UDP transport type ▪ BroadCloud SIP Trunk operates with SIP-over-UDP transport type
Codecs Transcoding	▪ IP-PBX supports G.711A-law, G.711U-law, and G.729 coder ▪ BroadCloud SIP Trunk supports G.711A-law, G.711U-law, and G.729 coder
Media Transcoding	▪ IP-PBX operates with RTP media type ▪ BroadCloud SIP Trunk operates with RTP media type

2.4.2 Known Limitations

There were no limitations observed in the interoperability tests done for the AudioCodes E-SBC interworking between IP-PBX and BroadCloud 's SIP Trunk.

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3 Configuring Unify Innovaphone IP-PBX

This chapter describes how to configure basic parameters of the IP-PBX to operate with the AudioCodes E-SBC.



Note: For more complicated configuration parameters, refer to the *Users Manual* for each IP-PBX.

3.1 Basic Configuration Parameters

The screenshots below show the main parameters which should be configured on the IP-PBX to operate with the AudioCodes E-SBC.

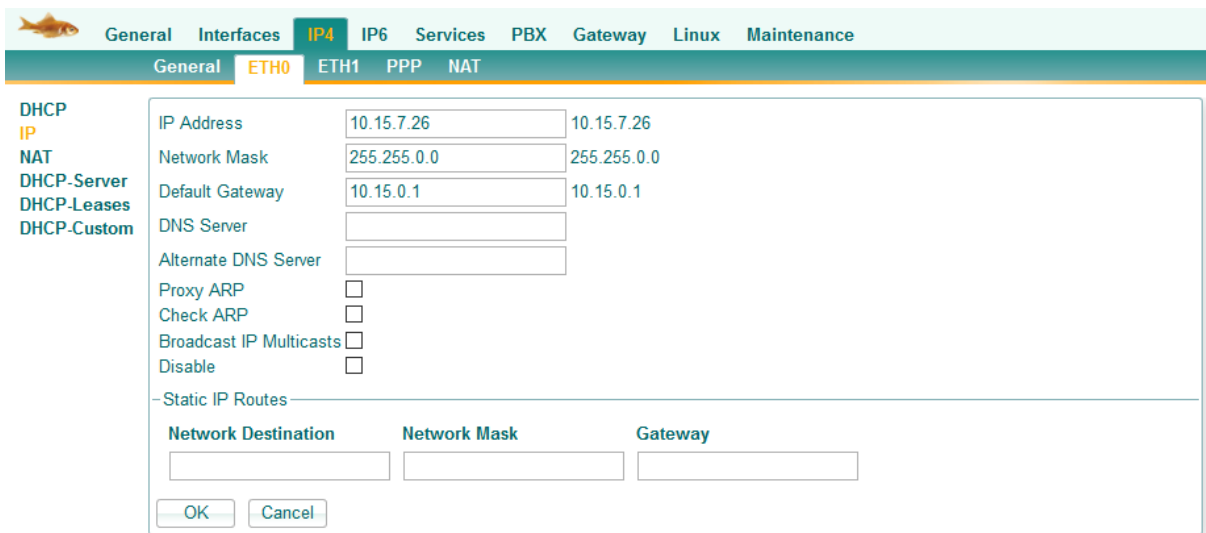
Figure 3-1: innovaphone Interface- IP411 Info

10.15.7.26: innovaphone IP411

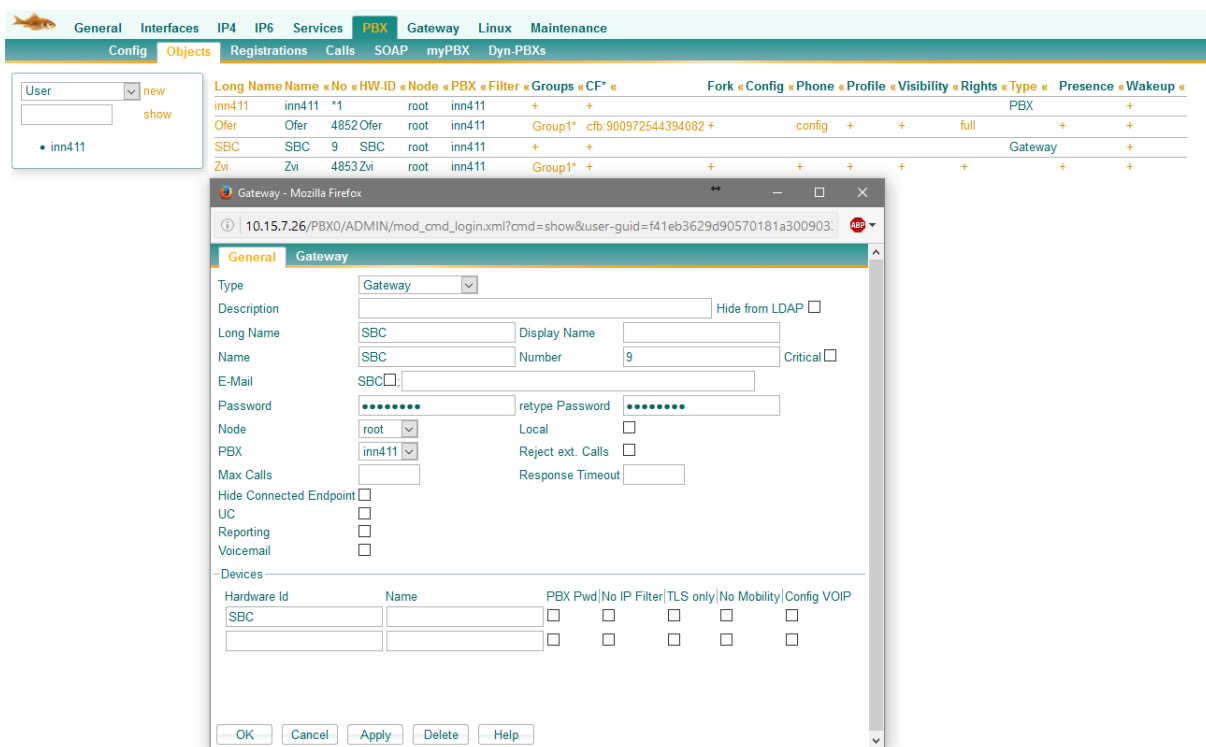
 **General** Interfaces IP4 IP6 Services PBX Gateway Linux Maintenance

Info Admin Flash Disk SSD License Kerberos Certificates

Version	11r2 sr10 IP411[11.3454], Bootcode[113454], Hardware[400]
SerialNo	00903340064c (ab)
DRAM	1024 MB
FLASH	32 MB
Coder	6 Channels of G.711,G.729,G.723
Conference	0 Channels
Fax	1 Channels
HDLC	4 Channels
Sync	-
Power Source	ETH0
Temperature	39.8° Celsius
SNTP Server	10.15.25.1
Time	04.08.2016 13:24
Uptime	1d 22h 3m 25s

Figure 3-2: innovaphone Interface- IP411- ETH0


The screenshot shows the 'General' tab of the 'ETH0' interface configuration. The left sidebar lists options: DHCP, IP, NAT, DHCP-Server, DHCP-Leases, and DHCP-Custom. The main area contains fields for IP Address (10.15.7.26), Network Mask (255.255.0.0), Default Gateway (10.15.0.1), and DNS Server. There are checkboxes for Proxy ARP, Check ARP, Broadcast IP Multicasts, and Disable. Below these is a section for 'Static IP Routes' with columns for Network Destination, Network Mask, and Gateway. At the bottom are 'OK' and 'Cancel' buttons.

Figure 3-3: innovaphone Interface- PBX


The screenshot shows the 'PBX' configuration window. At the top is a table with columns: Long Name, Name, HW-ID, Node, PBX, Filter, Groups, CF*, Fork, Config, Phone, Profile, Visibility, Rights, Type, Presence, and Wakeup. Below this is a 'Gateway' configuration window with fields for Type (Gateway), Description, Long Name (SBC), Name (SBC), E-Mail (SBC), Password, Node (root), PBX (inn411), Max Calls, Hide Connected Endpoint, UC, Reporting, and Voicemail. There is also a 'Devices' section with columns for Hardware Id, Name, PBX Pwd, No IP Filter, TLS only, No Mobility, and Config VOIP. At the bottom are 'OK', 'Cancel', 'Apply', 'Delete', and 'Help' buttons.

Figure 3-4: innovaphone Interface- General

General | User | License | DECT

Type:

Description: Hide from LDAP ☐

Long Name: Display Name:

Name: Number: Critical ☐

E-Mail: ☒

Password: retype Password:

Node: Local: ☐

PBX:

Send Number: URL:

Group Indications:

Config Template:

- Devices -

Hardware Id	Name	PBX Pwd	No IP Filter	TLS only	No Mobility	Config VOIP
Ofer		☐	☐	☐	☐	☐
00903340064c-TEL1		☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐

OK Cancel Apply Delete Help

Figure 3-5: innovaphone Interface- Gateway

10.15.7.26: innovaphone IP411

 General Interfaces IP4 IP6 Services PBX **Gateway** Linux Maintenance

General Interfaces SIP **GK** Routes CDR0 CDR1 Calls

Interface	CGPN-In	CDPN-In	CGPN-Out	CDPN-Out	Alias	Registration	Product
GW1 SBC+			→832562			10.15.7.8	
GW2 +					SBC		
GW3 +							
GW4 +							
GW5 +							
GW6 +							
GW7 +							
GW8 +							
GW9 +							
GW10 +							
GW11 +							
GW12 +							
GW13 +							
GW14 +							
GW15 +							
GW16 +							

GW1 SBC - Mozilla Firefox

10.15.7.26/RELAY0/mod_cmd.xml?cmd=xml-ifs&id=GW1&xml=relay_edit_voip.xml

ABP

Name

Disable ☐

Protocol SIP/UDP

Mode Gateway without Registration

Remote Domain

Local Domain
☐ Filter incoming calls

Proxy

Mask

STUN Server

Local Signaling Port

Authorization

Name

Password Retype

Media Properties

General Coder Preference G711A Framesize [ms] Silence Compression ☐ Exclusive ☐

Local Network Coder G729A Framesize [ms] Silence Compression ☐

Enable T.38 ☒ Audio FAX support ☒ No DTMF Detection ☐ Enable PCM ☐ Media-Relay ☐ Video ☐ No ICE ☒

SRTP Cipher AES128/32 SRTP Key Exchange No encryption

Record to (URL)

SIP Interop Tweaks

Accept INVITE's from Anywhere ☐ (affects registered interfaces only)

Enforce Sending Complete ☐ (affects outgoing SIP calls only)

No Video ☐

No Early Media ☐ (affects outgoing SIP calls only)

No Inband Information on Error ☐ (affects incoming SIP calls only)

No Inband Disconnect ☐ (affects connected SIP calls only)

No Remote Hold Signaling ☐ (affects connected SIP calls only)

Take Refer-To URI as Remote Target URI ☐ (affects handling of REFER)

Figure 3-6: innovaphone Interface- Media Properties

GW2 - Mozilla Firefox

10.15.7.26/RELAY0/mod_cmd.xml?cmd=xml-ifs&id=GW2&xsl=relay_edit_voip.xsl

Name

Disable ☐

Protocol

Mode

Address

Address (alternate)

Gatekeeper Identifier

STUN Server

Local Signaling Port

- Authorization -

Password Retype

- Alias List -

Name	Number
SBC	

- Media Properties -

General Coder Preference Framesize [ms] Silence Compression ☐ Exclusive ☐

Local Network Coder Framesize [ms] Silence Compression ☐

Enable T.38 ☒ Audio FAX support ☒ No DTMF Detection ☐ Enable PCM ☐ Media-Relay ☐ Video ☐ No ICE ☒

SRTP Cipher SRTP Key Exchange

Record to (URL)

- H.323 Interop Tweaks -

No Faststart ☐ No H.245 Tunneling ☐

Suppress HLC ☐ Suppress FTY ☐ Suppress Subaddr ☐

Figure 3-7: innovaphone Interface- Gateway

General Interfaces IP4 IP6 Services PBX Gateway Linux Maintenance

General Interfaces SIP GK Routes CDR0 CDR1 Calls

From	To	Counter	CGPN	Maps
GW1:SBC	832562 → GW2			→
GW2	→ GW1:SBC	b		→

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4 Configuring AudioCodes E-SBC

This chapter provides step-by-step procedures on how to configure the AudioCodes E-SBC for interworking between IP-PBX and the BroadCloud SIP Trunk. These configuration procedures are based on the interoperability test topology described in Section 2.4 on page 10, and includes the following main areas:

- E-SBC WAN interface - BroadCloud SIP Trunking environment
- E-SBC LAN interface - IP-PBX environment

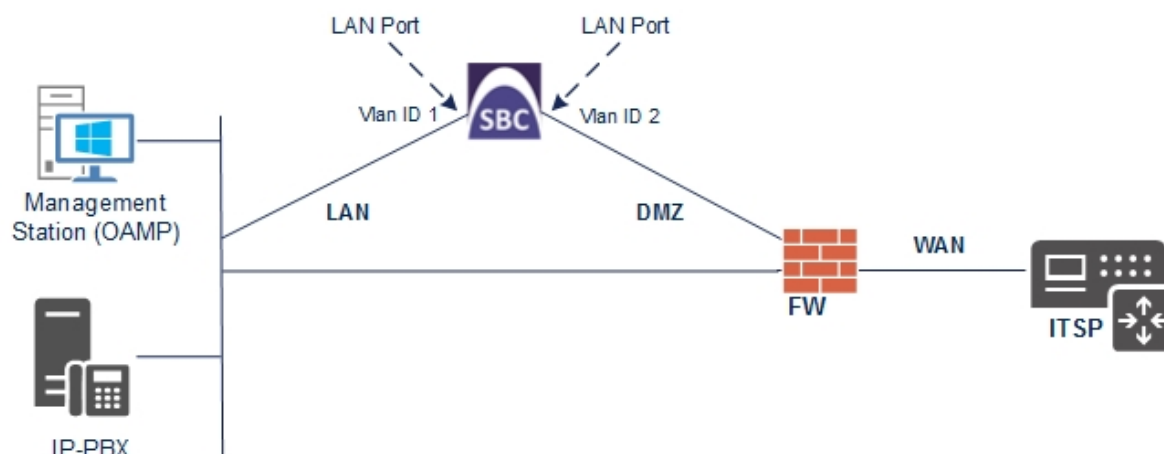
This configuration is done using the E-SBC's embedded Web server (hereafter, referred to as *Web interface*).

4.1 Step 1: IP Network Interfaces Configuration

This step describes how to configure the E-SBC's IP network interfaces. There are several ways to deploy the E-SBC; however, this interoperability test topology employs the following deployment method:

- E-SBC interfaces with the following IP entities:
 - IP-PBX, located on the LAN
 - BroadCloud SIP Trunk, located on the WAN
- E-SBC connects to the WAN through a DMZ network
- Physical connection: The type of physical connection to the LAN depends on the method used to connect to the Enterprise's network. In the interoperability test topology, the E-SBC connects to the LAN and WAN using dedicated LAN ports (i.e., two ports and two network cables are used).
- E-SBC also uses two logical network interfaces:
 - LAN (VLAN ID 1)
 - WAN (VLAN ID 2)

Figure 4-1: Network Interfaces in Interoperability Test Topology



4.1.1 Step 1a: Configure VLANs

This step describes how to define VLANs for each of the following interfaces:

- LAN VoIP (assigned the name "Voice")
- WAN VoIP (assigned the name "WANSP")

➤ **To configure the VLANs:**

1. Open the Ethernet Devices Table page (**Setup** menu > **IP Network** tab > **Core Entities** folder > **Ethernet Devices**).

There will be one existing row for VLAN ID 1 and underlying interface GROUP_1.

2. Add another VLAN ID 2 for the WAN side as follows:

Parameter	Value
Index	1
VLAN ID	2
Underlying Interface	GROUP_2 (Ethernet port group)
Name	vlan 2
Tagging	Untagged

Figure 4-2: Configured VLAN IDs in Ethernet Device Table

Ethernet Devices (2)				
+ New Edit 🗑️ ⏪ ⏩ Page 1 of 1 Show 10 records per page 🔍				
INDEX ↕	VLAN ID	UNDERLYING INTERFACE	NAME	TAGGING
0	1	GROUP_1	vlan 1	Untagged
1	2	GROUP_2	vlan 2	Untagged

4.1.2 Step 1b: Configure Network Interfaces

This step describes how to configure the IP network interfaces for each of the following interfaces:

- LAN VoIP (assigned the name "Voice")
- WAN VoIP (assigned the name "WANSP")

➤ To configure the IP network interfaces:

1. Open the IP Interfaces Table page (**Setup** menu > **IP Network** tab > **Core Entities** folder > **IP Interfaces**).
2. Modify the existing LAN network interface:
 - a. Select the 'Index' radio button of the **OAMP + Media + Control** table row, and then click **Edit**.
 - b. Configure the interface as follows:

Parameter	Value
Application Type	OAMP + Media + Control
IP Address	10.15.7.8 (IP address of E-SBC)
Prefix Length	16 (subnet mask in bits for 255.255.0.0)
Default Gateway	10.15.0.1
Name	Voice (arbitrary descriptive name)
Primary DNS Server IP Address	0.0.0.0
Ethernet Device	vlan 1

3. Add a network interface for the WAN side:

- a. Enter **1**, and then click **Add Index**.
- b. Configure the interface as follows:

Parameter	Value
Application Type	Media + Control
IP Address	195.189.192.156 (WAN IP address)
Prefix Length	25 (for 255.255.255.128)
Default Gateway	195.189.192.129 (router's IP address)
Name	WANSP
Primary DNS Server IP Address	8.8.8.8
Secondary DNS Server IP Address	0.0.0.0
Ethernet Device	vlan 2

4. Click **Apply**, and then **Done**.

The configured IP network interfaces are shown below:

Figure 4-3: Configured Network Interfaces in IP Interfaces Table

IP Interfaces (2)

+ New Edit  << >> Page 1 of 1 Show 10 records per page 

INDEX	NAME	APPLICATION TYPE	INTERFACE MODE	IP ADDRESS	PREFIX LENGTH	DEFAULT GATEWAY	PRIMARY DNS	SECONDARY DNS	ETHERNET DEVICE
0	Voice	OAMP + Media	IPv4 Manual	10.15.7.8	16	0.0.0.0	0.0.0.0	0.0.0.0	vlan 1
1	WANSP	Media + Control	IPv4 Manual	195.189.195.8	25	195.189.195.8	8.8.8.8	0.0.0.0	vlan 2

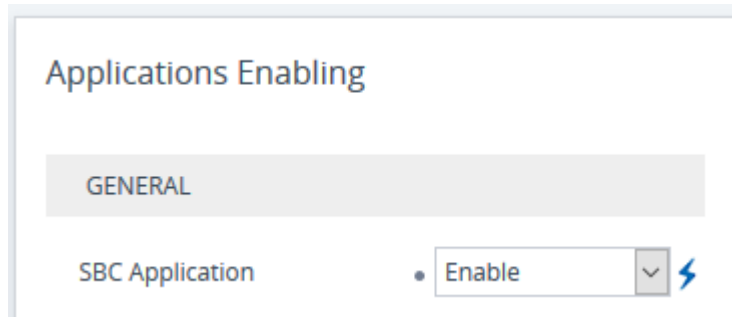
4.2 Step 2: Enable the SBC Application

This step describes how to enable the SBC application.

➤ **To enable the SBC application:**

1. Open the Applications Enabling page (**Setup** menu > **Signaling & Media** tab > **Core Entities** folder > **Applications Enabling**).

Figure 4-4: Enabling SBC Application



2. From the 'SBC Application' drop-down list, select **Enable**.
3. Click **Apply**.
4. Reset the E-SBC with a burn to flash for this setting to take effect (see Section 4.13 on page 48).

4.3 Step 3: Configure Media Realms

This step describes how to configure Media Realms. The simplest configuration is to create two Media Realms - one for internal (LAN) traffic and one for external (WAN) traffic.

➤ **To configure Media Realms:**

1. Open the Media Realm Table page (**Setup** menu > **Signaling & Media** tab > **Core Entities** folder > **Media Realms**).
2. Add a Media Realm for the LAN interface. You can use the default Media Realm (Index 0), but modify it as shown below:

Parameter	Value
Index	0
Name	MRLan (descriptive name)
IPv4 Interface Name	Voice
Port Range Start	6000 (as required by IP-PBX)
Number of Media Session Legs	100 (media sessions assigned with port range)

Figure 4-5: Configuring Media Realm for LAN

Media Realms [MRLan] — x

GENERAL

Index

0

Name

• MRLan

Topology Location

Down

▼

IPv4 Interface Name

• #0 [Voice]

▼

View

Port Range Start

• 6000

Number Of Media Session Legs

100

Port Range End

6999

Default Media Realm

• Yes

▼

QUALITY OF EXPERIENCE

QoE Profile

--

▼

View

Bandwidth Profile

--

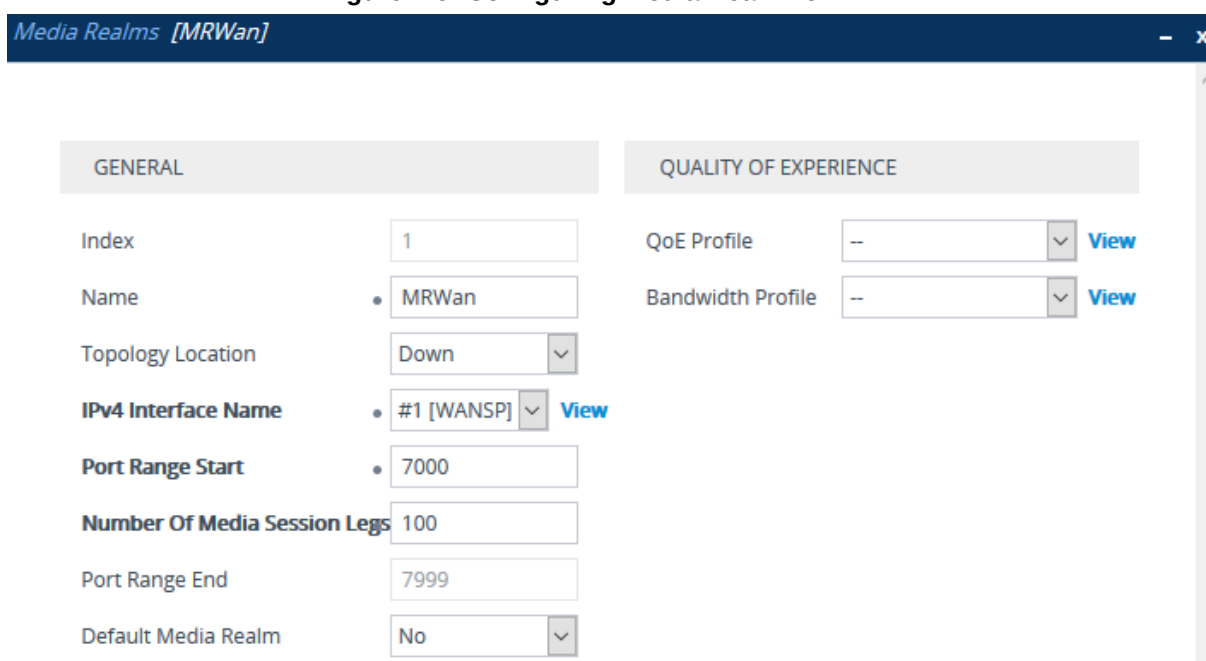
▼

View

3. Configure a Media Realm for WAN traffic:

Parameter	Value
Index	1
Name	MRWan (arbitrary name)
IPv4 Interface Name	WANSP
Port Range Start	7000 (represents lowest UDP port number used for media on WAN)
Number of Media Session Legs	100 (media sessions assigned with port range)

Figure 4-6: Configuring Media Realm for WAN



The configured Media Realms are shown in the figure below:

Figure 4-7: Configured Media Realms in Media Realm Table

Media Realms (2)						
+ New Edit Page 1 of 1 Show 10 records per page						
INDEX	NAME	IPv4 INTERFACE NAME	PORT RANGE START	NUMBER OF MEDIA SESSION LEGS	PORT RANGE END	DEFAULT MEDIA REALM
0	MRLan	Voice	6000	100	6999	Yes
1	MRWan	WANSP	7000	100	7999	No

4.4 Step 4: Configure SIP Signaling Interfaces

This step describes how to configure SIP Interfaces. For the interoperability test topology, an internal and external SIP Interface must be configured for the E-SBC.

➤ **To configure SIP Interfaces:**

1. Open the SIP Interfaces table (**Setup** menu > **Signaling & Media** tab > **Core Entities** folder > **SIP Interfaces**).
2. Add a SIP Interface for the LAN interface. You can use the default SIP Interface (Index 0), but modify it as shown below:

Parameter	Value
Index	0
Name	IP-PBX
Network Interface	Voice
Application Type	SBC
TLS Port	5060
TCP and UDP	0
Media Realm	MRLan

3. Configure a SIP Interface for the WAN:

Parameter	Value
Index	1
Name	BroadCloud
Network Interface	WANSP
Application Type	SBC
UDP Port	5060
TCP and TLS	0
Media Realm	MRWan

The configured SIP Interfaces are shown in the figure below:

Figure 4-8: Configured SIP Interfaces in SIP Interface Table

SIP Interfaces (2)

+ New

Edit

Page 1 of 1

Show 10 records per page

INDEX	NAME	SRD	NETWORK INTERFACE	APPLICATION TYPE	UDP PORT	TCP PORT	TLS PORT	ENCAPSULATION PROTOCOL	MEDIA REALM
0	IP-PBX	Default	Voice	SBC	5060	0	0	No encapsulation	MRLan
1	BroadCloud	Default	WANSP	SBC	5060	0	0	No encapsulation	MRWan

Figure 4-9: Configuring Proxy Set for IP-PBX

Proxy Sets [IP-PBX]

SRD #0 [DefaultSRD]

GENERAL		REDUNDANCY	
Index	0	Redundancy Mode	
Name	• IP-PBX	Proxy Hot Swap	Disab
Gateway IPv4 SIP Interface	-- View	Proxy Load Balancing Method	Disab
SBC IPv4 SIP Interface	• #0 [IP-PBX] View	Min. Active Servers for Load Balancing	1
TLS Context Name	-- View		

KEEP ALIVE

Proxy Keep-Alive • Using OPTIONS

Proxy Keep-Alive Time [sec] 60

Keep-Alive Failure Responses

ADVANCED

Classification Input IP Address only

DNS Resolve Method

Cancel APPLY

3. Configure a Proxy Address Table for Proxy Set for IP-PBX:

a. Go to Proxy Address.

Parameter	Value
Index	0
Proxy Address	10.15.7.26:5060 (IP-PBX IP address / FQDN and destination port)
Transport Type	UDP

Figure 4-10: Configuring Proxy Address for IP-PBX

Proxy Sets [#0] > Proxy Address (1)

+ New Edit

Page 1 of 1 Show 10 records per page

INDEX	PROXY ADDRESS	TRANSPORT TYPE
0	10.15.7.26:5060	UDP

4. Configure a Proxy Set for the BroadCloud SIP Trunk:

Parameter	Value
Index	1
Name	BroadCloud
SBC IPv4 SIP Interface	BroadCloud
Proxy Keep Alive	Using Options

Figure 4-11: Configuring Proxy Set for BroadCloud SIP Trunk

Proxy Sets [BroadCloud]

SRD #0 [DefaultSRD]

GENERAL

REDUNDANCY

Index 1

Name • BroadCloud

Gateway IPv4 SIP Interface -- View

SBC IPv4 SIP Interface • #1 [BroadCloud] View

TLS Context Name -- View

REDUNDANCY

Redundancy Mode

Proxy Hot Swap Disab

Proxy Load Balancing Method Disab

Min. Active Servers for Load Balancing 1

KEEP ALIVE

Proxy Keep-Alive • Using OPTIONS

Proxy Keep-Alive Time [sec] 60

Keep-Alive Failure Responses

ADVANCED

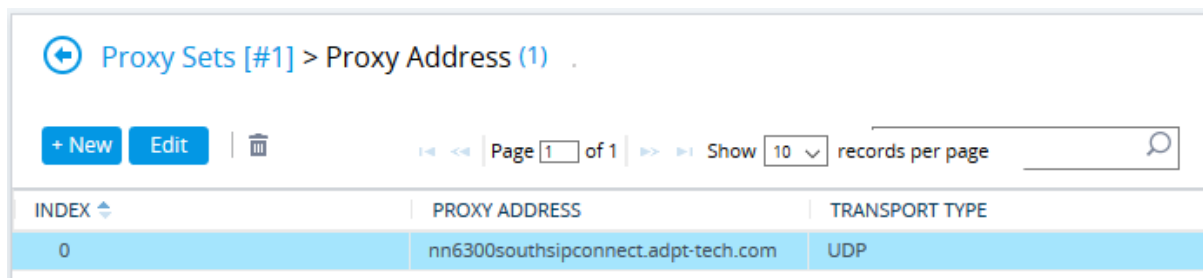
Classification Input IP Address only

DNS Resolve Method SRV

Cancel APPLY

- a. Configure a Proxy Address Table for Proxy Set 1:
b. Go to Proxy Address.

Parameter	Value
Index	0
Proxy Address	nn6300southsipconnect.adpt-tech.com (IP-PBX IP address / FQDN and destination port)
Transport Type	UDP

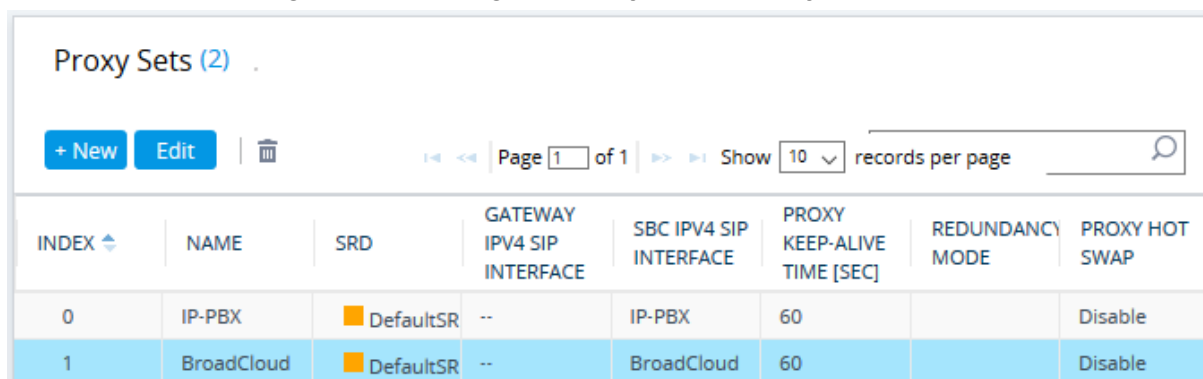
Figure 4-12: Configuring Proxy Address for BroadCloud SIP Trunk


Proxy Sets [#1] > Proxy Address (1)

+ New Edit | Page 1 of 1 | Show 10 records per page

INDEX	PROXY ADDRESS	TRANSPORT TYPE
0	nn6300southsipconnect.adpt-tech.com	UDP

The configured Proxy Sets are shown in the figure below:

Figure 4-13: Configured Proxy Sets in Proxy Sets Table


Proxy Sets (2)

+ New Edit | Page 1 of 1 | Show 10 records per page

INDEX	NAME	SRD	GATEWAY IPV4 SIP INTERFACE	SBC IPV4 SIP INTERFACE	PROXY KEEP-ALIVE TIME [SEC]	REDUNDANCY MODE	PROXY HOT SWAP
0	IP-PBX	DefaultSR	--	IP-PBX	60		Disable
1	BroadCloud	DefaultSR	--	BroadCloud	60		Disable

4.6 Step 6: Configure IP Profiles

This step describes how to configure IP Profiles. The IP Profile defines a set of call capabilities relating to signaling (e.g., SIP message terminations such as REFER) and media (e.g., coder and transcoding method).

In this interoperability test topology, IP Profiles need to be configured for the following IP entities:

- IP-PBX - to operate in non-secure mode using RTP and UDP
- BroadCloud SIP trunk - to operate in non-secure mode using RTP and UDP

➤ To configure IP Profile for the IP-PBX:

1. Open the IP Profile Settings page (**Setup** menu > **Signaling & Media** tab > **Coders & Profiles** folder > **IP Profiles**).
2. Click **Add**.
3. Configure the parameters as follows:

Parameter	Value
Index	1
Name	IP-PBX
Remote Update Support	Supported
Remote re-INVITE	Supported
SBC Media Security Mode	RTP

Figure 4-14: Configuring IP Profile for IP-PBX

IP Profiles [IP-PBX] — x

GENERAL

Index

Name

Created by Routing Server

MEDIA SECURITY

SBC Media Security Mode

Gateway Media Security Mode

Symmetric MKI

MKI Size

SBC Enforce MKI Size

SBC Media Security Method

SBC SIGNALING

PRACK Mode

P-Asserted-Identity Header Mode

Diversion Header Mode

History-Info Header Mode

Session Expires Mode

Remote Update Support

Remote re-INVITE

Remote Delayed Offer Support

Remote Representation Mode

Keep Incoming Via Headers

Keep Incoming Routing Headers

Keep User-Agent Header

Cancel

➤ To configure an IP Profile for the **BroadCloud SIP Trunk**:

1. Click **Add**.
2. Configure the parameters as follows:

Parameter	Value
Index	2
Name	BroadCloud
P-Asserted-Identity Header Mode	Add (required for anonymous calls)
SBC Media Security Mode	RTP

Figure 4-15: Configuring IP Profile for BroadCloud SIP Trunk

IP Profiles [BroadCloud]

GENERAL

Index
2

Name
• BroadCloud

Created by Routing Server
No

MEDIA SECURITY

SBC Media Security Mode
• RTP

Gateway Media Security Mode
Preferable

Symmetric MKI
Disable

MKI Size
0

SBC Enforce MKI Size
Don't enforce

SBC Media Security Method
SDES

SBC SIGNALING

PRACK Mode
Transparent

P-Asserted-Identity Header Mode
Add

Diversion Header Mode
As Is

History-Info Header Mode
As Is

Session Expires Mode
Transparent

Remote Update Support
Supported

Remote re-INVITE
Supported

Remote Delayed Offer Support
Supported

Remote Representation Mode
According to

Keep Incoming Via Headers
According to

Keep Incoming Routing Headers
According to

Keep User-Agent Header
According to

Cancel
APPLY

4.7 Step 8: Configure IP Groups

This step describes how to configure IP Groups. The IP Group represents an IP entity on the network with which the E-SBC communicates. This can be a server (e.g., IP PBX or ITSP) or it can be a group of users (e.g., LAN IP phones). For servers, the IP Group is typically used to define the server's IP address by associating it with a Proxy Set. Once IP Groups are configured, they are used to configure IP-to-IP routing rules for denoting source and destination of the call.

In this interoperability test topology, IP Groups must be configured for the following IP entities:

- IP-PBX located on LAN
- BroadCloud SIP Trunk located on WAN

➤ To configure IP Groups:

1. Open the IP Group Table page (**Setup** menu > **Signaling & Media** tab > **Core Entities** folder > **IP Groups**).
2. Add an IP Group for the IP-PBX. You can use the default IP Group (Index 0), but modify it as shown below:

Parameter	Value
Index	0
Name	IP-PBX
Type	Server
Proxy Set	IP-PBX
IP Profile	IP-PBX
Media Realm	MRLan
SIP Group Name	10.15.7.26 (according to IP-PBX requirement)

3. Configure an IP Group for the BroadCloud SIP Trunk:

Parameter	Value
Index	1
Name	BroadCloud
Type	Server
Proxy Set	BroadCloud
IP Profile	BroadCloud
Media Realm	MRWan
Outbound Message Manipulation Set	4
SIP Group Name	interop.adpt-tech.com (according to ITSP requirement)

The configured IP Groups are shown in the figure below:

Figure 4-16: Configured IP Groups in IP Group Table

IP Groups (2)

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Page 1 of 1 Show 10 records per page

INDEX	NAME	SRD	TYPE	SBC OPERATION MODE	PROXY SET	IP PROFILE	MEDIA REALM	SIP GROUP NAME	CLASSIFY BY PROXY SET	INBOUND MESSAGE MANIPULATION SET	OUTBOUND MESSAGE MANIPULATION SET
0	IP-PBX	DefaultSRD (#)	Server	Not Configured	IP-PBX	IP-PBX	MRLan	10.15.7.26	Enable	-1	-1
1	BroadCloud	DefaultSRD (#)	Server	Not Configured	BroadCloud	BroadCloud	MRWan	interop.adpt-tech	Enable	-1	4

4.8 Step 9: Configure IP-to-IP Call Routing Rules

This step describes how to configure IP-to-IP call routing rules. These rules define the routes for forwarding SIP messages (e.g., INVITE) received from one IP entity to another. The E-SBC selects the rule whose configured input characteristics (e.g., IP Group) match those of the incoming SIP message. If the input characteristics do not match the first rule in the table, they are compared to the second rule, and so on, until a matching rule is located. If no rule is matched, the message is rejected. The routing rules use the configured IP Groups to denote the source and destination of the call. As configured in Section 4.7 on page 31, IP Group 1 represents IP-PBX, and IP Group 2 represents BroadCloud SIP Trunk.

For the interoperability test topology, the following IP-to-IP routing rules need to be configured to route calls between IP-PBX (LAN) and BroadCloud SIP Trunk (WAN):

- Terminate SIP OPTIONS messages on the E-SBC
- Calls from IP-PBX to BroadCloud SIP Trunk
- Calls from BroadCloud SIP Trunk to IP-PBX

➤ **To configure IP-to-IP routing rules:**

1. Open the IP-to-IP Routing table (**Setup** menu > **Signaling & Media** tab > **SBC** folder > **Routing** > **IP-to-IP Routing**).
2. Configure a rule to terminate SIP OPTIONS messages received from the LAN:
 - a. Click **Add**.
 - b. Configure the parameters as follows:

Parameter	Value
Index	0
Name	Terminate OPTIONS (arbitrary descriptive name)
Source IP Group	Any
Request Type	OPTIONS
Destination Type	Dest Address
Destination Address	internal
Index	1
Name	IP-PBX to ITSP (arbitrary descriptive name)
Source IP Group	IP-PBX

Figure 4-17: Configuring IP-to-IP Routing Rule for Terminating SIP OPTIONS

IP-to-IP Routing [Terminate OPTIONS]
✕

Routing Policy #0 [Default_SBCRoutingPolicy]

GENERAL

Index
Name •
Alternative Route Options

ACTION

Destination Type •
Destination IP Group [View](#)
Destination SIP Interface [View](#)
Destination Address •
Destination Port
Destination Transport Type
Call Setup Rules Set ID
Group Policy
Cost Group [View](#)

MATCH

Source IP Group [View](#)
Request Type •
Source Username Prefix
Source Host
Source Tag

[Cancel](#) [APPLY](#)

3. Configure a rule to route calls from Skype IP-PBX to BroadCloud SIP Trunk:
 - a. Click **Add**.

Figure 4-18: Configuring IP-to-IP Routing Rule for IP-PBX to ITSP

IP-to-IP Routing [IP-PBX to ITSP]
✕

Routing Policy #0 [Default_SBCRoutingPolicy]

GENERAL

Index
Name •
Alternative Route Options

ACTION

Destination Type
Destination IP Group • [View](#)
Destination SIP Interface • [View](#)
Destination Address
Destination Port
Destination Transport Type
Call Setup Rules Set ID
Group Policy
Cost Group [View](#)

MATCH

Source IP Group • [View](#)
Request Type
Source Username Prefix
Source Host
Source Tag

[Cancel](#) [APPLY](#)

- b. Configure the parameters as follows:

Parameter	Value
Source IP Group	#0 [IP-PBX]
Destination Type	IP Group
Destination IP Group	#1 [BroadCloud]
Destination SIP Interface	#1 [BroadCloud]

4. To configure rule to route calls from BroadCloud SIP Trunk to IP-PBX:
- Click **Add**.
 - Configure the parameters as follows:

Parameter	Value
Index	2
Name	ITSP to IP-PBX (arbitrary descriptive name)
Source IP Group	#1 [BroadCloud]
Destination Type	IP Group
Destination IP Group	#0 [IP-PBX]
Destination SIP Interface	#0 [IP-PBX]

Figure 4-19: Configuring IP-to-IP Routing Rule for ITSP to IP-PBX – Rule tab

The configured routing rules are shown in the figure below:

Figure 4-20: Configured IP-to-IP Routing Rules in IP-to-IP Routing Table

INDEX	NAME	ROUTING POLICY	ALTERNATIVE ROUTE OPTIONS	SOURCE IP GROUP	REQUEST TYPE	SOURCE USERNAME PREFIX	DESTINATION USERNAME PREFIX	DESTINATION TYPE	DESTINATION IP GROUP	DESTINATION SIP INTERFACE	DESTINATION ADDRESS
0	Terminate OPT	Default_SBCRc	Route Row	Any	OPTIONS	*	*	Dest Address	--	--	internal
1	IP-PBX to ITSP	Default_SBCRc	Route Row	IP-PBX	All	*	*	IP Group	BroadCloud	BroadCloud	
2	ITSP to IP-PBX	Default_SBCRc	Route Row	BroadCloud	All	*	*	IP Group	IP-PBX	IP-PBX	



Note: The routing configuration may change according to your specific deployment topology.

4.9 Step 10: Configure IP-to-IP Manipulation Rules

This step describes how to configure IP-to-IP manipulation rules. These rules manipulate the source and / or destination number. The manipulation rules use the configured IP Groups to denote the source and destination of the call. As configured in Section 4.7 on page 31, IP Group 0 represents IP-PBX, and IP Group 1 represents BroadCloud SIP Trunk.



Note: Adapt the manipulation table according to you environment dial plan.

For example, for this interoperability test topology, a manipulation was configured to add the prefix to the destination number for calls from the IP-PBX IP Group to the BroadCloud SIP Trunk IP Group for specific destination username prefix.

➤ **To configure a number manipulation rule:**

1. Open the IP-to-IP Outbound Manipulation table (**Setup** menu > **Signaling & Media** tab > **SBC** folder > **Manipulation** > **Outbound Manipulations**).
2. Click **Add**.
3. Configure the parameters as follows:

Parameter	Value
Index	0
Name	Add + for National Calls
Source IP Group	IP-PBX
Destination IP Group	BroadCloud
Destination Username Prefix	001
Manipulated Item	Destination URI
Remove From Left	2
Prefix to Add	+

Figure 4-21: Configuring IP-to-IP Outbound Manipulation Rule

The screenshot shows the 'Outbound Manipulations' configuration window. At the top, there is a 'Routing Policy' dropdown set to '#0 [Default_SBCRoutingPolicy]'. Below this are two main sections: 'GENERAL' and 'ACTION'.

GENERAL Section:

- Index:** 0
- Name:** Add + for National Calls
- Additional Manipulation:** No
- Call Trigger:** Any
- MATCH Section:**
 - Request Type:** All
 - Source IP Group:** #0 [IP-PBX] (with a 'View' link)
 - Destination IP Group:** #1 [BroadCloud] (with a 'View' link)
 - Source Username Prefix:** *

ACTION Section:

- Manipulated Item:** Destination URI
- Remove From Left:** 2
- Remove From Right:** 0
- Leave From Right:** 255
- Prefix to Add:** +
- Suffix to Add:** (empty)
- Privacy Restriction Mode:** Transparent

At the bottom of the window are 'Cancel' and 'APPLY' buttons.

The figure below shows an example of configured IP-to-IP outbound manipulation rules for calls between IP-PBX IP Group and BroadCloud SIP Trunk IP Group:

Figure 4-22: Example of Configured IP-to-IP Outbound Manipulation Rules

Outbound Manipulations (3)

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INDEX	NAME	ROUTING POLICY	ADDITIONAL MANIPULATION	SOURCE IP GROUP	DESTINATION IP GROUP	SOURCE USERNAME PREFIX	DESTINATION USERNAME PREFIX	MANIPULATION ITEM	REMOVE FROM LEFT	REMOVE FROM RIGHT	LEAVE FROM RIGHT	PREFIX TO ADD	SUFFIX TO ADD
0	Add + for National Calls	Default_SBC	No	IP-PBX	BroadCloud	*	001	Destination	2	0	255	+	
1	Add 011 to International Numbers	Default_SBC	No	IP-PBX	BroadCloud	*	00	Destination	2	0	255	011	
2	For Anonymous Calls	Default_SBC	No	IP-PBX	BroadCloud	*	*	Source URI	0	0	255		

4.10 Step 11: Configure Message Manipulation Rules

This step describes how to configure SIP message manipulation rules. SIP message manipulation rules can include insertion, removal, and/or modification of SIP headers. Manipulation rules are grouped into Manipulation Sets, enabling you to apply multiple rules to the same SIP message (IP entity).

Once you have configured the SIP message manipulation rules, you need to assign them to the relevant IP Group (in the IP Group table) and determine whether they must be applied to inbound or outbound messages.

➤ **To configure SIP message manipulation rule:**

1. Open the Message Manipulations page (**Setup** menu > **Signaling & Media** tab > **Message Manipulation** folder > **Message Manipulations**).
2. Configure a new manipulation rule (Manipulation Set 4) for BroadCloud SIP Trunk. This rule applies to messages sent to the BroadCloud SIP Trunk IP Group. This replaces the host part of the SIP From Header with the value from the SIP To Header.

Parameter	Value
Index	0
Name	Change From host
Manipulation Set ID	4
Message Type	any.request
Action Subject	header.from.url.host
Action Type	Modify
Action Value	header.to.url.host

Figure 4-23: Configuring SIP Message Manipulation Rule 0 (for BroadCloud SIP Trunk)

Message Manipulations [Change From host]

GENERAL

Index

0

Name

Change From host

Manipulation Set ID

4

Row Role

Use Current Condition

MATCH

Message Type

any.request

Condition

ACTION

Action Subject

header.from.url.host

Action Type

Modify

Action Value

header.to.url.host

Cancel
APPLY

3. Configure another manipulation rule (Manipulation Set 4) for BroadCloud SIP Trunk. This rule applies to messages sent to the BroadCloud SIP Trunk IP Group. This replaces the host part of the SIP P-Asserted-Identity Header with the value from the SIP To Header.

Parameter	Value
Index	1
Manipulation Name	Change P-Asserted host
Manipulation Set ID	4
Message Type	any.request
Condition	header.p-asserted-identity exists
Action Subject	header.p-asserted-identity
Action Type	Modify
Action Value	header.to.url.host

Figure 4-24: Configuring SIP Message Manipulation Rule 1 (for BroadCloud SIP Trunk)

Message Manipulations [Change P-Asserted host]

GENERAL	ACTION
Index: 1	Action Subject: header.p-asserted-identity.url.host
Name: Change P-Asserted host	Action Type: Modify
Manipulation Set ID: 4	Action Value: header.to.url.host
Row Role: Use Current Condition	

MATCH
Message Type: any.request
Condition: header.p-asserted-identity exists

Cancel APPLY

4. Configure another manipulation rule (Manipulation Set 4) for BroadCloud SIP Trunk. This rule is applied to response messages sent to the BroadCloud SIP Trunk IP Group for Rejected Calls initiated by the IP-PBX. This replaces the method type '502' with the value '480', because BroadCloud SIP Trunk not recognizes '502' method type.

Parameter	Value
Index	2
Name	Change PAI if History-Info exists
Manipulation Set ID	4
Message Type	
Condition	header.History-Info.0 regex (.*)(sip:)(.)(@)(.)(*)
Action Subject	header.P-Asserted-Identity.url.user

Parameter	Value
Action Type	Modify
Action Value	\$3

Figure 4-25: Configuring SIP Message Manipulation Rule 2 (for BroadCloud SIP Trunk)

Message Manipulations [Change PAI if History-Info exists]

GENERAL

Index: 2

Name: • Change PAI if History-Info exists

Manipulation Set ID: • 4

Row Role: Use Current Condition

ACTION

Action Subject: • header.P-Asserted-Identity.url.user

Action Type: • Modify

Action Value: • \$3

MATCH

Message Type:

Condition: • header.History-Info.0 regex (.*) (sip:)(.*) (@)(.*)

Cancel APPLY

Figure 4-26: Example of Configured SIP Message Manipulation Rules

Message Manipulations (3)

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Page 1 of 1 Show 10 records per page

INDEX	NAME	MANIPULATION SET ID	MESSAGE TYPE	CONDITION	ACTION SUBJECT	ACTION TYPE	ACTION VALUE	ROW ROLE
0	Change From host	4	any.request		header.from.url.host	Modify	header.to.url.host	Use Current Condi
1	Change P-Asserted h	4	any.request	header.p-asserted-id	header.p-asserted-id	Modify	header.to.url.host	Use Current Condi
2	Change PAI if History	4		header.History-Info.0	header.P-Asserted-Ic	Modify	\$3	Use Current Condi

The table displayed below includes SIP message manipulation rules, which are bound together by commonality via the Manipulation Set ID 4, which are executed for messages sent to the BroadCloud SIP Trunk IP Group. These rules are specifically required to enable proper interworking between BroadCloud SIP Trunk and IP-PBX. Refer to the *User's Manual* for further details concerning the full capabilities of header manipulation.

Rule Index	Rule Description	Reason for Introducing Rule
0	This rule applies to messages sent to the BroadCloud SIP Trunk IP Group. This replaces the host part of the SIP From Header with the value from the SIP To Header.	BroadCloud SIP Trunk required that all messages should be from known hosts.
1	This rule applies to messages sent to the BroadCloud SIP Trunk IP Group. This replaces the host part of the SIP P-Asserted-Identity Header with the value from the SIP To Header.	
2	This rule applies to messages sent to the BroadCloud SIP Trunk IP Group for Forward call.	BroadCloud SIP Trunk required that all calls will send with P-Asserted-Identity that contain BroadCloud number.

5. Assign Manipulation Set ID 4 to the BroadCloud SIP trunk IP Group.

4.11 Step 12: Configure Registration Accounts

This step describes how to configure SIP registration accounts. This is required so that the E-SBC can register with the BroadCloud SIP Trunk on behalf of the IP-PBX. The BroadCloud SIP Trunk requires registration and authentication to provide service.

In the interoperability test topology, the Served IP Group is IP-PBX IP Group and the Serving IP Group is BroadCloud SIP Trunk IP Group.

➤ **To configure a registration account:**

1. Open the Account Table page (**Setup** menu > **Signaling & Media** tab > **SIP Definitions** folder > **Accounts**).
2. Enter an index number (e.g., "0"), and then click **Add**.
3. Configure the account according to the provided information from , for example:

Parameter	Value
Application Type	SBC
Served IP Group	IP-PBX
Serving IP Group	BroadCloud
Username	As provided by BroadCloud
Password	As provided by BroadCloud
Host Name	interop.adpt-tech.com
Register	Regular
Contact User	8325624857 (pilot number)

4. Click **Apply**.

Figure 4-27: Configuring SIP Registration Account

Accounts (1)									
+ New Edit 🗑️ Action << >> Page 1 of 1 Show 10 records per page									
INDEX ↕	APPLICATION TYPE	SERVED TRUNK GROUP	SERVED IP GROUP	SERVING IP GROUP	USER NAME	PASSWORD	HOST NAME	REGISTER	CONTACT USER
0	SBC	-1	IP-PBX	BroadCloud	8325624857	*	interop.adpt-tech.	Regular	8325624857

4.12 Step 13: Miscellaneous Configuration

This section describes miscellaneous E-SBC configuration.

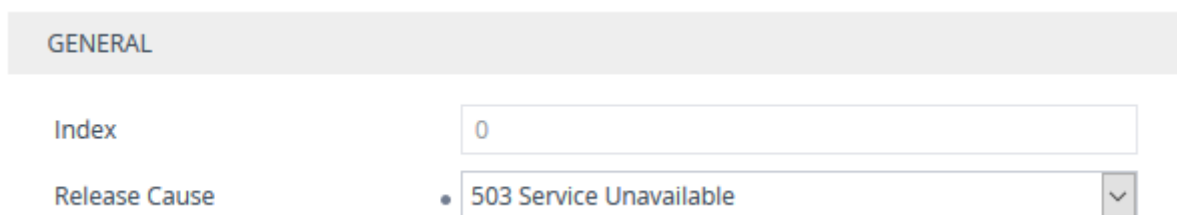
4.12.1 Step 13a: Configure SBC Alternative Routing Reasons

This step describes how to configure the E-SBC's handling of SIP 503 responses received for outgoing SIP dialog-initiating methods, e.g., INVITE, OPTIONS, and SUBSCRIBE messages. In this case E-SBC attempts to locate an alternative route for the call.

➤ To configure SIP reason codes for alternative IP routing:

1. Open the SBC Alternative Routing Reasons page (**Setup** menu > **Signaling & Media** tab > **SBC** folder > **Routing** > **Alternative Reasons**).
2. Click **Add**; the following dialog box appears:

Figure 4-28: SBC Alternative Routing Reasons Table - Add Record



GENERAL

Index

Release Cause •

3. Click **Apply**.

4.13 Step 14: Reset the E-SBC

After you have completed the configuration of the E-SBC described in this chapter, save ("burn") the configuration to the E-SBC's flash memory with a reset for the settings to take effect.

➤ **To save the configuration to flash memory:**

1. Open the Maintenance Actions page (**Setup** menu > **Administration** tab > **Maintenance** folder > **Maintenance Actions**).

Figure 4-29: Resetting the E-SBC

Maintenance Actions

RESET DEVICE		LOCK / UNLOCK	
Reset Device	Reset	Lock	LOCK
Save To Flash	Yes v	Graceful Option	No v
Graceful Option	No v	Gateway Operational State	UNLOCKED

For Reset Device: If you choose not to save the device's configuration to flash memory, all changes made since the last time the configuration was saved will be lost after the device is reset.

For Save Configuration: Saving configuration to flash memory may cause some temporary degradation in voice quality, therefore, it is recommended to perform this during low-traffic periods

2. Ensure that the 'Save to Flash' field is set to **Yes** (default).
3. Click the **Reset** button.

A AudioCodes INI File

The *ini* configuration file of the E-SBC, corresponding to the Web-based configuration as described in Section 4 on page 19, is shown below:



Note: To load and save an ini file, use the Configuration File page (**Maintenance** tab > **Software Update** menu > **Configuration File**).

```

*****
;
;** Ini File **
;
*****

;Board: Mediant 800 E-SBC
;HW Board Type: 69 FK Board Type: 72
;Serial Number: 3887604
;Slot Number: 1
;Software Version: 7.20A.001
;DSP Software Version: 5014AE3_R => 720.23
;Board IP Address: 10.15.7.8
;Board Subnet Mask: 255.255.0.0
;Board Default Gateway: 0.0.0.0
;Ram size: 512M Flash size: 64M Core speed: 300Mhz
;Num of DSP Cores: 3 Num DSP Channels: 30
;Num of physical LAN ports: 12
;Profile: NONE
;;;Key features;;Board Type: 72 ;E1Trunks=2 ;T1Trunks=2 ;FXSPorts=8
;FXOPorts=8 ;DSP Voice features: ;Security: IPSEC MediaEncryption
StrongEncryption EncryptControlProtocol ;Channel Type: RTP DspCh=30
IPMediaDspCh=30 ;IP Media: TrunkTesting ;Coders: G723 G729 G728 NETCODER
GSM-FR GSM-EFR AMR EVRC-QCELP G727 ILBC EVRC-B AMR-WB G722 EG711 MS_RTA_NB
MS_RTA_WB SILK_NB SILK_WB SPEEX_NB SPEEX_WB ;Control Protocols: MSFT
TRANSCODING=10 FEU=10 TestCall=10 SIPRec=10 CODER-TRANSCODING=10 SBC-
SIGNALING=120 SBC-MEDIA=120 MGCP SIP SBC=120 ;Default features;;Coders:
G711 G726;

;----- HW components-----
;
; Slot # : Module type : # of ports
;-----
; 1 : FALC56 : 1
; 2 : FXS : 4
; 3 : Empty
;-----

[BSP Params]

PCMLawSelect = 3
UdpPortSpacing = 10
EnterCpuOverloadPercent = 99
ExitCpuOverloadPercent = 95

[Analog Params]

[ControlProtocols Params]
```

AdminStateLockControl = 0

[MGCP Params]

[MEGACO Params]

EP_Num_0 = 0

EP_Num_1 = 1

EP_Num_2 = 1

EP_Num_3 = 0

EP_Num_4 = 0

[PSTN Params]

[SS7 Params]

[Voice Engine Params]

CallProgressTonesFilename = 'usa_tones_13.dat'

[WEB Params]

UserProductName = 'Mediant 800 E-SBC'

LogoWidth = '145'

UseProductName = 1

HTTPSCipherString = 'RC4:EXP'

;HTTPSPkeyFileName is hidden but has non-default value

[SIP Params]

MEDIACHANNELS = 30

GWDEBUGLEVEL = 5

ENABLESBCAPPLICATION = 1

MSLDAPPRIMARYKEY = 'telephoneNumber'

MEDIACDRREPORTLEVEL = 1

SBCFORKINGHANDLINGMODE = 1

ENERGYDETECTORCMD = 587202560

ANSWERDETECTORCMD = 10486144

;GWAPPCONFIGURATIONVERSION is hidden but has non-default value

[SCTP Params]

[IPsec Params]

[Audio Staging Params]

[SNMP Params]

[PhysicalPortsTable]

FORMAT PhysicalPortsTable_Index = PhysicalPortsTable_Port,
PhysicalPortsTable_Mode, PhysicalPortsTable_SpeedDuplex,
PhysicalPortsTable_PortDescription, PhysicalPortsTable_GroupMember,
PhysicalPortsTable_GroupStatus;

```
PhysicalPortsTable 0 = "GE_4_1", 1, 4, "User Port #0", "GROUP_1", "Active";
PhysicalPortsTable 1 = "GE_4_2", 1, 4, "User Port #1", "GROUP_1",
"Redundant";
PhysicalPortsTable 2 = "GE_4_3", 1, 4, "User Port #2", "GROUP_2", "Active";
PhysicalPortsTable 3 = "GE_4_4", 1, 4, "User Port #3", "GROUP_2",
"Redundant";
PhysicalPortsTable 4 = "FE_5_1", 0, 4, "User Port #4", "None", " ";
PhysicalPortsTable 5 = "FE_5_2", 0, 4, "User Port #5", "None", " ";
PhysicalPortsTable 6 = "FE_5_3", 0, 4, "User Port #6", "None", " ";
PhysicalPortsTable 7 = "FE_5_4", 0, 4, "User Port #7", "None", " ";
PhysicalPortsTable 8 = "FE_5_5", 1, 4, "User Port #8", "GROUP_5", "Active";
PhysicalPortsTable 9 = "FE_5_6", 1, 4, "User Port #9", "GROUP_5",
"Redundant";
PhysicalPortsTable 10 = "FE_5_7", 1, 4, "User Port #10", "GROUP_6",
"Active";
PhysicalPortsTable 11 = "FE_5_8", 1, 4, "User Port #11", "GROUP_6",
"Redundant";
```

```
[ \PhysicalPortsTable ]
```

```
[ EtherGroupTable ]
```

```
FORMAT EtherGroupTable_Index = EtherGroupTable_Group, EtherGroupTable_Mode,
EtherGroupTable_Member1, EtherGroupTable_Member2;
EtherGroupTable 0 = "GROUP_1", 2, "GE_4_1", "GE_4_2";
EtherGroupTable 1 = "GROUP_2", 2, "GE_4_3", "GE_4_4";
EtherGroupTable 2 = "GROUP_3", 0, "", "";
EtherGroupTable 3 = "GROUP_4", 0, "", "";
EtherGroupTable 4 = "GROUP_5", 2, "FE_5_5", "FE_5_6";
EtherGroupTable 5 = "GROUP_6", 2, "FE_5_7", "FE_5_8";
EtherGroupTable 6 = "GROUP_7", 0, "", "";
EtherGroupTable 7 = "GROUP_8", 0, "", "";
EtherGroupTable 8 = "GROUP_9", 0, "", "";
EtherGroupTable 9 = "GROUP_10", 0, "", "";
EtherGroupTable 10 = "GROUP_11", 0, "", "";
EtherGroupTable 11 = "GROUP_12", 0, "", "";
```

```
[ \EtherGroupTable ]
```

```
[ DeviceTable ]
```

```
FORMAT DeviceTable_Index = DeviceTable_VlanID,
DeviceTable_UnderlyingInterface, DeviceTable_DeviceName,
DeviceTable_Tagging;
DeviceTable 0 = 1, "GROUP_1", "vlan 1", 0;
DeviceTable 1 = 2, "GROUP_2", "vlan 2", 0;
```

```
[ \DeviceTable ]
```

```
[ InterfaceTable ]
```

```
FORMAT InterfaceTable_Index = InterfaceTable_ApplicationTypes,
InterfaceTable_InterfaceMode, InterfaceTable_IPAddress,
InterfaceTable_PrefixLength, InterfaceTable_Gateway,
InterfaceTable_InterfaceName, InterfaceTable_PrimaryDNSServerIPAddress,
InterfaceTable_SecondaryDNSServerIPAddress,
InterfaceTable_UnderlyingDevice;
```

```
InterfaceTable 0 = 6, 10, 10.15.7.8, 16, 0.0.0.0, "Voice", 0.0.0.0,  
0.0.0.0, "vlan 1";  
InterfaceTable 1 = 5, 10, 195.189.192.156, 25, 195.189.192.129, "WANSP",  
8.8.8.8, 0.0.0.0, "vlan 2";
```

```
[ \InterfaceTable ]
```

```
[ TLSContexts ]
```

```
FORMAT TLSContexts_Index = TLSContexts_Name, TLSContexts_TLSVersion,  
TLSContexts_ServerCipherString, TLSContexts_ClientCipherString,  
TLSContexts_RequireStrictCert, TLSContexts_OcspEnable,  
TLSContexts_OcspServerPrimary, TLSContexts_OcspServerSecondary,  
TLSContexts_OcspServerPort, TLSContexts_OcspDefaultResponse;  
TLSContexts 0 = "default", 0, "RC4:AES128", "ALL:!aNULL", 0, 0, , , 2560,  
0;
```

```
[ \TLSContexts ]
```

```
[ AudioCodersGroups ]
```

```
FORMAT AudioCodersGroups_Index = AudioCodersGroups_Name;  
AudioCodersGroups 0 = "AudioCodersGroups_0";  
AudioCodersGroups 2 = "AudioCodersGroups_2";
```

```
[ \AudioCodersGroups ]
```

```
[ AllowedAudioCodersGroups ]
```

```
FORMAT AllowedAudioCodersGroups_Index = AllowedAudioCodersGroups_Name;  
AllowedAudioCodersGroups 2 = "BroadCloud";
```

```
[ \AllowedAudioCodersGroups ]
```

```
[ IpProfile ]
```

```
FORMAT IpProfile_Index = IpProfile_ProfileName, IpProfile_IpPreference,  
IpProfile_CodersGroupName, IpProfile_IsFaxUsed,  
IpProfile_JitterBufMinDelay, IpProfile_JitterBufOptFactor,  
IpProfile_IPDiffServ, IpProfile_SigIPDiffServ, IpProfile_SCE,  
IpProfile_RTPRedundancyDepth, IpProfile_CNGmode,  
IpProfile_VxxTransportType, IpProfile_NSEMode, IpProfile_IsDTMFUsed,  
IpProfile_PlayRBTone2IP, IpProfile_EnableEarlyMedia,  
IpProfile_ProgressIndicator2IP, IpProfile_EnableEchoCanceller,  
IpProfile_CopyDest2RedirectNumber, IpProfile_MediaSecurityBehaviour,  
IpProfile_CallLimit, IpProfile_DisconnectOnBrokenConnection,  
IpProfile_FirstTxDtmfOption, IpProfile_SecondTxDtmfOption,  
IpProfile_RxDtmfOption, IpProfile_EnableHold, IpProfile_InputGain,  
IpProfile_VoiceVolume, IpProfile_AddIEInSetup,  
IpProfile_SBCExtensionCodersGroupName, IpProfile_MediaIPVersionPreference,  
IpProfile_TranscodingMode, IpProfile_SBCAllowedMediaTypes,  
IpProfile_SBCAllowedAudioCodersGroupName,  
IpProfile_SBCAllowedVideoCodersGroupName, IpProfile_SBCAllowedCodersMode,  
IpProfile_SBCMediaSecurityBehaviour, IpProfile_SBCRFC2833Behavior,  
IpProfile_SBCAlternativeDTMFMethod, IpProfile_SBCAssertIdentity,  
IpProfile_AMDSensitivityParameterSuit, IpProfile_AMDSensitivityLevel,  
IpProfile_AMDMaxGreetingTime, IpProfile_AMDMaxPostSilenceGreetingTime,
```

```

IpProfile_SBCDiversioMode, IpProfile_SBCHistoryInfoMode,
IpProfile_EnableQSIGTunneling, IpProfile_SBCFaxCodersGroupName,
IpProfile_SBCFaxBehavior, IpProfile_SBCFaxOfferMode,
IpProfile_SBCFaxAnswerMode, IpProfile_SbcPrackMode,
IpProfile_SBCSessionExpiresMode, IpProfile_SBCRemoteUpdateSupport,
IpProfile_SBCRemoteReinviteSupport, IpProfile_SBCRemoteDelayedOfferSupport,
IpProfile_SBCRemoteReferBehavior, IpProfile_SBCRemote3xxBehavior,
IpProfile_SBCRemoteMultiple18xSupport,
IpProfile_SBCRemoteEarlyMediaResponseType,
IpProfile_SBCRemoteEarlyMediaSupport, IpProfile_EnableSymmetricMKI,
IpProfile_MKISize, IpProfile_SBCEnforceMKISize,
IpProfile_SBCRemoteEarlyMediaRTP, IpProfile_SBCRemoteSupportsRFC3960,
IpProfile_SBCRemoteCanPlayRingback, IpProfile_EnableEarly183,
IpProfile_EarlyAnswerTimeout, IpProfile_SBC2833DTMFPayloadType,
IpProfile_SBCUserRegistrationTime, IpProfile_ResetSRTPStateUponRekey,
IpProfile_AmdMode, IpProfile_SBCReliableHeldToneSource,
IpProfile_GenerateSRTPKeys, IpProfile_SBCPlayHeldTone,
IpProfile_SBCRemoteHoldFormat, IpProfile_SBCRemoteReplacesBehavior,
IpProfile_SBCSDPPTimeAnswer, IpProfile_SBCPreferredPTime,
IpProfile_SBCUseSilenceSupp, IpProfile_SBCRTPRedundancyBehavior,
IpProfile_SBCPlayRBTToTransferee, IpProfile_SBCRTCPMode,
IpProfile_SBCJitterCompensation,
IpProfile_SBCRemoteRenegotiateOnFaxDetection, IpProfile_JitterBufMaxDelay,
IpProfile_SBCUserBehindUdpNATRegistrationTime,
IpProfile_SBCUserBehindTcpNATRegistrationTime,
IpProfile_SBCSDPHandleRTCPAttribute,
IpProfile_SBCRemoveCryptoLifetimeInSDP, IpProfile_SBCIceMode,
IpProfile_SBCRTCPMux, IpProfile_SBCMediaSecurityMethod,
IpProfile_SBCHandleXDetect, IpProfile_SBCRTCPFeedback,
IpProfile_SBCRemoteRepresentationMode, IpProfile_SBCKeepVIAHeaders,
IpProfile_SBCKeepRoutingHeaders, IpProfile_SBCKeepUserAgentHeader,
IpProfile_SBCRemoteMultipleEarlyDialogs,
IpProfile_SBCRemoteMultipleAnswersMode, IpProfile_SBCDirectMediaTag,
IpProfile_SBCAdaptRFC2833BWToVoiceCoderBW,
IpProfile_CreatedByRoutingServer, IpProfile_SBCMaxCallDuration,
IpProfile_SBCGenerateRTP, IpProfile_SBCISUPBodyHandling,
IpProfile_SBCISUPVariant, IpProfile_SBCVoiceQualityEnhancement,
IpProfile_SBCMaxOpusBW;
IpProfile 1 = "IP-PBX", 1, "AudioCodersGroups_0", 0, 10, 10, 46, 40, 0, 0,
0, 2, 0, 0, 0, 0, -1, 1, 0, 0, -1, 0, 4, -1, 1, 1, 0, 0, "",
"AudioCodersGroups_0", 0, 0, "", "", "", 0, 0, 0, 0, 0, 0, 8, 300, 400, 0,
0, 0, "", 1, 0, 1, 3, 0, 2, 2, 1, 0, 0, 1, 0, 1, 1, 1, 1, 0, 0, 0, 0, 0,
0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 300, -1, -1, 0, 0, 0, 0, 0,
0, 0, -1, -1, -1, -1, -1, 0, "", 0, 0, 0, 0, 0, 0, 0;
IpProfile 2 = "BroadCloud", 1, "AudioCodersGroups_0", 0, 10, 10, 46, 40, 0,
0, 0, 2, 0, 0, 0, 0, -1, 1, 0, 0, -1, 0, 4, -1, 1, 1, 0, 0, "",
"AudioCodersGroups_2", 0, 0, "", "BroadCloud", "", 0, 2, 0, 0, 1, 0, 8,
300, 400, 0, 0, 0, "", 1, 0, 1, 3, 0, 2, 2, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0,
0, 1, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 300, -1, -1,
0, 0, 0, 0, 0, 0, 0, -1, -1, -1, -1, -1, 0, "", 0, 0, 0, 0, 0, 0, 0, 0;

```

[\IpProfile]

[CpMediaRealm]

```

FORMAT CpMediaRealm_Index = CpMediaRealm_MediaRealmName,
CpMediaRealm_IPv4IF, CpMediaRealm_IPv6IF, CpMediaRealm_PortRangeStart,
CpMediaRealm_MediaSessionLeg, CpMediaRealm_PortRangeEnd,
CpMediaRealm_IsDefault, CpMediaRealm_QoeProfile, CpMediaRealm_BWProfile,
CpMediaRealm_TopologyLocation;

```

```
CpMediaRealm 0 = "MRLan", "Voice", "", 6000, 100, 6999, 1, "", "", 0;  
CpMediaRealm 1 = "MRWan", "WANSP", "", 7000, 100, 7999, 0, "", "", 0;
```

```
[ \CpMediaRealm ]
```

```
[ SBCRoutingPolicy ]
```

```
FORMAT SBCRoutingPolicy_Index = SBCRoutingPolicy_Name,  
SBCRoutingPolicy_LCREnable, SBCRoutingPolicy_LCRAverageCallLength,  
SBCRoutingPolicy_LCRDefaultCost, SBCRoutingPolicy_LdapServerGroupName;  
SBCRoutingPolicy 0 = "Default_SBCRoutingPolicy", 0, 1, 0, "";
```

```
[ \SBCRoutingPolicy ]
```

```
[ SRD ]
```

```
FORMAT SRD_Index = SRD_Name, SRD_BlockUnRegUsers, SRD_MaxNumOfRegUsers,  
SRD_EnableUnAuthenticatedRegistrations, SRD_SharingPolicy,  
SRD_UsedByRoutingServer, SRD_SBCOperationMode, SRD_SBCRoutingPolicyName,  
SRD_SBCDialPlanName;  
SRD 0 = "DefaultSRD", 0, -1, 1, 0, 0, 0, "Default_SBCRoutingPolicy", "";
```

```
[ \SRD ]
```

```
[ MessagePolicy ]
```

```
FORMAT MessagePolicy_Index = MessagePolicy_Name,  
MessagePolicy_MaxMessageLength, MessagePolicy_MaxHeaderLength,  
MessagePolicy_MaxBodyLength, MessagePolicy_MaxNumHeaders,  
MessagePolicy_MaxNumBodies, MessagePolicy_SendRejection,  
MessagePolicy_MethodList, MessagePolicy_MethodListType,  
MessagePolicy_BodyList, MessagePolicy_BodyListType,  
MessagePolicy_UseMaliciousSignatureDB;  
MessagePolicy 0 = "Malicious Signature DB Protection", -1, -1, -1, -1, -1,  
1, "", 0, "", 0, 1;
```

```
[ \MessagePolicy ]
```

```
[ SIPInterface ]
```

```
FORMAT SIPInterface_Index = SIPInterface_InterfaceName,  
SIPInterface_NetworkInterface, SIPInterface_ApplicationType,  
SIPInterface_UDPPort, SIPInterface_TCPPort, SIPInterface_TLSPort,  
SIPInterface_SRDName, SIPInterface_MessagePolicyName,  
SIPInterface_TLSContext, SIPInterface_TLSMutualAuthentication,  
SIPInterface_TCPKeepaliveEnable,  
SIPInterface_ClassificationFailureResponseType,  
SIPInterface_PreClassificationManSet, SIPInterface_EncapsulatingProtocol,  
SIPInterface_MediaRealm, SIPInterface_SBCDirectMedia,  
SIPInterface_BlockUnRegUsers, SIPInterface_MaxNumOfRegUsers,  
SIPInterface_EnableUnAuthenticatedRegistrations,  
SIPInterface_UsedByRoutingServer, SIPInterface_TopologyLocation;  
SIPInterface 0 = "IP-PBX", "Voice", 2, 5060, 0, 0, "DefaultSRD", "",  
"default", -1, 0, 500, -1, 0, "MRLan", 0, -1, -1, -1, 0, 0;  
SIPInterface 1 = "BroadCloud", "WANSP", 2, 5060, 0, 0, "DefaultSRD", "",  
"default", -1, 0, 500, -1, 0, "MRWan", 0, -1, -1, -1, 0, 0;
```

[\SIPInterface]

[ProxySet]

```

FORMAT ProxySet_Index = ProxySet_ProxyName, ProxySet_EnableProxyKeepAlive,
ProxySet_ProxyKeepAliveTime, ProxySet_ProxyLoadBalancingMethod,
ProxySet_IsProxyHotSwap, ProxySet_SRDName, ProxySet_ClassificationInput,
ProxySet_TLSContextName, ProxySet_ProxyRedundancyMode,
ProxySet_DNSResolveMethod, ProxySet_KeepAliveFailureResp,
ProxySet_GWIPv4SIPInterfaceName, ProxySet_SBCIPv4SIPInterfaceName,
ProxySet_GWIPv6SIPInterfaceName, ProxySet_SBCIPv6SIPInterfaceName,
ProxySet_MinActiveServersLB;
ProxySet 0 = "IP-PBX", 1, 60, 0, 0, "DefaultSRD", 0, "", -1, -1, "", "",
"IP-PBX", "", "", 1;
ProxySet 1 = "BroadCloud", 1, 60, 0, 0, "DefaultSRD", 0, "", -1, 1, "", "",
"BroadCloud", "", "", 1;

```

[\ProxySet]

[IPGroup]

```

FORMAT IPGroup_Index = IPGroup_Type, IPGroup_Name, IPGroup_ProxySetName,
IPGroup_SIPGroupName, IPGroup_ContactUser, IPGroup_SipReRoutingMode,
IPGroup_AlwaysUseRouteTable, IPGroup_SRDName, IPGroup_MediaRealm,
IPGroup_ClassifyByProxySet, IPGroup_ProfileName, IPGroup_MaxNumOfRegUsers,
IPGroup_InboundManSet, IPGroup_OutboundManSet, IPGroup_RegistrationMode,
IPGroup_AuthenticationMode, IPGroup_MethodList,
IPGroup_EnableSBCCClientForking, IPGroup_SourceUriInput,
IPGroup_DestUriInput, IPGroup_ContactName, IPGroup_Username,
IPGroup_Password, IPGroup_UUIFormat, IPGroup_QOEProfile, IPGroup_BWProfile,
IPGroup_AlwaysUseSourceAddr, IPGroup_MsgManUserDef1,
IPGroup_MsgManUserDef2, IPGroup_SIPConnect, IPGroup_SBCPSAPMode,
IPGroup_DTLSContext, IPGroup_CreatedByRoutingServer,
IPGroup_UsedByRoutingServer, IPGroup_SBCOperationMode,
IPGroup_SBCRouteUsingRequestURIPort, IPGroup_SBCKeepOriginalCallID,
IPGroup_TopologyLocation, IPGroup_SBCDialPlanName,
IPGroup_CallSetupRulesSetId;
IPGroup 0 = 0, "IP-PBX", "IP-PBX", "", "", -1, 0, "DefaultSRD", "MRlan", 1,
"IP-PBX", -1, -1, -1, 0, 0, "", 0, -1, -1, "", "", "$1$gQ==", 0, "", "", 0,
"", "", 0, 0, "", 0, 0, -1, 0, 0, 0, "", -1;
IPGroup 1 = 0, "BroadCloud", "BroadCloud", "interop.adpt-tech.com", "", -1,
0, "DefaultSRD", "MRwan", 1, "BroadCloud", -1, -1, 4, 0, 0, "", 0, -1, -1,
"", "", "$1$gQ==", 0, "", "", 0, "", "", 0, 0, 0, 0, -1, 0, 0, 0, "", -1;

```

[\IPGroup]

[SBCCAlternativeRoutingReasons]

```

FORMAT SBCCAlternativeRoutingReasons_Index =
SBCCAlternativeRoutingReasons_ReleaseCause;
SBCCAlternativeRoutingReasons 0 = 503;

```

[\SBCCAlternativeRoutingReasons]

[ProxyIp]

```
FORMAT ProxyIp_Index = ProxyIp_ProxySetId, ProxyIp_ProxyIpIndex,  
ProxyIp_IpAddress, ProxyIp_TransportType;  
ProxyIp 0 = "0", 0, "10.15.7.26:5060", 0;  
ProxyIp 1 = "1", 0, "nn6300southsipconnect.adpt-tech.com", 0;
```

```
[ \ProxyIp ]
```

```
[ Account ]
```

```
FORMAT Account_Index = Account_ServedTrunkGroup, Account_ServedIPGroupName,  
Account_ServingIPGroupName, Account_Username, Account_Password,  
Account_HostName, Account_Register, Account_ContactUser,  
Account_ApplicationType;  
Account 0 = -1, "IP-PBX", "BroadCloud", "8325624857",  
"$1$SSg/LyUiDSA0NCFhZGRj", "interop.adpt-tech.com", 1, "8325624857", 2;
```

```
[ \Account ]
```

```
[ IP2IPRouting ]
```

```
FORMAT IP2IPRouting_Index = IP2IPRouting_RouteName,  
IP2IPRouting_RoutingPolicyName, IP2IPRouting_SrcIPGroupName,  
IP2IPRouting_SrcUsernamePrefix, IP2IPRouting_SrcHost,  
IP2IPRouting_DestUsernamePrefix, IP2IPRouting_DestHost,  
IP2IPRouting_RequestType, IP2IPRouting_MessageConditionName,  
IP2IPRouting_ReRouteIPGroupName, IP2IPRouting_Trigger,  
IP2IPRouting_CallSetupRulesSetId, IP2IPRouting_DestType,  
IP2IPRouting_DestIPGroupName, IP2IPRouting_DestSIPInterfaceName,  
IP2IPRouting_DestAddress, IP2IPRouting_DestPort,  
IP2IPRouting_DestTransportType, IP2IPRouting_AltRouteOptions,  
IP2IPRouting_GroupPolicy, IP2IPRouting_CostGroup, IP2IPRouting_DestTags,  
IP2IPRouting_SrcTags;  
IP2IPRouting 0 = "Terminate OPTIONS", "Default_SBCRoutingPolicy", "Any",  
"\"", "\"", "\"", "\"", 6, "\"", "Any", 0, -1, 1, "\"", "\"", "internal", 0, -1, 0,  
0, "\"", "\"", "\"";  
IP2IPRouting 1 = "IP-PBX to ITSP", "Default_SBCRoutingPolicy", "IP-PBX",  
"\"", "\"", "\"", "\"", 0, "\"", "Any", 0, -1, 0, "BroadCloud", "BroadCloud", "\"",  
0, -1, 0, 0, "\"", "\"", "\"";  
IP2IPRouting 2 = "ITSP to IP-PBX", "Default_SBCRoutingPolicy",  
"BroadCloud", "\"", "\"", "\"", "\"", 0, "\"", "Any", 0, -1, 0, "IP-PBX", "IP-  
PBX", "\"", 0, -1, 0, 0, "\"", "\"", "\"";
```

```
[ \IP2IPRouting ]
```

```
[ IPOutboundManipulation ]
```

```
FORMAT IPOutboundManipulation_Index =  
IPOutboundManipulation_ManipulationName,  
IPOutboundManipulation_RoutingPolicyName,  
IPOutboundManipulation_IsAdditionalManipulation,  
IPOutboundManipulation_SrcIPGroupName,  
IPOutboundManipulation_DestIPGroupName,  
IPOutboundManipulation_SrcUsernamePrefix, IPOutboundManipulation_SrcHost,  
IPOutboundManipulation_DestUsernamePrefix, IPOutboundManipulation_DestHost,  
IPOutboundManipulation_CallingNamePrefix,  
IPOutboundManipulation_MessageConditionName,  
IPOutboundManipulation_RequestType,  
IPOutboundManipulation_ReRouteIPGroupName, IPOutboundManipulation_Trigger,
```

```

IPOutboundManipulation_ManipulatedURI,
IPOutboundManipulation_RemoveFromLeft,
IPOutboundManipulation_RemoveFromRight,
IPOutboundManipulation_LeaveFromRight, IPOutboundManipulation_Prefix2Add,
IPOutboundManipulation_Suffix2Add,
IPOutboundManipulation_PrivacyRestrictionMode,
IPOutboundManipulation_DestTags, IPOutboundManipulation_SrcTags;
IPOutboundManipulation 0 = "Add + for National Calls",
"Default_SBCRoutingPolicy", 0, "IP-PBX", "BroadCloud", "*", "*", "001",
"*, "*", "", 0, "Any", 0, 1, 2, 0, 255, "+", "", 0, "", "";
IPOutboundManipulation 1 = "Add 011 to International Calls",
"Default_SBCRoutingPolicy", 0, "IP-PBX", "BroadCloud", "*", "*", "00", "*",
"*, "", 0, "Any", 0, 1, 2, 0, 255, "011", "", 0, "", "";
IPOutboundManipulation 2 = "For Anonymous", "Default_SBCRoutingPolicy", 0,
"IP-PBX", "BroadCloud", "*", "*", "*", "*", "*", "", 0, "Any", 0, 0, 0, 0,
255, "", "", 0, "", "";

[ \IPOutboundManipulation ]

```

```
[ CodersGroup0 ]
```

```

;
; *** TABLE CodersGroup0 ***
; This table contains hidden elements and will not be exposed.
; This table exists on board and will be saved during restarts.
;

```

```
[ \CodersGroup0 ]
```

```
[ MessageManipulations ]
```

```

FORMAT MessageManipulations_Index = MessageManipulations_ManipulationName,
MessageManipulations_ManSetID, MessageManipulations_MessageType,
MessageManipulations_Condition, MessageManipulations_ActionSubject,
MessageManipulations_ActionType, MessageManipulations_ActionValue,
MessageManipulations_RowRole;
MessageManipulations 0 = "Change From host", 4, "any.request", "",
"header.from.url.host", 2, "header.to.url.host", 0;
MessageManipulations 1 = "Change P-Asserted host", 4, "any.request",
"header.p-asserted-identity exists", "header.p-asserted-identity.url.host",
2, "header.to.url.host", 0;
MessageManipulations 2 = "Change PAI if History-Info exists", 4, "",
"header.History-Info.0 regex (.*) (sip:)(.*) (@)(.*)", "header.P-Asserted-
Identity.url.user", 2, "$3", 0;

```

```
[ \MessageManipulations ]
```

```
[ GwRoutingPolicy ]
```

```

FORMAT GwRoutingPolicy_Index = GwRoutingPolicy_Name,
GwRoutingPolicy_LCREnable, GwRoutingPolicy_LCRAverageCallLength,
GwRoutingPolicy_LCRDefaultCost, GwRoutingPolicy_LdapServerGroupName;
GwRoutingPolicy 0 = "GwRoutingPolicy", 0, 1, 0, "";

```

```
[ \GwRoutingPolicy ]
```

```
[ ResourcePriorityNetworkDomains ]
```

```
FORMAT ResourcePriorityNetworkDomains_Index =  
ResourcePriorityNetworkDomains_Name,  
ResourcePriorityNetworkDomains_Ip2TelInterworking;  
ResourcePriorityNetworkDomains 1 = "dsn", 1;  
ResourcePriorityNetworkDomains 2 = "dod", 1;  
ResourcePriorityNetworkDomains 3 = "drsn", 1;  
ResourcePriorityNetworkDomains 5 = "uc", 1;  
ResourcePriorityNetworkDomains 7 = "cuc", 1;
```

```
[ \ResourcePriorityNetworkDomains ]
```

```
[ MaliciousSignatureDB ]
```

```
FORMAT MaliciousSignatureDB_Index = MaliciousSignatureDB_Name,  
MaliciousSignatureDB_Pattern;  
MaliciousSignatureDB 0 = "SIPVicious", "Header.User-Agent.content prefix  
'friendly-scanner';"  
MaliciousSignatureDB 1 = "SIPScan", "Header.User-Agent.content prefix 'sip-  
scan';"  
MaliciousSignatureDB 2 = "Smapi", "Header.User-Agent.content prefix 'smapi';"  
MaliciousSignatureDB 3 = "Sipsak", "Header.User-Agent.content prefix  
'sipsak';"  
MaliciousSignatureDB 4 = "Sipcli", "Header.User-Agent.content prefix  
'sipcli';"  
MaliciousSignatureDB 5 = "Sivus", "Header.User-Agent.content prefix  
'SIVuS';"  
MaliciousSignatureDB 6 = "Gulp", "Header.User-Agent.content prefix 'Gulp';"  
MaliciousSignatureDB 7 = "Sipv", "Header.User-Agent.content prefix 'sipv';"  
MaliciousSignatureDB 8 = "Sundayddr Worm", "Header.User-Agent.content  
prefix 'sundayddr';"  
MaliciousSignatureDB 9 = "VaxIPUserAgent", "Header.User-Agent.content  
prefix 'VaxIPUserAgent';"  
MaliciousSignatureDB 10 = "VaxSIPUserAgent", "Header.User-Agent.content  
prefix 'VaxSIPUserAgent';"  
MaliciousSignatureDB 11 = "SipArmyKnife", "Header.User-Agent.content prefix  
'siparmyknife';"
```

```
[ \MaliciousSignatureDB ]
```

```
[ AllowedAudioCoders ]
```

```
FORMAT AllowedAudioCoders_Index =  
AllowedAudioCoders_AllowedAudioCodersGroupName,  
AllowedAudioCoders_AllowedAudioCodersIndex, AllowedAudioCoders_CoderID,  
AllowedAudioCoders_UserDefineCoder;  
AllowedAudioCoders 0 = "BroadCloud", 0, 3, "";
```

```
[ \AllowedAudioCoders ]
```

```
[ AudioCoders ]
```

```
FORMAT AudioCoders_Index = AudioCoders_AudioCodersGroupId,  
AudioCoders_AudioCodersIndex, AudioCoders_Name, AudioCoders_pTime,  
AudioCoders_rate, AudioCoders_PayloadType, AudioCoders_Sce,  
AudioCoders_CoderSpecific;  
AudioCoders 0 = "AudioCodersGroups_0", 0, 1, 2, 90, -1, 0, "";  
AudioCoders 1 = "AudioCodersGroups_2", 0, 1, 2, 90, -1, 0, "";
```

```
AudioCoders 2 = "AudioCodersGroups_2", 1, 2, 2, 90, -1, 0, "";  
AudioCoders 3 = "AudioCodersGroups_2", 2, 3, 2, 19, -1, 0, "";  
AudioCoders 4 = "AudioCodersGroups_0", 1, 2, 2, 90, -1, 0, "";  
  
[ \AudioCoders ]
```

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